Alabama A&M University

Undergraduate Bulletin
2014-15

Alabama Agricultural and Mechanical University

Undergraduate Bulletin

2014 – 2015

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Students are expected to read and become familiar with the information contained in the *AAMU Bulletin*. Students are responsible for knowing and understanding regulations and policies, and for meeting all deadlines and requirements of admission, registration and degree programs. Failure to read the information provided will not be considered an excuse for noncompliance.

Alabama A&M University is accredited by the COMMISSION ON COLLEGES: Southern Association of Colleges and Schools. Inquiries regarding the institution's accreditation status may be addressed to:

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UNDERGRADUATE BULLETIN 2014-2015

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General Information

HISTORY

Alabama A&M University was organized in 1875 through the untiring efforts of its founder and first President, William Hooper Councill, an ex-slave. The school doors opened on May 1, 1875, as the Huntsville Normal School. Industrial education was added in 1878, generating widespread attention. This helped to garner financial support from the Slater and Peabody Funds and private contributors. Under the second Morrill Act of 1890, AAMU became a land grant institution and moved to its present location in 1891.

The University has undergone four name changes during its 136 years of existence. Upon earning the junior college status in 1919, the name was changed to the State Agricultural and Mechanical Institution for Negroes. Senior college level courses were added in 1939; the first graduating class received the bachelor's degree in 1941, and the name was changed to Alabama A&M College in 1949. The College became a fully accredited member of the Southern Association of Colleges and Schools in 1963. Subsequently, the name was changed to Alabama Agricultural and Mechanical University in 1969.

MISSION

Alabama Agricultural and Mechanical University reflects the uniqueness of the traditional land-grant institution combining teaching, research, service, liberal arts, and vocational fields. The University offers baccalaureate, masters, and doctoral level degrees (that are compatible with the times) to all qualified and capable individuals who are interested in further developing their technical, scientific, professional, and scholastic skills and competencies. The University operates in the three-fold function of teaching, research, extension and other public service. Alabama A&M University, a center for excellence, provides an educational environment for the emergence of scholars, scientists, leaders, critical thinkers, and other contributors to a global society. In cooperation with business, industry, governmental agencies, and other private and community-based institutions, Alabama A&M University provides a laboratory where theory is put into practice globally. Further, the University is committed to:

1. Excellence in education and the creation of a scholarly environment in which inquiring and discriminating minds may be nourished;
2. Education of students for effective participation in local, state, regional, national, and international societies;
3. Search for new knowledge through research and its applications;
4. Provision of a comprehensive outreach program designed to meet the changing needs of the larger community;
5. Programs necessary to address adequately the major needs and problems of capable students who have experienced limited access to education, and
6. Integration of state-of-the-art technology into all aspects of University functions.

In cooperation with businesses, industry, governmental agencies, and other private and community-based institutions, Alabama A&M University provides a laboratory where theory is put into practice, in a productive environment.

ROLE

The role of Alabama A&M University in higher education is consistent with its mission, which is encompassed in the land-grant tradition, legislated by the Morrill Acts of 1862 and 1890. These acts created land-grant universities that differed from the traditional American universities that were based upon the European system oriented toward a liberal arts education. The departure from this system gave rise to a new concept in American higher education which is known as the land-grant tradition. This concept combined liberal arts with agricultural and vocational education to enhance the development of students to build a strong America. As a land-grant institution, the role of the University is embodied in the following functions:

A. TEACHING: The first and foremost responsibility is to provide students with an education that is built upon the liberal arts, including emphasis in the scientific, technical, vocational and professional areas expected of a comprehensive land-grant university.

B. RESEARCH: The University seeks to provide new knowledge through basic and applied research and supports both the teaching and extension functions through sponsored research, institutional research, and other research grants and contracts.

C. EXTENSION: Extension provides services and educational opportunities which help people improve their lives. The University fulfills its role of providing formal and informal outreach education and development through public service, cooperative extension, and through a comprehensive, extended educational effort compatible with its mission. (Alabama is the first state to combine the extension programs at its 1862 and 1890 land-grant universities.) In 1995, the Alabama Cooperative Extension System was formally created, including Alabama A&M University and Auburn University, with Tuskegee University cooperating. This land-grant component of the public service mission at Alabama A&M University is tailored to meet the needs of a specific clientele, in both urban and rural settings. Through informal educational strategies, programs are designed to address current issues and needs of clients. A multidisciplinary approach using University personnel and statewide networks provides the basic framework for implementing extension work. This framework is designed to transfer cutting edge knowledge and technology to clients in order to improve their quality of life.

General public service programs can also serve as extension/outreach efforts of the University and include such activities as the Regional In-service Education Center, the Teacher Service Center, partner programs with high schools, Center for Aging and Lifelong Learning, Urban and Rural Research Center, the Family Center, the program of formal and informal Continuing Education, the Drug Abuse Prevention Center, and the Center for Entrepreneurial and Economic Development. The university faculty and staff and students undertake additional funded projects with specific outreach components.

SCOPE

As a comprehensive university (Carnegie classification: Masters [Large]), Alabama A&M offers programs at the baccalaureate, master's, educational specialist, and doctoral levels. Major emphasis is placed on programs designed to meet the economic, social and related needs of the State. In addition, the University seeks to prepare students to meet the needs of the larger society. Thus, the University's programs are designed to meet the needs of local, state, national and international students.

The graduate program consists of doctoral programs in four (4) areas; four (4) educational specialists programs; and twenty-two (22) master's programs. The undergraduate program consists of forty-one (41) degrees. Additional majors or tracks are subsumed under several undergraduate and graduate degree programs.

While major emphasis is placed on undergraduate programs, of equal importance and a priority for development are programs at the master's and doctoral levels. Programs designed to meet the changing needs of society and reflecting new technology will continue to be emphasized. Teacher education; recreation-leisure education; medical and allied health fields; social, natural, physical, and agricultural sciences; art, business and the humanities, as well as programs to satisfy future needs, will continue to be enhanced and developed at the University. Particular emphasis will be placed on programs which are designed to address the special interests of minorities and women in the aforementioned areas.

Through dynamic curriculum structuring, program specializations reflect a strong liberal arts and general education foundation and current state of the art technology, research and knowledge. Program quality at AAMU is demonstrated through the accreditation, approval and/or recognition of over fifty percent (50%) of all programs by state, national and international professional societies and organizations. The University averages approximately seven hundred (700) graduates yearly, of which more than eighty-five percent (85%) join the ranks of productive professionals in their field of study, with a large percentage seeking advanced study.

The University combines the liberal arts tradition with career-oriented and professional programs in order to enhance the intellectual, social, civic and personal development of its students. The initial priority of the University is to provide a core curriculum for the first two (2) years of matriculation consisting of courses in language, literature, the humanities, the natural and physical sciences, the social/behavioral sciences, military science and physical education/health sciences. These core courses are designed to assist students in developing the flexibility to engage in analytical and critical expression. Courses in the major areas of concentration are also considered a high priority. These courses are designed to augment the core curriculum and help prepare students to become creative and productive members of their professions and society.

Alabama A&M University participates in the **Statewide Articulation Reporting System (STARS)**, a computerized articulation and academic credit transfer planning system designed to inform students who attend Alabama community colleges, counselors, and educators with information on which transfer decisions can be made. While maintaining its traditional role of meeting the needs of capable students who have experienced limited access to education, the University also places emphasis on meeting the needs of non-traditional students. Instructional programs with alternative education delivery systems to accommodate the needs of both traditional and non- traditional students include developmental education, honors, advanced placement, and adult degree programs; distance education needs and outcomes assessment activities, and performance based general education. Research at Alabama A&M has a two-fold purpose: enhancement of instructional quality, and basic and applied research designed to expand existing knowledge and (or) develop new knowledge. As masters and doctoral level programs are enhanced and expanded, the University will continue to conduct and expand basic and applied research in the physical, social, behavioral, natural, biological, and agricultural sciences. Research programs include but are not limited to remote sensing, plant tissue culture, molecular genetics, sensory evaluation, nutritional biochemistry, applied human nutrition, rural development, robotics, artificial intelligence, cytogenetics, statistical classification, improvement of uniform random number generation, computer assisted instruction, biomass fuels, optics, materials science, microgravity crystal growth, infrared thermometry, and early intervention strategies in special education.

Research is carried out through center-based and interdisciplinary activities. Such centers exist in every College within the University and specific information can be obtained from their web pages. Examples include the Center for Applied Optical Science, Center for Irradiation Materials, Center for Urban Planning, the Center for Economic and Government Policies Development, the State Black Archives and Research Museum, the Family Center, and the Center for Hydrology, Soil, and Climatology. Several of the centers place emphasis on the development of minority scholars and researchers and on research related to the needs of minority populations. A unique

feature of such centers is the interdisciplinary approach to problem solving. An important creative output of the university includes research papers, review articles, books and the publication of poetry, essays, plays, historical accounts and art and archival exhibits.

Through programs such as the Teacher Service Center, Mathematics Tutorial Program, Agricultural Sciences Retention Program, and the Developmental Education Program various instructional models, teaching techniques/methods and assessment measures are tested with an end result of providing research data for improving instructional quality.

ORGANIZATION

The University is organized into five major divisions: Executive, Academic Affairs, Business and Finance, Student Affairs, and Research and Development. Further, the academics and academic support programs are divided into one school and five colleges. These are: College of Agricultural, Life and Natural Sciences; College of Business and Public Affairs; College of Education, Humanities and Behavioral Sciences; College of Engineering, Technology and Physical Sciences; School of Graduate Studies; and University College, which coordinates freshmen studies and general education requirements.

FACILITIES

The approximately 2002-acre AAMU campus is situated at Normal, Alabama, within the city limits of Huntsville, Alabama. The campus proper comprises 200 acres. AAMU has 30 major historic and ultra-modern buildings, eight female residence halls and six male residence halls. The Normal Hills Apartments are also available for student occupancy.

Access to Learning: "Access to Learning" identifies the University's program for providing equal access to all educational programs, and ensuring compliance with applicable laws, including Section 504 of the Rehabilitation Act of 1973, and the applicable titles of the Americans with Disabilities Act (ADA) of 1990. Questions that may arise regarding University compliance with Section 504 of the Rehabilitation Act, eligibility for the program or filing complaints should directed to Sanoyia L. Williams, Coordinator of the Access to Learning Program, 106 Carver Complex South, Alabama A&M University, Normal, AL 35762, telephone number 256-372-4263. The Coordinator of the Access to Learning Program will work with appropriate faculty, staff and administrators under the authority of the Office of the Vice President for Academic Affairs to provide assistance and/or seek resolutions for persons with handicaps or disabilities. A manual describing the program and complaint procedures has been distributed to the Learning Resources Center and all offices on campus, and is available for review upon request.

ACCREDITATIONS AND AFFILIATIONS

Alabama A&M University is accredited by the Southern Association of Colleges and Schools. The teacher education program is accredited by the National Council for the Accreditation of Teacher Education. All teacher education programs are approved by the Alabama State Department of Education.

AAMU also is an institutional member, accredited, and/or approved by the following organizations:

Academic Deans of the Southern States	Association of Collegiate Schools of Planning
Accreditation Board for Engineering and Technology:	College Entrance Examination Board
Engineering Accreditation Commission (EAC)	College Language Association
Computing Accreditation Commission (CAC)	Conference of Southern Graduate Schools
Technology Accreditation Commission (TAC)	Council of Graduate Schools in the United States
Alabama Association for Institutional Research	Council on Rehabilitation Education
Alabama Council of Graduate Deans	Council on Social Work Education
Alabama Educational Association	Institute of Food Technologists
Alabama Library Association	National Association for Equal Opportunity in Higher Education (NAFEO)
Alabama Library Exchange	National Association of College Deans, Registrars, and Admissions Officers
Alabama State Department of Education	National Association of Personnel Workers
American Association of Colleges for Teacher Education	National Association of State University and Land-Grant Colleges
American Association of Collegiate Registrars and Admissions Officers	National Association of Student Personnel Administrators
American Association of Family and Consumer Sciences	National Collegiate Athletic Association
American Association for Higher Education	National Council for Accreditation of Teacher Education
American Association of State Colleges and Universities	National Education Association
American Association of University Administrators	Network of Alabama Academic Libraries

American Association of University Professors	Planning Accreditation Board
American College Public Relations Association	Society of American Foresters
American Council of Education	Southern Association of Colleges and Schools
American Dietetic Association	Southwestern Athletic Conference
American Society for Engineering Education	Southern Regional Education Board
American Speech and Hearing Association	

ADHERENCE TO ADA GUIDELINES

Alabama A&M University provides equal access to all educational programs. The University is in compliance with applicable laws, including Section 504 of the Rehabilitation Act of 1973, and applicable titles of the Americans with Disabilities Acts (ADA) of 1990.

Admissions Policies And Procedures

University admission is designed to accommodate students with diverse educational backgrounds and educational goals. The Admission Medical Record is a part of the Admission Application and must be completed, including required immunizations, before admission is granted and class registration is permitted. The physical examination on the reverse side of the Admission Medical Record is not part of the admission process; however, it is required in order to occupy residence halls.

Admission Categories

Individuals seeking admission to AAMU usually fall into one of the following categories.

High School Graduates/Freshman Students

Request that your high school principal or guidance counselor forward an official copy of your high school transcript to the Office of Admissions. For unconditional admission high school graduates must have earned a score of 18 ACT/equivalent SAT and maintained a grade point average of "C" in the following subjects: English, mathematics, science, history, and political science. Upon notification of admission to AAMU, the applicant will receive a letter and card of acceptance. No student should report to AAMU for registration without having received the card of acceptance. Alabama students must have passed all three parts of the high school graduation examination. Students 26 years or older are exempt from college entrance examinations.

High School Equivalency (GED)

For unconditional admission the applicant must have earned an average score of 48. Transcripts of last attendance in high school will be required. Students must have a score of at least 18 on the ACT/Equivalent SAT.

Accelerated Program for High School Students

Students must have completed their sophomore or junior year of high school in order to be admitted to the high school accelerated program. AAMU offers two programs for outstanding high school student who wish to earn college credit:

1. Qualified students who have completed their junior year of high school may take a course or courses during the summer preceding their senior year.
2. Qualified students who have completed their sophomore or junior year of high school may take a course or courses during the academic year while simultaneously enrolled in high school.

The qualifications to be considered include:

1. Minimum GPA of 3.0 on a 4.0 scale
2. Recommendation of guidance counselor
3. ACT/SAT or pre-ACT/SAT scores.

The following steps should be taken when applying to the Accelerated Program for High School Students:

1. Complete a University application form for accelerated students. Return the completed application form to the Office of Admissions, AAMU, Normal, AL, 35762.
    a. Enclose with the application the required $25.00 non-refundable application fee. Make check or money order payable to Alabama A&M University.
    b. Request that the principal or guidance counselor enclose a letter of recommendation to the Office of Admissions, AAMU.
2. Request that an official copy of your high school transcript be forwarded to the Office of Admissions, AAMU.

Credit earned for such course work will be awarded toward a degree upon the student's graduation from high school and enrollment at AAMU.

Under-prepared Students with Potential

AAMU has established a plan to ensure that a limited number of underprepared students with potential, who apply for admission, are accepted and included in the student body. These students will be admitted on a conditional basis.

Conditional Admission

Individuals who do not completely fit into one of the categories described above may be eligible for "conditional admission" and should make inquiries to the Office of Admissions.

Credit is awarded to students who have earned grades on "conditional admission." Conditional admission, transfer and special students who are admitted to the University on a "conditional" basis will have one semester to remove the "conditional" status. If the "conditional" status is not removed, the student will be notified of his ineligibility to register for the next semester.

Transfer Students from Alabama Public Two-Year Colleges

The STARS Transfer Guide is to be honored for a period of four years from the date printed off the web site by all other public institutions of higher education within the state that offer programs in the specified discipline. Students should keep a copy of this guide for verification purposes. The STARS Transfer Guide remains valid and is guaranteed only if the student continues in the major specified on his/her transfer agreement. Changes made by accrediting and/or other regulatory agencies could result in specific requirements being added to the Transfer Agreement (i.e., No Child Left Behind Mandates). Any changes made by an institution in its degree programs will affect the transfer student in the same manner as the students native to the University.

Bulletin Year Issue - The students who use transfer guides will be graduated under the Bulletin in effect on date that the guide is printed unless they choose to go under the Bulletin in effect at time of transfer. This issue is covered in item #1 on the actual transfer agreement that prints out at the end of the transfer guide.

The STARS program governs the transfer of credits from Alabama public two-year institutions to Alabama four-year institutions. Students at the public two-year institutions who have a STARS Guide, can transfer all courses listed on that Guide from public two-year institution to any public four-year institution, including Alabama A&M University. There is a STARS Guide for every program offered at AAMU. Courses on the Guide will transfer and count toward half (50 percent) of the courses required for a specific degree program. The courses on the Guide are accepted under the same standards as courses taken at AAMU. If a "D" grade is acceptable for an AAMU course, then with the STARS Guide, the student can transfer the course from the public two-year institution with a "D."

Students intending to transfer to AAMU are encouraged to consult with their advisors and obtain a STARS guide from the AGSC/STARS Website, http://stars.troy.edu/stars/stars.htm

Transfer Students

Request that the registrar of each institution which you have attended forward an official copy of your transcript to the Office of Admissions. Students transferring from other postsecondary institutions must have maintained a cumulative GPA of 2.0 ("C") at the last institution attended. Students who have 12 transferable credit hours or equivalent quarter hours of acceptable academic credit at the college or university level may be admitted to AAMU as transfer students. Students with fewer than 12 transferable credit hours will be admitted as a high school graduate and must request high school transcript and ACT/SAT scores; however, appropriate hours will count toward the AAMU degree.

Transfer/Readmit

Alabama A&M University students who have attended another institution(s) after leaving the university must apply to return. Students must request that the registrar of each institution attended forward an official copy of your transcript to the Office of Admissions. An official copy of your transcript(s) must be in the Office of Admissions by the deadline date stated for the application, except from those school(s) in which applicant is currently enrolled. Transfer/Readmit students are considered for admission only when they have been in good standing with the institution from which they are transferring. This means that the student must have a cumulative grade point average of 2.0, and cannot be on probation or suspension. Students must provide official transcripts from all institution(s) attended and list each school on their application for readmission to the university. Colleges or universities attended will be reviewed based on the last institution attended first. Students must comply with all university guidelines governing re-entry and transfer student status.

Students who are re-admitted to the University after a two-year absence will be governed by the Bulletin under which they are re-admitted.

Re-Entry

A student who has not attended AAMU for two or more regular terms and who wishes to return should consult with the Office of Admissions to determine enrollment status and to apply for readmission. Students who are readmitted to the University after a two-year absence will be governed by the Bulletin under which they re-enter.

International Students

In order to ensure that required long distance coordination may be completed in time to accommodate admission for the desired term, admission applications must be received by the following deadline dates: Fall, May 15; Spring, October 1; Summer, March 15. Entering international students must provide an affidavit of financial support. Students must have maintained a grade point average of "C" in core courses; must have earned five passes on a national or a local examination; and must have attained a minimum score of 500 (paper-based test) or 61 (internet-based test) on the TOEFL (Test of English as a Foreign Language) or a 5.5 on the International

English Testing Systems (ELS) Certification Examination. A letter of recommendation from an applicant's principal or college advisor is also required. International students who receive a certificate of eligibility (the I-20) from the University are eligible to transfer to other institutions after two semesters of attendance.

Special (Non-degree) Students

Persons who wish to pursue certain courses without reference to a degree may apply for admission as special students. Applications for such persons will be considered by the Director of Admissions. A student may take a maximum of twelve (12) hours as a special student except persons seeking teacher certification as directed by the Alabama State Department of Education. Before permission is given to enter a degree program, applicants must meet all requirements for being admitted as a regular degree student. At that time, credit earned as a special student can be counted toward the degree, unless the statute of limitations has expired. All applicants who apply for "special student" status must apply for admission at least two weeks prior to the beginning of the semester or session for which he/she wishes to enroll in the University. Special students must reapply for admission at the beginning of each semester or session.

Transient Students

Students enrolled at another institution who wish to pursue courses at AAMU, to be transferred back to their institution, may apply for admission as transient students. A letter of approval/good standing from the home institution is required. Transient students must apply for admission to AAMU at the beginning of each semester or session.

Transfer of Students on Suspension from Another Institution

1. Temporary, Indefinite or Permanent Academic Suspension: A student who has been suspended from another college is eligible to apply for admission to the university after 12 months have elapsed.
2. Disciplinary Suspension: Students on disciplinary suspension from another institution must be eligible to return to that institution before being considered for admission to Alabama A&M University.

Second Bachelor's Degree

Students desiring a second bachelor's degree must complete another application for admission to AAMU.

Application Procedures and Deadlines

The following steps should be followed when applying for admission to AAMU:

1. Complete an AAMU Undergraduate Application Form. Return the completed form to the Office of Admissions, Alabama A&M University, Post Office Box 908, Normal, Alabama 35762 or apply on-line by accessing AAMU's website at www.aamu.edu.
2. Enclose with the application the required $25.00 non-refundable application fee. Only a cashier's check, certified check, or money order made payable to Alabama A&M University will be accepted.
3. Request that an official copy of the high school transcript or General Education Development (GED) test results be forwarded to the Office of Admissions.
4. Request that official test results for American College Test (ACT) or Scholastic Aptitude Test (SAT) be sent directly to the Director of Admissions by the testing agency.
5. Request that the principal or a guidance counselor at the student's high school send a letter of recommendation to the Office of Admissions.
6. A transcript of the applicant's high school record or General Education Development (GED) Test results must be received by the Office of Admissions before an application for admission can be considered complete. All transcripts must be official and must be received directly from the issuing institutions.
7. Deadlines for receipt of applications for admissions are listed below:

Semester Session	Application Deadline
Fall	June 15th
Spring	November 1st
Summer	April 15th

8. Residence hall spaces will be assigned in the following order: citizens of the State of Alabama, citizens of the United States, and citizens of other countries.
9. For additional information, contact the Office of Admissions, Alabama A&M University, Post Office Box 908, Normal, Alabama 35762, (256) 372-5245 or (800) 553-0816.

NOTE: When a student's attendance is interrupted in excess of two regular semesters, for any reason, an application for re-admission, accompanied by the $25.00 application fee, must be filed with the Office of Admissions.

Transfer of Credits

The Office of Admissions accepts transfer credits for the University for purposes of student classification (i.e., freshman, sophomore, etc.). The deans of colleges or department chairpersons approve transfer credits for degree programs.

No credits will be accepted for developmental (remedial) courses, orientation, or religion courses in a specific religion. Exploratory/overview/survey courses that discuss more than one religion are acceptable).

Acceptance of Transfer Credit

Students who transfer from another four-year institution or two year college must submit in advance for acceptance transcripts of all previous work done on the college level. Such transcripts must be sent directly from the institution at which the work was completed. Academic work completed at other schools not listed on the Admission Application will not be accepted for transfer purposes.

Students transferring from colleges and universities must have maintained a "C" average and be in good standing with the institution from which they are transferring. Students on academic probation or suspension are not in good standing, and, therefore, will not be accepted by Alabama A&M University.

A student who has been suspended from an institution because of poor academic performance is not eligible to enter Alabama A&M University immediately following academic suspension.

Grades below "C" are not transferable. The only exception is as provided for in the AGSC/Stars guidelines for transfer credits for Alabama public two-year institutions.

Statewide Transfer and Articulation Reporting System (STARS)

The STARS Transfer Guide is to be honored for a period of four years from the date printed off the web site by all other public institutions of higher education within the state that offer programs in the specified discipline. Students should keep a copy of this guide for verification purposes. The STARS Transfer Guide remains valid and is guaranteed only if the student continues in the major specified on his/her transfer agreement. Changes made by accrediting and/or other regulatory agencies could result in specific requirements being added to the Transfer Agreement (i.e., No Child Left Behind Mandates). Any changes made by an institution in its degree programs will affect the transfer student in the same manner as the students native to the University.

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Students intending to transfer to AAMU are encouraged to consult with their advisors and obtain a STARS guide from the AGSC/STARS Website, http://stars.troy.edu/stars/stars.htm

International Institutions

Post-secondary credits earned from international institutions, which are patterned after the British or other Non-American systems of grading, must be evaluated by the World Education Services, Inc. Applications for the evaluation may be secured from the Office of Admissions. Courses recommended by the World Education Services, Inc., will be accepted by Alabama A&M University. It is the responsibility of the student to execute, request, and pay the cost of such evaluations.

Advanced Standing

In order for transfer credits to be accepted for advanced standing, all prior college work must be declared on the official application and be supported by official transcripts. No credit for advanced standing will be accepted after the end of the first semester of the student's enrollment. All grades must be "C" or above.

Continuing Students

Students registered at AAMU who desire credits taken at other collegiate institutions to be applied toward their degrees at AAMU must receive approval before enrolling at the other institution. The completed Transient Student Form must be submitted to the Office of the Registrar. Students who receive such approval must submit official transcripts documenting the work as soon as it is completed, whether they still desire credit for the work or not. The total number of hours taken at another institution or the sum of credits taken at AAMU and another institution during the same term cannot exceed the maximum allowed during the same enrollment term at AAMU: 19 credit hours for fall and spring semesters; 10 credit hours for an eight or nine week summer session. All transfer grades must be "C" or above to be accepted.

Advisors with the approval of the department chair will assess whether or not the courses for which the student intends to enroll will transfer back to AAMU based on a comparison of course descriptions in the AAMU Bulletin and the bulletin of the institution the student wants to attend. Approval of transient credit is contingent upon whether the intended course is equivalent to a course at AAMU and whether or not it will be accepted by the major department for fulfillment of degree program course requirements.

Students are reminded that they should carefully review the number of credit hours that will be awarded for courses taken at another institution. AAMU can only transfer the amount of credit awarded by the institution offering the course. Since AAMU awards credit for course work based on semester hours, credit hours awarded for course work completed at institutions which use a quarter system must be converted to semester hours upon transfer. In some instances, such conversion may result in the student receiving an insufficient number of credit hours to fulfill the required number of semester hours for a course.

Credit by Examination

ADVANCED PLACEMENT (AP) PROGRAM

Several A&M University departments award credit to students who have earned designated scores on Advanced Placement (AP) Program examinations of the College Entrance Examination Board. Advanced Placement examinations are taken at the end of an AP designed course of study in high school. The applicant must apply for advanced placement credit and provide results of said examination to the Office of Admissions. Students may contact their major departments to determine specific areas where AP credits will be accepted.

Credit, if awarded, will be recorded without grades or quality points and will not be included in calculation of the grade point average.

The University awards three (3) semester credit hours to students who score three (3) on the Advanced Placement Examination in the areas of Biology, Chemistry, English, Foreign Languages, History, Mathematics, Physics, Art and Music. Students scoring 4 or 5 may be awarded additional credit upon the recommendation of the appropriate department chairperson.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

CLEP, a nationwide system of credit-by-examination, is administered at many colleges and universities to award college credit to those who earn the designated minimum acceptable score. There are five general examinations and 30 specific subject examinations. The general examinations measure college-level achievement in five basic areas of the liberal arts: English composition, humanities, mathematics, natural sciences, and social sciences/history. The subject examinations measure achievement in specific college courses and are used to grant exemption from and credit for these classes. Students must check with the Testing Services Center to determine the availability of and their eligibility for subject examination.

The Testing Services Center at AAMU is an open center for CLEP administrations. Examinations are scheduled on an individual basis and are available year-round, with the exception of the English Composition with Essay Examination. This test is only offered in January, April, June, and October.

Enrolled students who want to take CLEP examinations to substitute for specific courses or who want to obtain additional information about the CLEP, should contact the Testing Services Center. Credit awarded through the CLEP must be recorded on a student's transcript no later than the end of the semester in which the examination is taken.

Military Education/Training Evaluation

The Office of Distance Education and Extended Studies evaluates military transfer credits for AAMU. For evaluation, appropriate official copies of certificates, diplomas, or transcripts should be forwarded to that office. The Guide of the Evaluation of Educational Experiences in the Armed Services as sanctioned by the American Council on Education (ACE) is the standard reference work used by AAMU for awarding credit for learning acquired through the military.

Work Experience

Non-traditional credit, not to exceed 54 semester hours, may be awarded at the point of entry to persons who have earned a certificate, diploma or degree in the intended field of study, from a regionally accredited technical/career college and/or through work-related

learning. A maximum of 30 semester hours from an acceptable institution may be awarded for a diploma or certificate and 36 semester hours may be awarded for an associate degree. Persons with a minimum of three years and a maximum of six years of relevant work-related learning, documented by employer/examination and/or approved by the major area, in accordance with established departmental criteria for non-traditional credit, may be awarded nine to eighteen academic credit hours, respectively.

Other Non-Collegiate Sponsored Instruction

AAMU considers for college credit non-collegiate sponsored instruction approved and sanctioned by the American Council of Education and listed in the National Guide to Educational Credit for Training Programs. Appropriate official copies of certificates, diplomas or transcripts should be forwarded to the Office of Distance Education and Extended Studies for evaluation.

Visiting Student Program

A cooperative arrangement exists with the University of Alabama in Huntsville, Athens State University, John C. Calhoun State Community College, Oakwood College and Alabama A&M University, whereby a student at any of the participating institutions may request permission to attend a class at one of the other schools. Conditions governing the granting of permission include the following:

1. The student must be enrolled full-time.
2. His or her total load must not exceed the established maximum number of hours established at the home school.
3. The student must have an overall average of "C" or better.
4. The course must be unavailable at the student's home institution at the desired time, due to a scheduling conflict.
5. The student's request must be approved by his/her advisor and other appropriate personnel.
6. Permission of appropriate personnel at the institution is required and will be dependent upon availability of space for the visitor after the school's own students are accommodated.
7. Enrollment must be completed prior to the initial meeting of the class at the visiting institution.
8. AAMU policies and regulations regarding course substitutions and transfer credits will be applied.
9. Grades earned as a visiting student are calculated into the GPA at the home institution.
10. Courses taken under the Visiting Student Program cannot be counted as a repeated course at AAMU.

In order to participate in this program, students must complete the Inter-Campus Visiting Student Form, which may be secured from the Office of the Registrar or on-line at www.aamu.edu.

Transient Students

Students registered at AAMU who desire credits taken at other institutions to be applied toward their degrees at AAMU must receive approval before enrolling at the other institution. Criteria for approval includes current enrollment at AAMU and a cumulative GPA of at least 2.0. The completed Transient Student Form must be completely filled out, signed and submitted to the Office of the Registrar. Students who receive such approval must have submitted official transcripts documenting the work as soon as it is completed, whether they still desire credit for the work or not. The official transcript must be sent by the institution attended. Send official transcripts to: Office of the Registrar, AAMU, PO Box 848, Normal, AL, 35762.

The total number of hours taken at another institution or the sum of credits taken at AAMU and another institution during the same term cannot exceed the maximum allowed during the same enrollment term at AAMU: 19 credit hours for fall and spring semesters; 10 credit hours for an eight or nine week summer session. All transfer grades must be "C" or above to be accepted.

If the transient course is accepted back to AAMU, only the credit hours for the transient course is applied to the student's program here at AAMU. The grade for the transient course is not calculated into the GPA.

Advisors will evaluate whether or not the courses for which the student intends to enroll will transfer back to AAMU based on a comparison of course descriptions in the AAMU Bulletin and the bulletin of the institution the student wants to attend. Approval of transient credit is contingent upon whether the intended course is equivalent to a course at AAMU and whether or not it will be accepted by the major department for fulfilling of degree program course requirements.

Since AAMU awards credit for course work based on semester hours, credit hours awarded for course work completed at institutions which use a quarter system must be converted to semester hours upon transfer. In some instances, such conversion may result in the student receiving an insufficient number of credit hours to fulfill the required number of semester hours for a course at AAMU. If this happens, missing credit hour(s) must be made up in the course subject.

Residency Status for In-State Tuition

Definition of Residency

For the purpose of assessing tuition and fees, AAMU classifies students as Alabama "residents" or "non-residents." Residency for classification means domicile; domicile means living in Alabama with the intent to make Alabama a fixed and permanent home. By way of example, students may have more than one home address but only one domicile.

All out-of-state students must pay non-resident fees. In general, a student who comes to the state of Alabama for the purpose of attending an institution of higher education is considered a non-resident student. Registration for voting, obtaining an Alabama driver's license, purchasing of property, and employment in Alabama are not necessarily in and of themselves sufficient grounds on which to establish residency for the purpose of attending an institution.

Student Entitlement to Resident Fees

Information to assist AAMU in its administrative responsibility for determining students' residency status must be provided by the students. Residents of Alabama, as well as categories of non-residents hereinafter identified, may be enrolled upon payment of resident fees as follows:

1. A student may register as an Alabama resident for tuition purposes only upon showing that he/she has been a resident of Alabama for a period of at least twelve (12) months prior to initial registration. No emancipated minor or person 19 years of age or older shall be deemed to have gained or acquired Alabama residency status for tuition purposes while attending any educational institution in this state, in the absence of a clear demonstration that he/she in fact established residency in this state.
2. If a person is under 19 years of age and living with a parent or guardian, he or she may register as an Alabama resident for tuition purposes only upon showing that his or her parent(s) or guardian has been a bona fide resident of Alabama for a period of at least twelve (12) months prior to initial registration.
3. A full-time faculty member of AAMU, his or her spouse and dependent children under age 25, may register for the payment of resident fees, even though they have not been bona fide residents of Alabama for the preceding twelve (12) months.
4. The spouse of any person who is classified as or who is eligible for classification as an Alabama resident student for tuition purposes, except spouses of those granted residency as a result of graduate assistantships, are entitled to Alabama residency classification for tuition purposes.
5. Military personnel and their dependents stationed in Alabama and on active military duty are entitled to Alabama residency classification for tuition purposes.
6. A/an student/applicant, spouse, parent, or guardian, who is not a resident of Alabama but who has been employed full-time in Alabama for at least twelve (12) months and has filed his or her Federal Personal Income Tax form on which the student is claimed as a dependent or has filed jointly with a qualifying spouse for the tax year prior to the year in which the student is either admitted or registered for classes, is entitled to Alabama residency classification for tuition purposes.
7. International students shall be classified as non-resident students. However, an international student who is living in this country under a visa permitting the establishment of a permanent residence shall have the same privilege of qualifying for Alabama residency status for tuition purposes as a citizen of the United States.
8. Any Alabama resident student who remains in the state after his or her parent(s) or guardian (previously legal residents of Alabama or stationed in Alabama on military orders) moves from the state shall be entitled to remain classified as an Alabama resident student for tuition purposes as long as attendance is continuous. Such students need not attend the summer session in order to render attendance continuous.
9. In the event that a bona fide resident of Alabama is appointed as guardian of a non-resident minor, such minor will not be permitted to register as an Alabama resident for tuition purposes until the expiration of one year from the date of court appointment, and then only upon proper evidence that such appointment was not made to avoid payment of non-resident fees.
10. Students determined to be eligible for resident tuition purposes by an Alabama state-supported college or university retain that eligibility upon transfer to AAMU.

Any student granted status as an Alabama resident student for tuition purposes whose status is based on a sworn statement which is false is subject to disciplinary sanctions as may be imposed by AAMU.

Change of Residence Status

Applicants who are classified by AAMU as non-residents but who later claim to qualify as bona fide residents of Alabama for tuition purposes must file a "Petition for Alabama Residency Classification for Tuition Purposes Form" with the Office of Admissions (undergraduate students) or the Office of Graduate Studies (graduate students). With few exceptions, a student can change his or her status from a non-resident to an Alabama resident student for tuition purposes only by actually residing in the state for the period required with the intention of residence within the state indefinitely and establishing a physical presence and place in the state which he/she considers to be his/her true, fixed, and permanent home and place of habitation. **In determining whether the student is in fact an Alabama resident for tuition purposes, the burden of proof rests with the student.**

To receive consideration, petitions for change of status and all supporting documentation must be filed with the Office of Admissions (undergraduate students) or the Office of Graduate Studies (graduate students) at least two weeks prior to the beginning of the semester or summer session.

If the petition is approved, classification as a resident for tuition purposes will not be retroactive to the prior semester; however, any non-resident fees paid in advance for succeeding semesters will be adjusted. The Offices of Admissions and Graduate Studies will have the responsibility of classifying a student as an Alabama resident or non-resident for tuition purposes.

Appeals for Residency

A student who wishes to appeal the decision resulting from his/her "Petition for Alabama Residency Classification for Tuition Purposes" may request a review of that decision before the University Committee on Residence. Appeals must be made in writing within ten (10) working days of the decision to the Director of Admissions (undergraduate students) or the Dean of Graduate Studies (graduate students).

Financial Information

Tuition, Housing, Meals, Fees

The University reserves the right to change fees, charges, rules and regulation without prior notice.

Undergraduate				
	Resident		Non-resident	
Hours	**Commuting**	***Boarding**	**Commuting**	***Boarding**
21	5,298.00	8,159.00	9,798.00	12,659.00
20	5,048.00	7,909.00	9,298.00	12,159.00
19	4,798.00	7,659.00	8,798.00	11,659.00
18	4,548.00	7,409.00	8,298.00	11,159.00
17	4,548.00	7,409.00	8,298.00	11,159.00
16	4,548.00	7,409.00	8,298.00	11,159.00
15	4,548.00	7,409.00	8,298.00	11,159.00
14	4,548.00	7,409.00	8,298.00	11,159.00
13	4,548.00	7,409.00	8,298.00	11,159.00
12	4,548.00	7,409.00	8,298.00	11,159.00
11	3,548.00	6,409.00	6,298.00	9,159.00
10	3,298.00	6,159.00	5,798.00	8,659.00
9	2,885.00	5,746.00	5,135.00	7,996.00
8	2,635.00	5,496.00	4,635.00	7,496.00
7	2,385.00	5,246.00	4,135.00	6,996.00
6	2,135.00	4,996.00	3,635.00	6,496.00
5	1,885.00	4,746.00	3,135.00	5,996.00
4	1,635.00	4,496.00	2,635.00	5,496.00
3	1,385.00	4,246.00	2,135.00	4,996.00
2	1,135.00	3,996.00	1,635.00	4,496.00
1	885.00	3,746.00	1,135.00	3,996.00

*Traditional Dormitory

Note: A flat rate fee (the shaded area above) will be charged for undergraduate students with 12-18 credit hours.

Tuition and Mandatory Fees	
Tuition – Resident (per hour)	$250.00
Tuition - Non-resident (per hour)	500.00
Health Insurance (domestic students)	76.00
Health Insurance (international students)	1,000.00
Building Use	51.00
Information Technology	125.00
Student Rec and Athletic (10 hours or greater)	69.00
Student Activity (10 hours or greater)	70.00
Yearbook (10 hours or greater)	24.00
Wellness Center	138.00
Health Center	50.00
Proration	150.00
Shuttle/Parking	$45.00

Room and Board	
Room (Traditional)	$1,200.00
Room (Suite)	2,100.00
Board (21 Meals Per Week)	1,520.00
Access Fee - Telecommunications	141.00
[1]Housing Application	100.00
[2]Housing Deposit	250.00
Commuter Meal Plan (80 meals total)	$430.00

[1]Paid once per academic year due at time of application.

[2]Refundable. One-time payment. If housing status changes and a credit/refund is processed, the deposit must be paid again.

Other Fees	
Freshman Assessment/Testing	$30.00
Late Registration	60.00
ID Card Replacement with Meal Plan	60.00
ID Card Replacement w/o Meal Plan	$30.00

Books And Supplies

Textbooks may be purchased from the Bookstore located in the Ralph H. Lee Student Center. The estimated cost is $900.00 per semester. The Bookstore accepts the following methods of payment: cash, money order, cashier's check, traveler's check, MasterCard, VISA, American Express and Discover Credit Cards. For further information, contact the Bookstore, (256) 372-5626.

Remittance

All remittances, if not made in person at the Bursar's Office, should be made payable to Alabama A&M University and mailed to:

Cashier's Department
Alabama A&M University
Post Office Box 1388
Normal, Alabama 35762

Bills may be paid in the Cashier's Department located in Room 105-A Patton Building between 8:30 a.m. and 4:00 p.m., Monday through Friday. The Bursar's Office is closed on Saturdays, Sundays and Holidays.

A valid student identification card must be presented when transacting official business with the Cashier's Department. The University accepts the following methods of payment: cash, money order, traveler's check, cashier's check, certified check, and VISA and MasterCard Credit Cards. Additionally, VISA and MasterCard Credit Cards are accepted by telephone.

When paying by MasterCard or VISA Credit Card, the student must have approved permission by issued credit card holder. The University reserves the right to contact any cardholder.

No portion of a check or money order made payable to AAMU will be given as change to a student, except in cases where a written request from the parent accompanies the payment. The University does not cash personal checks, certified checks, traveler's checks, money orders or cashier's checks. Monies for books and other personal items should be provided to the student via money order, cashier's check, or certified check.

Students are expected to meet all financial obligations by the specified due date. The University reserves the right to deny admission and to withhold transcripts of any students who fail to meet promptly his/her financial obligations to the University. It is each student's responsibility to be informed of all registration and fee payment dates, deadlines, and other requirements.

Restrictions Due To Indebtedness To The University

No student will be permitted to register for a semester until all bills from the previous semester have been paid. Failure to meet financial obligations, as scheduled, will cause a forfeiture of privileges of the dining facilities, residence halls, classroom facilities and other activities.

No transcript or record will be issued for any student who is indebted to the University. This includes, but is not restricted to, a delinquent Carl D. Perkins Loan.

Refund Policy

The tuition and fees are refundable in accordance with the following schedule when a student withdraws from the University after completing the registration process.

From	Through	% Refunded
1st official day of class	7th calendar day	90
8th official day of class	14th calendar day	80
15th official day of class	21st calendar day	70
22nd official day of class	30th calendar day	60

NO REFUND After The Thirtieth (30th) Calendar Day

Note: The tuition refund percentage is based on the total tuition charged and not the amount paid. Full refund will be issued if a course is cancelled by the university.

Payments paid by credit card will be credited to the cardholder's card upon official withdrawal from the university or dropping of class.

The credit card that was presented for payment of tuition **must** be presented for credit (no exceptions).

Students scheduled to receive Financial Aid, who are not planning to attend a session for which they have registered, must notify the Financial Aid Office in writing prior to the first day of class to cancel their registration and Financial Aid. Students who fail to notify the Financial Aid Office prior to the first day of class will be enrolled and subject to academic and financial penalties.

EMERGENCY SEPARATION FOR MILITARY SPOUSES POLICY

Students who withdraw due to being called to active duty or spouses of persons called to active duty may be eligible for a full refund of required tuition, room and board, and fees. All students who receive Title IV funds will be processed according to federal policies. Federal policy statements are available in the Office of Student Financial Aid.

CANCELLATION OF REGISTRATION

Students will initiate the process by requesting cancellation in the Registrar's Office. If the term has already been completed, a Registrar's Office staff member will review the student's status to determine if passing grades were received. If no passing grades are recorded, the staff member will verify that no passing grades have been received before issuing form to student. If the term is still in session, the staff member will indicate current term. Student will proceed to Office of Financial Aid for verification of financial status. Cancellation of requests for Financial Aid must be verified or processed. If approved by Financial Aid Officer, the student returns form to Office of Registrar. Courses will be removed from the student's record. Student will present approved document to Bursar's Department for removal of charges for the term. A full refund of tuition and fees will be given if the student is eligible.

REFUND OF ROOM RENT AND BOARD

The application for campus housing and subsequent room assignment is a contract between AAMU and the student for a one-year period. Room rent will not be refunded to a student unless he or she officially withdraws from the University.

WITHDRAWING FROM THE RESIDENCE HALL, ONLY

Students withdrawing from the Residence Hall prior to officially registering will not be charged board. Students withdrawing from the Residence Hall after registration will receive only a board adjustment.

WITHDRAWAL FROM THE UNIVERSITY

If a student officially withdraws from the University with no mitigating circumstances, a refund of room rent will be made on the following basis:

75% of the unexpended portion of the rent for residence hall will be refunded if the student withdraws before the fourth week of classes.

50% of the unexpended portion of the rent for residence hall will be refunded if the student withdraws after the fourth week of classes.

INTENT TO VACATE RESIDENCE HALL

Students forfeit housing fees for the current academic year as stated in the contract agreement for student housing. The unused portion of the meal ticket payment will be refunded upon official withdrawal from the University, the completion of Intent to Vacate or other authorized reasons.

DISCIPLINARY SUSPENSION REFUND

Suspension is a temporary dismissal from the University for a specific period of time. The student loses all the rights and privileges as a student, and forfeits all fees paid.

Financial Aid Policies and Procedures

The Office of Student Financial Aid at Alabama Agricultural and Mechanical University provides financial assistance to students who need aid in order to attend the University. The University believes that the amount of aid granted should be based on financial need. Students seeking assistance are required to file an application for Federal Student Financial Aid annually. Applications for aid should be completed in January or February of the year prior to the academic year in which the student will need assistance.

Application materials and a brochure describing available aid programs may be obtained from the Office of Student Financial Aid, 211 Patton Hall, and/or on the web at www.aamu.edu. The financial aid which students may receive includes scholarships, grants, loans and part-time employment.

Types of Aid

Federal Aid:

- **Federal Perkins Loan Program.** The Federal Perkins Loan is a low-interest (5 percent) loan designed for both undergraduate and graduate students with exceptional financial need. The total amount a student can borrow as an undergraduate is $15,000. Including any Federal Perkins Loans borrowed as an undergraduate, students may borrow up to $30,000 as a graduate or professional student. Students must repay this loan to Alabama A&M University.
- **Federal Work-Study Program.** The Federal Work-Study Program provides on- and off-campus jobs for undergraduate and graduate students with financial need, allowing them to earn money to help pay educational expenses. The program encourages community service work and work related to students' courses of study. Students' total Federal Work-Study award depends on when they apply, their level of need, and the funding level of their institution.
- **Federal Supplemental Educational Opportunity Grant (FSEOG).** The Federal Supplemental Educational Opportunity Grant, for undergraduates with exceptional financial need (lowest Expected Family Contributions) gives priority to students who receive Federal Pell Grants. Students can receive between $100 and $4,000 a year, depending on when they apply and their level of need. The FSEOG does not have to be repaid. Students who are pursuing a second bachelor's degree are not eligible for the grant.
- **Federal Pell Grant.** A Federal Pell Grant, unlike a loan, does not have to be repaid. Pell Grants are awarded only to undergraduate students who have not earned a bachelor's or professional degree. To determine eligibility, the U.S. Department of Education uses a standard formula, established by Congress, to evaluate the information students report when they apply.
- **Family Federal Education Loans.** *FFEL Stafford Loans* are either subsidized or unsubsidized. A **subsidized** loan is awarded on the basis of financial need. Borrowers will not be charged interest before beginning repayment or during authorized periods of deferment. Loan money must first be used to pay tuition and fees, room and board, and other school charges. Maximum loans are $23,000 for all undergraduate work or $65,500 for both undergraduate and graduate work. Borrowers must repay this money beginning six months after the borrower ceases attendance at AAMU and extending over a period of up to ten years. An **unsubsidized** loan is awarded without regard to need. The borrower is charged interest from the time the loan is disbursed until it is paid in full. If the interest accumulates, it will be **capitalized** – that is, the interest will be added to the principal amount of the loan and additional interest will be based upon the higher amount. This will increase the amount of repayment. Independent undergraduate students may borrow a maximum of $23,000. Graduate or professional students may borrow up to $73,000 including any funds borrowed as an undergraduate student. The student must repay this money beginning six months after ceasing attendance at AAMU.
- ***PLUS Loans*** enable parents with good credit histories to borrow to pay the education expenses of each child who is a dependent undergraduate student enrolled at least half time. The yearly limit on a PLUS Loan is equal to the cost of attendance minus any other financial aid received. For example, if the cost of attendance is $6,000 and the student receives $4,000 in other financial aid, his or her parents could borrow up to-but no more than $2,000. The interest rate is variable, but will never exceed nine percent. Generally, repayment must begin within 60 days after the final loan disbursement of the academic year. There is no grace period for these loans. **Parents must begin repaying both principal and interest while students are still in school.**

State Aid:

- **Alabama Student Assistance Program (Leveraging Education Assistance Partnership [LEAP] Program).** This state/federal aid program is designed to provide assistance to undergraduate residents of Alabama. Awards range from $300 to $2,500 per year. Residents of states other than Alabama should contact the higher education assistance agency in their states for information about the availability of funds from the LEAP program.
- **Alabama National Guard Education Assistance Program.** This is a state program designed to provide financial assistance to Alabama National Guard members who are also residents of the state of Alabama. Its purpose is to aid undergraduate and graduate students at accredited Alabama postsecondary institutions of higher learning. The student may receive an award equal to tuition, fees, books, and supplies, not to exceed $500 per semester and $1,000 annually.

- **Alabama GI Dependents' Education Benefit Program.** This state program provides tuition, fees, and book assistance to children and spouses of eligible Alabama veterans who attend public postsecondary educational institutions in Alabama. Recipients must enroll as undergraduate students. Application forms may be obtained from the Alabama State Department of Veterans' Affairs, Post Office Box 509, Montgomery, AL 36102.
- **American Legion Auxiliary Scholarship Program.** This grant is awarded for tuition, fees, and board expenses to attend an Alabama public postsecondary educational institution. Awards are restricted to students who attend an Alabama institution. To be eligible, students must be the sons, daughters, grandsons, or granddaughters of veterans of World War I, World War II, the Korean War, or the Vietnam War and be residents of Alabama. Applications are available from the American Legion Department Headquarters, American Legion Auxiliary, 120 North Jackson Street, Montgomery, AL 36104.

Institutional Aid:

- **Academic Scholarships.** Scholarship awards are based on scores from the American College Testing (ACT) program or the Scholastic Aptitude Test (SAT) administered by the College Entrance Examination Board and a high school grade point average of "B" or above. Scholarships range in size over a four-year period from $3,160 to full tuition, fees, room, and board. Additional details can be obtained from the Office of Admissions, Alabama A&M University, Normal, AL 35762.
- **Performance Music Scholarships.** Music scholarships are offered in both band and choir. The size of these awards varies. Additional details can be obtained by writing to Scholarship Coordinator Music Programs, Post Office Box 295, Alabama A&M University, Normal, AL 35762.
- **Athletic Scholarships.** These awards are made for football, basketball, baseball, soccer, tennis, track and field, and volleyball. The size of these awards varies. Additional details are available by writing to the head coach for the sport in which the applicant is interested.
- **University Student Employment Program (Bi-Weekly).** These jobs permit students to earn money to apply toward their school expenses. Students who are employed in the program perform jobs in various offices at AAMU. Earnings depend upon financial need and the current U.S. minimum wage. Additional details can be obtained by writing to the dean of the college, chairperson of the department, or office director where the applicant wishes to be employed.
- **Army Reserve Officers' Training Corps Scholarship (ROTC).** Scholarships are awarded on a competitive basis and are available for four years. All Army ROTC scholarships are for tuition and fees, books and supplies for the duration of the scholarship. Recipients also receive a tax-free monthly subsistence allowance for up to ten months of each academic year. Additional details may be secured by writing to the Professor of Military Science, Post Office Box 1028, Alabama A&M University, Normal, AL 35762.
- **College and Departmental Awards.** Scholarships, grants, assistantships are also available through the various colleges and departments of AAMU. Unlike the other aid sources, a recipient must have a major in an area of study located within the department or college that administers the aid source. Currently, there are more than 25 categories of aid offered to students through the various colleges and departments. Additional details may be secured by writing to the dean of the college or the chairperson of the department in which the applicant's major will be located.
- **Diversity Scholarship Program.** These scholarships are directed toward identifying and attracting a significant number of students of diverse backgrounds and characteristics to AAMU. Diversity goals include the attraction of a significant number of undergraduate Caucasian students to AAMU. Additional information can be obtained by contacting the Director of Admissions, Post Office Box 908, Alabama A&M University, Normal, AL 35762.

Federal Aid Application Procedure

- Be admitted to AAMU, if the applicant is a freshman, transfer, or returning student.
- Complete and submit the Free Application for Federal Student Aid (FAFSA) to the U.S. Department of Education, preferably before February 1. Submit as early as possible in order to be eligible for limited forms of aid such as FSEOG, Federal Work-Study and Federal Perkins Loans.
- If needed, submit supporting documents required to verify the accuracy of the data to AAMU's Office of Financial Aid.

Satisfactory Academic Progress

Alabama A&M University is required by federal law (34 CFR 668.16) to define and enforce standards of Satisfactory Academic Progress. The Office of Student Financial Aid strictly adheres to the academic standards presently established by AAMU and printed in the current *AAMU Undergraduate Bulletin*. The guidelines are established to encourage students to successfully complete courses for which aid is received. Title IV Federal Assistance includes the following programs:

Federal Pell Grants
Federal Supplemental Educational Opportunity Grants
Leveraging Education Assistance Partnership Program (LEAP-formerly the State Student Incentive Program)

Federal Parent PLUS Loans
Federal Stafford Student Loans (Subsidized and Unsubsidized)
Federal Work-Study
Federal Perkins Loans

A preliminary SAP measurement is run during the midterm grade reporting process of each academic year (spring term). Students deemed not to be making Satisfactory Academic Progress are placed on **Financial Aid Alert** and sent a notification letter in March. At this point, it is suggested that the student attend summer school. It is also recommended that the student seek help from *Office of Academic Support Services* to improve academic standing. During the summer session, students placed on Financial Aid Alert are afforded an opportunity to receive aid and improve their quantitative and qualitative standing.

Subsequently, SAP is measured at the end of every academic year (July). Those students who have not improved their academic standing are placed on financial aid suspension and notified by letter that their aid has been cancelled for the fall and spring terms. Thus, students with unsatisfactory academic progress must appeal to receive aid for the fall and spring terms.

In addition, at the point that the Financial Aid Office receives the student's financial aid application for processing the student's academic progress is measured using three components: (1) academic standing; (2) hours earned/hours attempted; (3) maximum time frame. If the student does not meet the minimum requirements for the three components, the student is not eligible for federal assistance.

Academic Standing: Undergraduate students must have a minimum cumulative 1.50 grade point average (GPA) by the end of 24 attempted credit hours, a minimum of 1.75 GPA by the end of 48 attempted credit hours, and a minimum 2.0 GPA thereafter. Students placed on academic probation, temporary suspension, and probation after suspension must complete the financial aid appeal process in order to qualify for financial aid.

Hours Earned/Hours Attempted: Students must successfully complete **(Hours Earned)** at least 67% of their semester credit hours (SCH) at Alabama A&M University. Successful completion is determined by the following formula: SCH earned divided by SCH attempted.

Hours Attempted: Includes classes that have been dropped, incomplete, withdrawn after 2 weeks, failed, bankrupt. Non-credit courses will not be counted in hours attempted, but earned credit hours for remedial courses will be recorded as hours attempted. Work voided by AAMU's academic bankruptcy option, must be considered in determining federal financial aid eligibility. The Federal Student Aid program regulations make no provision for the concept of academic amnesty or academic renewal. Therefore, a college must always include courses applicable to a student's program (whenever taken) in evaluating a student's satisfactory academic progress.

Maximum Time Frame: An undergraduate student is allowed a maximum of 192 credit hours to complete degree requirements. Unless the student can provide documentation of a graduation date of two semesters or less at the time of the appeal, federal financial assistance for undergraduate work will not be extended beyond this time frame.

Transfer students who are considered in good academic standing from the previous schools attended will be eligible for federal Title IV funds. Transfer credits will also be included in calculation of the maximum time frame.

Financial Aid Appeal Notification

Financial Aid Analysts and Specialists typically assess satisfactory academic progress for each student at the end of each academic year. However, in the case of mid-year transfer or reinstatement cases, a student's academic record is reviewed to determine eligibility for federal assistance. If the student is not making satisfactory academic progress, notification is sent in the form of a letter informing the student of his or her noncompliance. A student may apply for financial aid reinstatement by requesting a financial aid appeal. The financial aid appeal process allows the student to explain extenuating or unforeseeable circumstances that may have hindered the student's academic progress.

Financial Aid Appeal Procedures

PHASE ONE: STUDENT APPEALS TO THE DIRECTOR OF FINANCIAL AID

Step 1: Student must complete the financial aid appeal form on the Financial Aid web page. Appeals based on extenuating circumstances (i.e., student injury or illness, death of student's relative, and/or other circumstances resulting in undue hardship to student) should be accompanied by documentation (if requested by the Director).

Step 2: The financial aid director will review the appeals provided within 48 to 72 hours. The director may render one of the following decisions:

Decision	Description
Pending	Additional information is needed to render a decision. Temporarily Suspended – no decision granted until the issue is cleared with Admissions.
Financial Aid Warning	Student may continue to receive student financial aid. Student must, however, have the minimum University required GPA at the conclusion of the academic year.
Financial Aid Probation	Student may continue to receive student financial aid. Financial aid eligibility is contingent upon the student attending all of the *Office of Academic Support Services(OASiS)* sessions until the end of the academic year and attaining the minimum GPA/completion rate required by the student's university classification. Students who **do not** meet the OASiS requirement will have their aid suspended immediately and must (1) re-appeal, (2) show evidence that their academic standing improved even though they were noncompliant, and (3) provide a letter of support from an OASiS representative.
Financial Aid Probation – Reduction or Suspension of Loan Eligibility	A student may continue to receive student financial aid. Student loans will be reduced or suspended for one year. Student loan reinstatement is contingent upon the student attending all of the *Office of Academic Support Services (*OASiS*)* sessions until the end of the academic year and attaining the minimum GPA/completion rate required by the student's university classification. Students that **do not** meet the OASiS requirement will have their aid suspended immediately and must (1) re-appeal, (2) show evidence that their academic standing improved even though they were noncompliant, and (3) provide a letter of support from an OASiS representative.
Financial Aid Suspension Referred to Financial Aid Appeals Committee	Financial aid eligibility suspended for one year. Student may re-appeal to the Financial Aid Appeals Committee

Step 3. Financial Aid Analyst or specialist will communicate the director's decision to the student via a letter.

Step 4. Those decisions are then mailed to the student. Students may also check their SAP status on the web. If the appeal is denied or the student chooses to appeal this decision, he or she may appeal to the full Financial Aid Appeals Committee by asking the analyst to send information to the committee.

PHASE TWO: FINANCIAL AID COMMITTEE REVIEW

Step 1: Those appeals denied by the director will be automatically forwarded to the chairperson of the Financial Aid Appeals Committee.

Step 2: The Financial Aid Appeals Committee will review the appeals denied by the director. The committee will assess the explanation and documentation provided by the student and render one of the following decisions:

Decision	Description
Pending	Additional information is needed to render a decision. Temporarily Suspended – no decision granted until the issue is cleared with Admissions.
Financial Aid Warning	Student may continue to receive student financial aid. Student must, however, have the minimum University required GPA at the conclusion of the academic year.
Financial Aid Probation	Student may continue to receive financial aid. Financial aid eligibility is contingent upon the student attending all of the *Office of Academic Support Services (*OASiS) sessions until the end of the academic year and maintaining the minimum GPA/completion rate required by the student's university classification. Students who **do not** meet the OASiS requirement will have their aid suspended immediately and must (1) re-appeal, (2) show evidence that their academic standing improved even though they were noncompliant, and (3) provide a letter of support from an OASiS representative.
Financial Aid Probation – Reduction or Suspension of Loan Eligibility	A student may continue to receive student financial aid. Student loans will be reduced or suspended for one year. Student loan reinstatement is contingent upon the student's attending all of the *Office of Academic Support Services (*OASiS*)* sessions until the end of the academic year and attaining the minimum GPA/completion rate required by the student's university classification. Students who **do not** meet the OASiS requirement will (1) have their aid suspended immediately and must re-appeal, (2) show evidence that their academic standing improved even though they were noncompliant, and (3) provide a letter of support from an OASiS representative.

Financial Aid Suspension Referred to Financial Aid Appeals Committee	Financial aid eligibility suspended for one year. The Committee's decision is final.

Step 3: Financial aid analyst or specialist will communicate the Committee's decision to the student.

Verification

AAMU adheres to the following verification principles developed by the National Association of Student Financial Aid Administrators (NASFAA). To ensure that limited financial aid funds are awarded to eligible students in an equitable and consistent manner, all institutions must develop policies for verification of family reported information. Requirements for verification of family-reported information for purposes of qualifying for financial aid must be cost effective, flexible, and based upon acceptance of a reasonable tolerance range for error applied to award amounts.

While institutions vary widely by type, students served, and mission, minimum standards for verification must exist for all institutions. Verification procedures will be uniformly applied to all financial aid programs which require demonstrated financial need as eligibility criterion.

WHO – Alabama Agricultural and Mechanical University (AAMU) will verify 30% of the total number of aid applicants selected by the Federal Processor. In addition, efforts will be made to resolve all comments on the ISIR and conflicting documentation, or the AAMU Financial Aid Staff may question any aspect of an application.

WHAT – For applicants undergoing verification, AAMU will verify the items specified in the 34CFR Part 668.56. Specifically these items include for Title IV applicants: AGI; taxes paid; non-taxable income; household size, and number in postsecondary education. Additional items will also be verified when there is conflicting documentation on file or items selected by the AAMU Financial Aid Staff.

APPLICANT DEFINITION – An applicant is anyone enrolled at AAMU who applies for and is eligible to receive an aid award.

APPLICANT'S RESPONSIBILITIES – It will be the applicant's responsibility to see that all documents requested are properly submitted with proper signatures. If a Pell or campus-based applicant's dependency status changes during the award year, updating will occur unless that change is a result of a change in marital status. Household size and number in postsecondary education can only be updated as a result of overpayment discovered during the verification process.

DOCUMENTATION – Documentation will consist of signed copies of most income-tax returns as well as the completed and signed appropriate verification form. Some exceptions to documentation may be made in conjunction with what is allowed by federal regulation.

TIME PERIOD – All applicants are encouraged to submit the required forms and documentation as quickly as possible. For campus-based funds, which are made reasonably available to all eligible students within the packaging policy, the application is not complete until the verification process has been completed. Normally, campus-based aid will not be awarded for a semester that is more than half over unless the Financial Aid director, Coordinator for Information Services, or Coordinator for Administrative Services decided to make an exception. For Pell recipients, the deadline is 120 days from the applicant's last date of enrollment or August 31, whichever comes first. This includes making any necessary corrections, submitting those corrections to the Central Processor, and submitting the new correct Student Aid Report (SAR) to the institution. For Federal loan applicants, AAMU will require verification to occur before determining eligibility; normally an applicant will not be certified for a period of enrollment that has already passed or if less than 30 days remain before the close of the semester. Specific documentation will use the time periods outlined in regulations.

INTERIM DISBURSEMENTS – No Title IV aid will be released until the student has completed the required verification process.

CONSEQUENCES – If a student fails to provide documentation or information within the required time frame, no Title IV aid will be released.

TOLERANCES – For the Federal Pell Grant Program, the tolerance values will be used in order to pay a student. If a student does not qualify for payment options based on tolerance, then a correction must be filed with the Central Processor.

NOTIFICATION – The AAMU Office of Student Financial Aid will inform a student of what is required for verification as processing occurs. Documents missing will be noted on the missing item list or a document-tracking letter and given or mailed to the student. If during the process of verification or updating AAMU realizes that a Federal Loan or any other financial aid that exceeds tolerance levels has been made, and these exceed the student's need, the student will be notified of this action in writing. If in the verification process, it is discovered that the award amount would increase for a Pell grant, the student will be informed by AAMU and will only pay on the original ISIR until a new one is processed and originated.

REFERRAL PROCEDURES – The AAMU Office of Student Financial Aid follows the referral procedures mandated by Federal regulation. Information will be referred to the Secretary of Education, as outlined in the Verification handbook. Over-awards, as a result of Return of Title IV will be reported to the Federal Government if it exceeds $25.00.

Unearned Federal Aid Repayment

If students withdraw from school prior to completing over 60% of a term, they may be required to repay a portion of the federal financial aid received for that term. Federal aid includes Federal Stafford Loan, Federal Perkins Loan, Federal PLUS Loan, Federal Pell Grant, and Federal Supplemental Educational Opportunity Grant.

It is recommended that students try to complete one class, if possible, to avoid any financial hardship imposed by this new regulation. However, if withdrawal is necessary, it is important to understand the financial obligations.

How Much Must Be Paid When One Withdraws From School? The amount of repayment depends upon the number of days that the student attended school in the term, the type of financial aid that was received, and whether or not AAMU refunds the tuition and fees. The attended portion of the term not attended represents the portion of aid that is determined to be *unearned.* If receiving loans only and AAMU refunds the amount of tuition and fees, the student will only be required to repay loans in accordance with the regular repayment schedule. All other students who withdraw prior to completing over 60% of a term must repay a portion of their federal financial aid.

When Will 100% of My Federal Financial Aid Be Earned? If withdrawal procedures are initiated after completing over 60% of the term, the student will have earned 100% of the federal financial aid for that term and no repayment is required. This refers to students who are enrolled in at least one course that meets the full length of the standard term. If one is only enrolled in courses that are shorter than the full length of the standard term, the date for earning 100% of federal aid will vary.

When Does the AAMU Bursar Refund Tuition and Fees? If withdrawal from AAMU occurs prior to the drop/add deadline for a term, then a full tuition refund will automatically be processed for the student. Contact the University Bursar at 256-372-5200.

Registration Policies and Procedures

General Registration Guidelines

Students are considered registered only when they have conformed to all University and College regulations applying to registration as published in the Schedule of Classes which is available on the Registrar's Office website.

Students should consult with their academic advisor prior to registration. Students are required to register prior to the first day of classes in each semester. This is most conveniently accomplished for continuing students during the advance registration periods. There will be a period of late registration for which there is an additional fee. All financial obligations to the University must be cleared before a student is permitted to register for courses.

Request for Alternate PIN

PINs must not be issued over the phone. If not in person, it should be done by email (Bulldog Email only), with copies of the correspondence placed in the student's folder.

Students are encouraged to utilize their Bulldog Email when interacting with the University as the employees are required to respond only through Bulldog Email.

Failure to Register and Improper Registration

Students who fail to register during a semester, or whose efforts to register fail to conform with University and College regulations may not, at the end of such semester, receive credit for courses or parts of courses completed. It is a violation of University policy for an instructor to allow a student to remain in his/her class if the student does not appear on the official roster. A student who schedules courses during registration makes a financial commitment to the University. The University assumes no responsibility for students who attend classes without proper registration.

Late Registration

After the initial registration period, all eligible students who have not yet registered may register during late registration. Dates, times and procedures for late registration are available on the university calendar and the Registrar's Office website. Enrollment during this period is considered as late enrollment for which an additional charge is made. No student may register after the close of late registration.

Withdrawal from Courses

Withdrawal ("dropping") from a course. A student may withdraw from, or drop, an individual course two or more weeks prior to final exams. Students should refer to the current university calendar for dates. A student contemplating withdrawal from a course is strongly encouraged to contact their academic advisor before changing their academic schedule inasmuch as it can result in delayed graduation. Also, dropping below full time status (≥ 12 credit hours enrollment) may impact insurance (health & auto), financial aid, and scholarships. Classes dropped two or more weeks before final examinations will receive a grade of "W". The grade and hours of courses with a grade of "W" will not be computed into the grade point average.

Students with holds that prevent registration must go to the Office of the Registrar to drop a course or to completely withdraw. The Registrar cannot drop courses after the deadline to drop has expired.

Cancellation of Registration

Students who have registered for an academic term at Alabama A&M University and decide not to attend that term must contact the Office of the Registrar to file a Cancellation of Registration Form. Students who fail to cancel registration will be held accountable for fee payment for that semester. In the event a cancellation of registration is requested, students must complete the following steps.

1. Student will initiate the process by requesting cancellation in the Registrar's Office.
2. Student will proceed to Office of Financial Aid for verification of financial status. Cancellation of requests for financial aid must be verified or processed.
3. If approved by the Financial Aid Office, the student will return the form to the Office of the Registrar. Courses will be removed from the student's record.

4. Student will present approved document to Bursar for removal of charges for the term.

Students who have registered for an academic term at Alabama A&M University and who attend one or more class sessions are not eligible for a cancellation of registration. After the first day of class, the student must provide written verification of non-attendance on departmental letterhead from each instructor and then complete the steps above.

Emergency Separation for Military Purposes

When a student or spouse of the student is called to active military service during an academic term, he/she may choose one of the following three options listed below. The student is responsible for notifying his/her instructors of the option they choose.

1. The student may request retroactive withdrawal to the beginning of the semester, with a full refund of tuition and fees.
2. If at least 75 percent of the term has been completed, the student may request that the faculty member assign a grade for the course based on the work completed. The final decision about grading is left to the faculty member.
3. If the faculty member assigns a grade of "I," the student must complete course requirements within one year after the student returns to campus.

Room and board will be refunded in accordance with the current University refund policy. All students who receive Title IV funds will be processed according to federal policies. Federal policy statements are available in the Office of Student Financial Aid.

EMERGENCY SEPARATION PROCEDURES:

- Secure the form "Emergency Separation for Military Purposes" from the Office of Academic Affairs.
- Complete the form and secure appropriate documentation.
- Submit the form and attachments to the Office of the Registrar, retaining the copy marked "Student".

Withdrawal from the University

When a student finds it necessary to discontinue his or her enrollment at any time other than at the end of a semester or summer session, he or she must complete a withdrawal form obtained from the Registrar's Office. The student must clear all AAMU accounts as listed on the form. When a student withdraws before the last two weeks of any semester or summer session, the student will receive a grade of "W" in all courses. When enrolled for a regular semester, however, a student may not withdraw during the last two calendar weeks prior to the first day of final examinations. In a summer session, a student may not withdraw during the last calendar week prior to the first day of final examinations.

When a student leaves AAMU at any time during the semester or a summer session without filing a Withdrawal Form and without clearing all University accounts, the student will receive a grade of "F" in all courses. Further, he or she will forfeit all rights to a statement of honorable dismissal, thereby jeopardizing re-entry into AAMU or transfer to another accredited institution. Withdrawal from the University does not relieve the student from any financial obligation owed at that time.

WITHDRAWAL PROCEDURES

4. Secure and complete Withdrawal Clearance Form. Forms are available in the Registrar's Office. Obtain all appropriate signatures.
5. Complete exit interview with the Office of Special Student Services.
6. Obtain signature from the Financial Aid Office.
7. Obtain signature from the Cashier's Office
8. Return completed Withdrawal Clearance Form to the Office of the Registrar.

RETROACTIVE WITHDRAWAL

Students who leave the University (for any reason) without submitting the proper withdrawal form have one year from the time of departure to complete the retroactive withdrawal form and submit it to the Office of Academic Affairs.

Auditing Courses

Students who do not wish to register in courses for credit may be permitted to register as auditors under the conditions that they pay the regular audit fees (no additional fee for students registered for a full-time credit load), obtain the consent of the instructor, and audit only courses for which there are adequate classroom facilities. Full-time students must obtain the consent of their advisors. Skill and laboratory courses are not open for auditors.

Permission to enroll and registration for auditing courses shall be filed in the Office of the Registrar. Regular registration procedures are to be followed after permission has been granted. The privileges of an auditor in a course are limited to attending and listening. The auditor assumes no obligation to do any work in the course. Auditors do not submit any work and are not required to take any tests or examinations nor receive grades on any part of the course. Auditors are not expected to take any time of the instructor.

A student can change a course from credit to audit or from audit to credit. The fee for this change is the same as that for other schedule changes.

Distance Learning Courses

Distance Learning Courses are defined as those courses taken through correspondence, audio/video, teleconference, or other electronic means.

Distance Learning courses taken at another institution for credit toward a degree at this University must be authorized in the same manner as any other transfer work as stated in the policy on transfer credits. In addition, the following policies apply:

1. The student will be considered in a distance learning course from the time he or she received permission until the Registrar receives a grade or evidence of discontinuation.
2. Distance Learning course hours will be included in the computation of the student's load for the duration of the enrollment in such course, and hence become subject to total load restrictions.
3. Distance Learning courses taken at another university cannot be used in the calculation of the quality point average or GPA if the institution is not a part of the Visiting Student Program.

Academic Policies and Procedures

Units of Credit

The unit of credit is the "semester hour." It is defined as one hour of regular class work or two or more hours of laboratory work per week for each credit hour. Semester hours translated into contact hours are calculated by multiplying the credit hours by the number of weeks in the semester. A three-hour course taken during a 15-week semester will have 45 contact hours.

Converting quarter hours to semester hours –

Quarter Hours	Semester Hours
5	3.33
4	2.67
3	2.00
2	1.33
1	0.67

Structure of Academic Year

Alabama A&M University is organized on the semester system. The year is divided into two semesters and one summer session.

Summer Session – The summer session usually covers a period of eight weeks, typically beginning the first week in June. Regardless of the length of the session, summer classes, which may be offered in shorter sessions, e.g., four weeks, are so scheduled that the amount of time allotted for class instruction is equivalent to that provided in the regular semester. Classes held during the summer session usually meet daily.

The University may offer interim sessions between the regular semesters or the spring semester and summer session or summer session and fall semester. All accelerated courses must meet the minimum contact hours based on the course credit hours.

Classifications of Students

Persons other than special students are grouped in four classes according to total credits earned in semester hours as indicated below:

Classification	Cumulative Hours Earned
Freshmen	0 – 30
Sophomores	31 – 63
Juniors	64 – 94
Seniors	95 or more

Course Loads

Full-Time vs. Part-Time: A full-time student is one who enrolls in at least 12 semester hours of scheduled course work during a semester or who enrolls in at least six semester hours during a summer session. Any student enrolled in fewer than 12 hours in a regular semester or fewer than six semester hours in a summer session is a part-time student.

Maximum Course Loads: The maximum student load is 19 semester hours per regular semester and 10 hours per summer session. A student may not register for more than 19 semester hours for any semester. Students who desire to register for more than 19 hours should submit a completed Course Overload Request form signed by the academic advisor to the Office of the Registrar for approval. Permission for an overload is restricted to students with a GPA of 3.0 or above.

The maximum load for the summer session is 10 semester hours. With permission, two additional semester hours may be allowed providing the student will be eligible for graduation the same semester by virtue of the additional hours. Under no circumstances will a student be allowed to earn more than 12 credit hours during a summer session.

Class Attendance Policy

A student is permitted one (1) unexcused absence for each credit hour generated by the class. For example, two (2) absences are allowed in a two-hour class.

Instructors:

1. Instructors are required to keep accurate attendance records.
2. Instructors must include on their syllabi applicable penalties for unexcused absences beyond those permitted based on credit hours.
3. Each student who exceeds the number of unexcused absences will be counseled by the teacher regarding any applicable penalties as stated in the syllabus.

No-Show and Attendance Verification:

Alabama A&M University has a "No-Show and Attendance Verification" procedure. This procedure is to comply with Federal Financial Aid regulations. Financial Aid recipients at Alabama A&M University may become ineligible for funds by not attending at least one class session (per enrolled course). Students who do not attend at least one class session are NOT entitled to keep their financial aid award. The established no-show and attendance verification procedure will enable Alabama A&M University to adjust financial aid awards before funds are issued to students (thereby eliminating liability for both the University and the student).

Students:

1. Class attendance is expected as well as a privilege and students are required to be punctual and prepared.
2. Learning experiences proceed at such a rapid pace that attendance is necessary if students are to acquire the knowledge, and develop competence, skills and strategies that students need to be successful in their endeavors.
3. Students are required to carry out all assigned work and to take examinations and quizzes at the class period designated.
4. Failure to take examinations and quizzes and carry out assignments at the designated times may result in an appropriate reduction in the final grade, **except as provided in item 6 below.**
5. Arrangements for make-up work, due to excused absences, must be initiated by the student.
6. Excused absences can be obtained upon presenting documentation to Special Student Services for the following reasons indicated below:
    a. **Personal Illness or Illness of a Family Member:** Documentation bearing the signature of doctors, dormitory counselors, infirmary and/or hospital officials, athletic trainers, etc. shall constitute proof.
    b. **Death in the Family:** Funeral programs, newspaper obituaries, statements from funeral directors shall constitute proof.
    c. **Subpoena for Court Appearances:** The student's copy of the document shall constitute proof.
    d. **Emergencies or Circumstances over which the Student has no Immediate Control:** Appropriate corroboration, documentation and/or explanation shall constitute proof.
    e. **Trips and/or activities by members of student organizations sponsored by academic units, and activities officially authorized:** Authorized excuses, dispatched from the appropriate offices, instructors, coaches or sponsors over signature of the Department Chairperson and Dean or Director, shall constitute proof.

Unresolved problems regarding attendance and/or procedures shall be appealed through appropriate University grievance channels.

Change/Selection of Major

Students who wish to change their respective majors must complete an Application for Change of Major. The form must be signed by the program advisor, the department chairperson and the dean of the college in which the student is currently enrolled. The student then carries the application to the new college and obtains the signatures of the program advisor, department chairperson, and dean. The student then takes the form to the Office of the Registrar for appropriate action. All course work taken will remain on the transcript and will be computed in the grade point average.

If a student changes his/her major, the student will then be governed by the Bulletin in force when he/she enters the new program under which the student will graduating.

Students will be mandated to declare a major by the end of their sophomore year.

Grades/Academic Records

Grading System

AAMU uses a letter system of grading which follows: A=exceptional scholarship; B=distinctively above average; C=average quality; D=barely passing; F=failure; I=incomplete; IP=in progress; P=satisfactory completion; X=audit; W=withdrew; WB=withdrew bankrupt; WM=withdrew military.

The grade of "P" is used to indicate satisfactory completion of graduate writing and history departmental seminars.

The grade "X" will be assigned for auditing a course; however, no credit will be allowed.

Credit for any course in which a student has received a grade of "F" can be obtained only by repeating the course at AAMU and earning a passing grade. If the passing grade is earned at AAMU, that grade replaces the "F" in the GPA calculation but the "F" remains on the transcript.

Grade Point Average

AAMU's grading system is based on a 4.00 point scale; quality points are assigned as follows:
A = 4.00 B = 3.00 C = 2.00 D = 1.00 F = 0.00

The following grades are not included in the calculation of the GPA: W, I, P, X, WB (withdrew bankrupt), IP (in-progress [projects, thesis, dissertation, research]), WM (withdrew military).

Grades earned at another institution are not computed in the grade point average unless as a visiting student. Grades earned at another university cannot be used to improve a grade point average or eliminate a quality point deficiency.

Example of Calculation of Grade Point Averages					
Grade	Grade Points	Credit Hrs of Course	Quality Points	Hours Attempted	GPA
A	4	3	12	3	
W	0	3	0	0	
C	2	2	4	2	
B	3	4	12	4	
F	0	2	0	2	
D	1	3	3	3	
I	0	2	0	0	
Totals			31	14	2.21

Grade points **x** Course credit hours = Quality points earned.
Quality points earned Total ÷ Hours attempted Total = 2.21 Grade Point Average(GPA)

Missing Grades

A missing grade must be received in the Registrar's Office within forty-five (45) days immediately following the grading period (semester or summer session) in which the grade was given. All missing grades must be reported on a Missing Grade Form. All forms should be submitted by the instructor of the registered course(s) with proper documentation and justification.

Grade Changes

All course grades except "I" grades are intended to be final and permanent. It is expected that faculty will arrive at and report final grades as accurately and precisely as the nature of the evaluation of student achievement and the grading system will permit. It is considered the faculty's direct and personal responsibility to ensure that grades are fair and reported correctly the first time. **Final grades cannot be improved by "make-up" work, after the end of the term.**

If an error occurs in the calculation or recording of a grade, it can be corrected using the following procedures:

1. The faculty of record will complete the Change of Grade Form, which must include:
   a. The student's name, student number, course designation by title and number, semester, and change desired.
   b. A statement unequivocally identifying the person who made the error, and explaining the nature of the error.
   c. An explanation of how the new grade was computed.
2. The form must bear the endorsement of the department chairperson and dean, and must be addressed to the Provost and Vice President for Academic Affairs.
3. Requests for "I" grade changes may be made by faculty members directly to the Office of the Registrar on forms provided for that purpose.
4. Requests for grade corrections must be submitted to the Office of the Registrar by the end of the semester after the incorrect grade was submitted.

Incomplete Grades

An "I" grade is intended to be only an interim course mark. It is to be used only if a student has performed satisfactorily (hereby defined as a C average or better), has completed at least 75% of the course requirements, and there is an excusable reason for his or her not having completed all requirements prior to grade reporting time. With the awarding of the "I" the instructor must include information on the Grade Reporting Form as to the specific requirements for changing the "I" to a permanent grade. Requests for removal of incomplete grades must be made by the faculty member directly to the Office of the Registrar.

Students may obtain credit for courses in which their grades are "incomplete" only by completing the work of the course in a satisfactory manner within one year of the date the "I" is awarded or the end of the next term that course is offered. If this is not done, the grade in the course automatically results in a failure ("F"). The grade of "I" (Incomplete) shall be neutral in the calculation of the grade point average. A grade of Incomplete must be changed to a permanent grade by the instructor within the time limit specified by submitting the proper Incomplete Grade Report Form to the Office of the Registrar. Delinquent Incomplete Grade Report Forms will not be requested or processed without the approval of the Provost and Vice President for Academic Affairs. This approval must be received by the Registrar's Office no later than 45 days after the expired semester.

A student does not need to re-register for a course in order to remove an "I" grade.

Incomplete grades for graduating seniors must be removed by October 1 for December graduates, April 1 for May graduates, and June 15 for summer completion.

A grade of "IP" is used to indicate satisfactory progress towards the completion of a research, thesis, dissertation or internship course. This grade designation may be used for courses that often require more than one semester for completion.

Impact of Grades from Repeated Courses on GPA

Any student who registers for credit for any course and who satisfies the requirements shall receive credit for that course; however, no student shall receive credit for the same course twice, unless the course description specifically states that the course may be repeated for credit.

Students may repeat courses to improve their grade point averages. Only the highest grade will be included in his or her grade point average. Credit will be allowed only once. All grades will be included on the student's records. This policy applies only to courses repeated at AAMU. Courses taken under the Visiting Student Program cannot be counted as a repeated course.

A student who fails a required course should repeat the course at the next opportunity. A student may be encouraged to repeat an elective course in which he or she receives a grade of "F" by his or her advisor, major department chairperson or college dean.

Academic Bankruptcy

A student may petition the Academic Appeals Committee for academic bankruptcy of an entire semester of work after completing two or more semesters at AAMU. All work completed, however, remains on the student's transcript and records with a grade of "WB", although it would be designated as work not included in the computation of the grade point average or applied towards degree requirements. Teacher education majors should check with the Director of the Teacher Service Center, as state requirements may dictate that all coursework be used in calculating the student's GPA.

Petitions may be granted for one or more full semesters; thus, a student may not be granted a grade-by-grade elimination. There must be a minimum of one calendar year between the date of the petition and the ending date for the period specified by the student's bankruptcy petition for application of relief. A student will be granted academic bankruptcy only once during the student's academic career at Alabama A&M University. For purposes of applying this policy, the student's academic career shall include all undergraduate work attempted. An academic bankruptcy approval is irrevocable.

Academic Bankruptcy forms are available in the Offices of Academic Affairs and Academic Support Services. Students should consult with the academic advisor and obtain advisor's signature. Completed forms should be returned to the Office of Academic Support Services for review by the Academic Appeals Committee.

Students should also consult with the Office of Financial Aid as academic bankruptcy affects a student's financial aid.

ACADEMIC BANKRUPTCY PROCEDURE:

1. Obtain Application for Academic Bankruptcy Form from the Offices of Academic Affairs or Academic Support Services.
2. Consult with your academic advisor and obtain advisor's signature.
3. Submit completed form to the Office of Academic Affairs by the deadline as indicated on the form.

Request for Transcript

In compliance with the Family Educational Rights and Privacy Act, AAMU does not release transcripts of a student's work at AAMU, except upon the student's written request. A student or former student who desires a transcript of his or her record from AAMU must make this request in writing to the Office of the Registrar on the appropriate form. Students or former students requesting transcripts should state all possible names under which their records may be located. Telephone and fax requests cannot be honored. A student may secure an unofficial transcript for his or her use through Banner, but official transcripts must be sent directly to other institutions, organizations, companies, and other interested parties. Official transcripts cannot normally be hand-carried without prior permission of the receiving institution. If this permission is granted, however, the transcript must be sealed in an envelope and marked "Issued to Student."

A fee of $5.00 is charged for each transcript, whether it is an official or unofficial copy. Transcripts are not issued to or for students who have outstanding financial obligations to AAMU.

Family Education Rights and Privacy Act

Alabama A&M University is required to bring to the attention of all students, parents, and alumni, provisions of Public Law 93-380, the Family Educational Rights and Privacy Act of 1974, also known as "The Buckley Amendment." Under the provisions of this law, all students and former students of AAMU have the right to inspect their official educational records in the Office of the Registrar. The right of inspection does not apply to any information submitted to this office as confidential prior to January 1, 1975, nor to access by students to financial records of their parents or guardians. Parents or guardians of a student may not see records nor receive grades unless the student specifically designates that such records and/or such grades may be made available to the parents or guardians named on his or her registration forms. Grades can be retrieved from the on-line Student Information System.

No-option "directory information" may be released by AAMU without the student's written permission. No-option "directory information" includes the student's name and enrollment status. The student must at the time of registration indicate if he or she approves additional directory information given without specific approval.

The Office of the Registrar, as custodian of the educational records of students, will make access of such records available to assistants, school officials, and other designated persons for indicated specific and legitimate interests as outlined in the amendment. All requests from campus organizations to release a student's grade point average to other students to determine a student's eligibility for membership in that organization will not be honored unless the student involved has specifically requested the release of this information.

Students who have questions concerning their records should address them to the Office of the Registrar. To ensure prompt delivery of all AAMU correspondence, students should complete change of address and change of name in the Office of the Registrar immediately after such changes in status occur.

Academic Progress

Satisfactory Academic Progress

A student at AAMU is expected to make positive academic progress towards a degree. An undergraduate student is said to be making satisfactory academic progress and thus is in academic good standing when his or her cumulative grade point average is as follows:

- A minimum cumulative 1.50 grade point average (GPA) by the end of 24 attempted credit hours.
- A minimum of 1.75 GPA by the end of 48 attempted credit hours.
- A minimum 2.0 GPA thereafter.

Students whose cumulative GPA falls below the required minimum must increase their cumulative GPA to the required minimum within two semesters. During the two-semester grace period, the student is required to show steady progress toward increasing the cumulative GPA. Further, during the two-semester grace period, the student's record will be stamped "Academic Probation."

Academic Misconduct

All students in attendance at AAMU are expected to be honorable and to observe standards of conduct appropriate to a community of scholars. The University expects from its students a higher standard of conduct than the minimum required to avoid discipline. All acts of dishonesty in any academic work constitute academic misconduct. This includes but is not limited to the following:

1. Cheating – using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
2. Plagiarism – representing the words, ideas, or data of another as one's own in any academic exercise.
3. Fabrication – unauthorized falsification or invention of any information or citation in an academic exercise.

4. Aiding and abetting academic dishonesty – intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.

Penalties for academic misconduct may be punishable by one of the following:
1. Letter of academic misconduct placed in the student's academic folder.
2. Lowering of final grade.
3. Academic discipline resulting in the loss of scholarships, nonparticipation in academic related activities, etc.
4. Temporary suspension from the University.
5. Expulsion from a class resulting in a failing grade.
6. Lowering of a grade on a test or examination.

Academic Alert/Warning

If at the end of the first semester of matriculation a student has not attained the minimum required grade point average, the student will receive an official warning notification from the Office of the Registrar. This notification shall warn the student that their academic performance is not up to par and that continued sub-par performance will result in academic probation. While on warning status, a student may only enroll in a maximum of 12 semester credit hours.

Academic Probation

A student will be placed on academic probation when his or her cumulative grade point average fails to meet the standard for satisfactory academic progress described above. Students who are placed on academic probation will have to raise their cumulative GPA to that required for satisfactory academic progress to end probation. To avoid academic suspension, a student on probation must earn a GPA within the required period equal to or above the level required for satisfactory academic progress. During the period of academic probation, students will be allowed to enroll in a maximum of 12 semester hours. Students on probation who register for more than 12 credit hours will not retain credit for hours above 12. **No student on academic probation may hold office in any campus organization, participate in any organized non-class off-campus trip, or officially represent AAMU.** This regulation does not apply to participation in activities conducted completely on campus. Participation in such activities, however, may be very limited in scope. A student on academic probation may be ineligible to receive financial aid, and could be required to repay aid that was previously awarded. Questions related to financial aid should be directed to the Office of Financial Aid.

A student who fails a required course must repeat the course the first time the course is offered during a period in which he/she is enrolled after the failing grade has been reported. A student may be required to repeat an elective in which he/she receives a grade of "F" upon recommendation of his/her major department chairperson or college dean.

Academic Suspension

A student who has been placed on academic probation and fails to acquire the minimum cumulative GPA based on classification at the end of the two-semester grace period will automatically be suspended. Temporary academic suspension will result in the loss of one semester of matriculation. A student under suspension may not obtain credit toward a degree at AAMU from courses pursued at another institution. Academic suspension may be followed by readmission on academic probation.

Appeal for Reinstatement Following Suspension

A student on academic suspension is required to remain out of the University for one regular semester and may apply for consideration of readmission after the lapse of one semester.

Appeals for reinstatement from academic suspension are available only for students who can provide documentation that has affected their academic status.

A student may appeal for academic reinstatement after suspension only once during the student's academic career at Alabama A&M University.

Indefinite Suspension

A student is declared on indefinite suspension and will not be granted permission for readmission to the University if the student has:

1. Completed two semesters on academic probation and failed to raise his or her grade point average to the required minimum, or
2. Remained out of the University for one semester and is readmitted on probation or readmitted on appeal without staying out one semester, and is subsequently suspended.

As an example:

- Semester 1 Academic Probation (limited to 12 SCH)
- Semester 2 Continued Academic Probation (limited to 12 SCH)

- Semester 3 Suspension (for one fall or spring semester)
- Semester 4 Probation After Suspension (after appealing; limited to 12 SCH)
- Semester 5 Second Probation After Suspension
- Semester 7 Expulsion

Academic Appeals

THE ACADEMIC APPEALS COMMITTEE

The Academic Appeals Committee serves as a review and recommending body on matters of academic appeals filed by students and sets forth recommendations regarding issues against students that have been filed by faculty members. The actions reviewed by the committee include appeals regarding probation, suspension, and academic violations by students or grievances filed against faculty members by students. The Academic Appeals Committee consists of four faculty members, one from each undergraduate college, a representative from University College, a representative from the Student Government Association, and a representative from the Faculty Senate, all of whom are appointed by the Provost and Vice President for Academic Affairs. The committee meets twice a semester, once during the week of registration and once during the second week following mid-term. Other meetings are scheduled on an as-needed basis.

APPEALS FOR REINSTATEMENT PROCEDURES:

1. Complete the Academic Appeals Reinstatement Application. Contact the Office of Academic Affairs for deadline dates.
2. Reinstatement applications should include the following:
    a. Be typed only – no handwritten requests
    b. Term for re-admittance (fall, spring, or summer)
    c. Student ID number
    d. Return address to receive response to your request
    e. Brief and clearly stated explanation of extenuating factors leading to the current status
    f. Plan of action
    g. Signature of Advisor and Retention Counselor
3. Reinstatement applications should be submitted to the following address: Academic Appeals Committee, Office of Academic Affairs, Alabama A&M University, PO Box 287, 108 Patton Building, Normal, AL, 35762. Fax: (256) 372-5278.

ACADEMIC APPEALS PROCEDURE

The academic appeal is a formal procedure designed to provide students with an option to address academic issues and concerns such as: unfair grading, poor instruction, unfair treatment, etc. Students and faculty members are encouraged to handle issues of academic concern through informal discussion with the appropriate individual (student, faculty, advisor, department chairperson, and/or dean). If informal procedures fail to resolve the issue(s), students may pursue a formal appeal. The following steps describe the appeal process:

1. Appeals must originate from the student in typed form and must be processed through the department chair, dean of the college, and to the Office of Academic Affairs, in that order.
2. The appeal may be handled as final at any level, with the consent of the applicant student, with a copy of the decision forwarded to the Office of Academic Affairs.
3. If the appeal reaches the Office of Academic Affairs without resolution, the request will be sent to the Academic Appeals Committee.
4. The Academic Appeals Committee shall complete an assessment of the issue(s) through (1) a hearing, (2) individual interviews, (3) acquisition and review of pertinent data, or other means as deemed appropriate by the Committee.
5. The Academic Appeals Committee shall formulate recommendations based on the results of the assessment. The recommendations will be forwarded to the Provost and Vice President for Academic Affairs for final disposition.

Academic Honors

SEMESTER HONORS

The PRESIDENT'S CUP. Undergraduate students maintaining a 4.00 grade point average for two consecutive semesters with at least 12 semester hours in the regular academic program each semester will qualify for President's Cup honors. Each recipient's name is engraved on a permanent trophy, which is housed in the Office of the President of the University. Each recipient will receive an engraved miniature cup and a certificate.

The PRESIDENT'S AWARD. Freshmen who obtain a 4.00 grade point average for one semester with at least 12 credit hours in the regular academic program will qualify for the President's Award.

The DEAN'S LIST. Any student who has attained a quality grade point average of 3.0 or better, has earned no grade below "C", has carried a minimum of 12 semester hours in the regular academic program, and had no disciplinary restrictions for the semester, is eligible for the Dean's List. It is compiled at the end of each semester.

The HONOR ROLL. Students who achieve an overall (cumulative) quality point average of 3.3 or above, provided they have been enrolled in a minimum of 12 credit hours per semester in the regular academic program for at least two consecutive semesters, will qualify for the Honor Roll.

The FRESHMAN HONOR ROLL. Freshmen who achieve a grade point average of 3.3 and above with a minimum of 12 credit hours in the regular academic program after one semester are eligible for the Freshman Honor Roll.

Eligibility for Freshmen Honors is determined each spring semester based upon a student's academic performance for the preceding fall semester. All other honors are based upon a student's performance for the spring and fall semesters, which fall in the same calendar year (i.e., spring 2001 and fall 2001). Awards are presented during AAMU's annual Honors Day Convocation in April. Parents, faculty, staff, alumni, and community guests are invited.

A student who shows evidence of superior intellectual ability and who has achieved a quality grade point average of 3.3 or above is eligible to become a member of Alpha Kappa Mu Honor Society.

GRADUATION WITH HONORS

AAMU awards graduation honors for high academic achievers based on their cumulative grade point averages. The schedule below outlines the guidelines for those awards.

Award	Cumulative GPA	Minimum Credit Hours at AAMU
Cum Laude	3.0 – 3.49	30
Magna Cum Laude	3.5 – 3.79	30
Summa Cum Laude	3.8 or above	95

Classroom Code of Conduct

Students are expected and required to abide by the Classroom Code of Conduct.

Individual breaches of codes of conduct or dress codes will be dealt with by the instructor, on a case-by-case basis, based on the severity of the infraction. Punishment can range from being marked "absent for that day to being dismissed from the class. Severe or repeat infractions may be turned over to the appropriate body for judiciary action.

General Decorum

1. Students must be able to present their ID cards for inspection. It is recommended that the card be visibly displayed, whether clipped to a waistband or breast pocket or worn on a lanyard.
2. Students must attend class regularly, missing no more than the allowed number of absences:
   a) Absent 1 hour of class for a 1 credit hour course
   b) Absent 2 hours of class for a 2 credit hour course
   c) Absent 3 hours of class for a 3 credit hour course
   d) Absent 4 hours of class for a 4 credit hour course
3. Students whose absences exceed the above will receive a reduction in their final course averages as determined by the faculty member. Exceptions to this policy on point reduction may be granted by the faculty upon presentation of documentation from the Vice President of Academic Affairs that an official excuse has been granted for the student's absence. Conditions warranting such an approval include cases involving death in the family, illness of the student or his/her immediate family members or for military duty. It is the student's responsibility to provide legitimate, official documentation of excused absences to the instructor(s) of the courses involved. Other reasons for absences not covered here must be cleared with the appropriate Dean of the College.
   a) Undergraduate Bulletin, p. 57.
4. Students must be on time to class and must remain until dismissed.
5. Students must prepare for each class meeting by reading assignments and completing any required written work. It is thus imperative that students purchase their books in a timely manner (i.e., within the first two weeks of the semester).
6. Students must meet all deadlines, including those established by the instructor and those set by the University.
7. Students must never have electronic devices such as cell phones, PDA's, iPods, or similar items in use during class time unless recommended or approved by the instructor.

8. Students are expected to act with courtesy and respect to instructors, guests, staff members, and fellow classmates and may not disrupt a classroom or a faculty member's conduct of a class. For example, students should refrain from talking during class while the instructor or another student "has the floor." Failure to behave with proper courtesy and respect could result in disciplinary action. A student who disrupts a classroom may be removed or ejected from the class or classroom.
9. Students must not come to class under the influence of drugs or alcohol.
10. Food and drinks are not allowed in the classroom, lecture hall, or lab.

Student Dress Code

1. Pajamas, sleep wear and inappropriate exercising clothes (i.e., P.E. uniforms, bicycle shorts, under armor, uncovered spandex) are not allowed in the classroom. Shirts/tops must be worn at all times. Sweat pants are allowed when worn with appropriate undergarments.
2. All students must wear shoes, boots, or other types of footwear made for outside wear: bedroom shoes/slippers, shower shoes, or similar footwear are not allowed in the classroom.
3. Dress and grooming will not disrupt the teaching/learning process or cause undue attention to an individual student; for example, no sunglasses are allowed in the classroom; excessive body piercings, tattoos, and "grillz" are not recommended.
4. Hats, hoods, caps, stocking caps, wave caps, do-rags, and other head coverings are not to be worn in the classroom; no hair curlers whether covered or uncovered are allowed in classrooms. Head coverings designed for religious, cultural, or medical/illness purposes are allowed.
5. Attire must not display language and/or images which are derogatory, profane, or sexually explicit, or abusive, or which "advertise" drugs or alcohol.
6. Dress must be modest and appropriate for a professional or serious setting; no midriff tops, halter tops, sports bras, strapless tops or dresses, camisole tops with spaghetti straps, see-through blouses or shirts, or extremely short or revealing shorts or skirts will be allowed in the classroom.. If a student chooses to wear a midriff top, halter top, sports bra, camisole with spaghetti straps, or a tank top or sundress with straps less than 2 inches wide (male or female), the student must wear a shirt or jacket over it.
7. Clothing which allows undergarments to be seen is not permitted: NO SAGGING PANTS will be allowed. No undergarments should be visible at any time.
8. It is assumed that students will practice personal cleanliness. Additionally, clothing should not carry excessive odors, i.e., tobacco, body sprays, or colognes.

Graduation Requirements

Baccalaureate degrees are awarded by authority of the Board of Trustees based upon recommendation of the deans of each college to the candidates who have met the requirements established for the particular degree. The student must also meet AAMU's scholastic regulations.

Degrees are awarded only to students who are in good standing and who have met their obligations to AAMU. Students are referred to the detailed statements of the various colleges and departments for additional specific requirements. Each degree must meet the minimum requirement of 120 credit hours.

To be eligible for a bachelor's degree, a student must have a cumulative GPA of 2.0 or higher and satisfy all requirements of his or her major and minor areas of specialization.

Individual program requirements are listed in the college/department section of this Bulletin.

The General Education Requirements are listed later in this Bulletin.

Undergraduate degree programs consist of: (1) General Education Requirements—courses required for all undergraduate programs at AAMU; (2) College requirements—courses required for all undergraduate programs in a particular college, e.g. the College of Business and Public Affairs; (3) Major requirements—courses required for undergraduates pursuing a particular major e.g., Urban and Regional Planning, and (4) Free Electives—any non-required course offered at AAMU or approved for transfer credit. Developmental courses may not be used.

While AAMU will endeavor to provide timely and accurate advisement, each student is held responsible for reading, understanding, and meeting the requirements regarding graduation as set forth in this Bulletin. Such requirements include the general education requirements as well as those specified by each program.

Requirements For A Minor/Concentration

AAMU's requirement for a minor is 18 credit hours minimum. AAMU's requirement for a concentration is 21 credit hours minimum. This does not include the hours needed to satisfy the prerequisites for the courses in 18 and 21 hours. The requirements for each minor/concentration are listed in the college/department section of this Bulletin. If the student is taking a minor/concentration, the student should have an advisor from the department where the minor/concentration originates in addition to their major advisor.

Overlap of Courses

General Education – General education courses cannot be used to fulfill any other degree requirement.

Major/minor – A maximum 50% overlap of courses is allowed between the major required courses and a minor.

Major/major – 50% overlap is allowed.

Major/concentration – 50% overlap is allowed.

Minor/minor – 50% overlap is allowed.

Concentration/concentration – 50% overlap is allowed.

NOTE: Missing total program credit hour(s) due to overlap must be made up in the course subject.

Course Substitutions

The following procedures and standards apply to requests for course substitutions to meet requirements for graduation:

1. Courses recommended for substitution credit must be comparable to those listed in this Bulletin in terms of content and competency requirements as indicated by course descriptions.
2. Requirements of the general education program must be strictly observed.
3. Lower-level (100-200) courses cannot be substituted for upper-level courses (300-400) without approval based on content from the Chair of the department that houses the course.
4. Upper-level (300 and 400 level) college courses from two year colleges will not be accepted for credit towards upper-level degree requirements at AAMU.
5. Technical subject requirements cannot be substituted for general education requirements (i.e., electronics for physical science).
6. Courses designated as fulfilling core curriculum requirements in one category cannot be substituted with courses from another category (i.e., speech for history; math for art, etc.).
7. Course substitutions for graduating seniors should be completed by April 1st for May graduates; July 1st for July graduates; and November 1st for December graduates.
8. The student's past academic program shall be evaluated, his or her new or continuing program shall be planned, and recommendations for substitutions as deemed appropriate shall be made during the student's first semester in the program.
9. Recommendations for substitutions must be dated, signed by authorized departmental personnel, and forwarded to the Office of the Registrar.

Bulletin for Clearance

1. A student applying for graduation will be processed using the *AAMU Bulletin* in effect at the date of the student's initial entry into AAMU.
2. If the initial period of enrollment is interrupted for two or more years, the student must follow the AAMU Bulletin in use at the time of re-retry.
3. A students may move forward to a more recent *AAMU Bulletin* with the permission of his/her advisor and upon written notification to the Office of the Dean. A student may not move backwards to an older Bulletin.
4. If a student changes his/her major, the student will then be governed by the Bulletin in force when he/she enters the new program under which the student will be graduating.
5. A student must complete all requirements, both general education and college/department requirements, in the Bulletin being followed.
6. Only one Bulletin must be adhered to; two or more cannot be used together.
7. All other changes require the approval of the Academic Standards and Curriculum Committee.

Application for the Diploma and Graduation

Students who anticipate graduation must make formal application to be placed on the list of prospective candidates for an undergraduate degree. The application must be approved by the student's advisor and dean and filed in the Office of the Registrar by the following dates:

Graduation Date	Filing Date
May	Third Week of September of previous year
July	Third Week of January
December	Third Week of April

Senior Record Check Submission

The Senior Record Check must be approved by (in this order): the student's advisor, chair, dean, and filed in the Office of the Registrar by the appropriate dates posted on the Official University Academic Calendar and Semester Course Schedule.

Residence Requirements

No undergraduate degree shall ordinarily be granted unless work of the last two semesters has been completed in residence. If an exception is made, the student must have earned a minimum of 25% of required credit hours at the University. Students desiring to transfer credits in the final 25% of required credit hours should be aware of residence requirements in the individual college, and should get permission from the college and the Office of Academic Affairs in advance. This includes distance learning courses offered by other institutions.

Participation in Commencement

Students registered for all courses necessary to complete requirements for graduation who encounter unusual and extenuating circumstances prohibiting the completion of all requirements, may petition the Office of Academic Affairs to participate in commencement. Students must meet the minimum requirements to graduate in order to participate in commencement. Students with outstanding coursework will not be permitted to participate.

Attendance at Commencement

All students who complete degree requirements are required to attend Commencement Practice, Commencement Exercises, and Founder's Day Convocation. Absences must be approved by the Provost and Vice President for Academic Affairs. No student may participate in Commencement unless final academic clearance is given by the Registrar, final financial clearance is given by the Business Office and Financial Aid, and clearance by Career Development Services.

Summary of General Graduation Requirements

To become eligible for graduation from AAMU, a candidate must satisfy the following:

1. Complete satisfactorily a curriculum in the college in which he or she is enrolled, including any special requirements established by the college and approved by the Academic Standards and Curriculum Committee.
2. Achieve a minimum cumulative GPA of "C" or 2.0, and the minimum GPA specified for the major college or program as indicated in the programs sections of the *AAMU Bulletin*.
3. Must have earned a minimum of 25% of required credit hours at AAMU with the last 25% of required credit hours to be taken at AAMU. Students desiring to transfer credits in the final 25% of required credit hours must get permission in advance from the college offering the program and the Office of Academic Affairs.
4. Earn at least one-half the courses in his or her major sequence at AAMU.
5. Submit to the Office of the Registrar an application to become a candidate for graduation. The application consists of an Application for Graduation Sheet and a Graduation Check Sheet which certifies that all requirements except courses in progress have been met.
6. Satisfy all due and payable financial obligations to AAMU.
7. Participate in the Commencement Practice and Exercise of his or her graduating class unless excused in writing by the Provost and Vice President for Academic Affairs.
8. Complete financial aid exit counseling.
9. Register with Career Development Services.

Graduation with Honors

AAMU awards graduation honors for high academic achievers based on their cumulative grade point averages. The schedule below outlines the guidelines for those awards.

Award	Cumulative GPA	Minimum Credit Hours at AAMU
Cum Laude	3.0 – 3.49	30
Magna Cum Laude	3.5 – 3.79	30
Summa Cum Laude	3.8 or above	95

A student must have completed at least three (3) years in residence at AAMU in order to be eligible to receive the "Summa Cum Laude" award. Students with fewer than three (3) years at AAMU who have demonstrated superior achievement will be honored "Cum Laude" or "Magna Cum Laude."

Double Major, Primary/Secondary Major, Second Degrees

DOUBLE MAJOR

A double major is the awarding of one degree with two majors from two different colleges. Requirements/criteria are:

1. The student must, before completing the junior year, declare the two majors he/she intends to complete on the appropriate form available from the Registrar's Office.
2. The student must complete all course requirements for the major degree in both departments with no overlapping courses.
3. The student must have two advisors, one from each department in which they propose to study.
4. The student must have the approval of both departments and the college of the major that will be listed on the diploma.
5. The only courses that can be used twice are General Education courses.

PRIMARY/SECONDARY MAJOR

A primary/secondary major is the awarding of one degree with two majors from the same college. Requirements/criteria are:

1. Some overlap of courses between major courses is allowed (no more than 50%).
2. The student must have a second advisor for the secondary major.

SECOND DEGREE

A second degree is the awarding of a second degree after having been awarded the first degree in a previous semester. A student who has received one baccalaureate degree may receive a second one from another college (or from the same college) upon:

1. Receiving approval and recommendation of the faculty.
2. Fulfilling general education requirements in effect at the time of admission for the second degree.
3. Meeting all requirements for both degrees
4. Presenting for the second degree at least 25% of required program credit hours from AAMU in addition to those presented for the first degree. This 25% minimum must include coursework in:
    - Major field (15 SCH minimum)
    - College core and courses in support of the major at the 3xx-4xx level (24 SCH minimum)
    - General education (6 SCH minimum)
5. Complying with all the same grade point requirements and residency requirements as other students.

The previous coursework to be used for the second degree must be current (within the statute of limitations) when the second degree is received.

Courses taken toward one degree may count toward fulfilling parallel requirements in the other, but the total credits in the two degree programs must be at least 150 semester hours.

Students who earned their first degree from another institution must meet requirements for a new major as specified by the major department and must earn a minimum of 25% required program hours in residence at AAMU following the date of the first degree.

Student may elect to pursue and to receive the two degrees simultaneously, if college and departmental requirements can be met simultaneously.

Units included in a second baccalaureate program may not be applied to a graduate degree.

Candidates for second baccalaureates are eligible for the Dean's List or other semester academic honors according to the same criteria as candidates for first degrees.

Students should consult with their advisor(s) concerning eligibility for a second degree.

Statute of Limitations

Credits required for an undergraduate degree, whether earned at AAMU, transferred from another institution or received through advanced placement, must have been earned within ten (10) years of the date of readmission of the students. Students wishing to continue toward the degree after the ten year period must submit a request for waiver of the statute of limitations to the dean of their college. An evaluation of content and credits will be made in terms of the curriculum requirements at the time of request. Additional courses may have to be taken beyond those required in the original curricular plan if a waiver of the statute of limitations is granted.

Procedures –

1. Evaluation of credits and content by the program advisor, the chair of the department, and the dean or designee.
2. A waiver of the statute of limitations approved by the dean sent to the Provost/VP of Academic Affairs for approval.

If the waiver is granted, the waiver covers specific courses and is intended for a specific period during which the program must be completed.

Responsibility Statement

Each student is held responsible for reading, understanding, and meeting the requirements for graduation as set forth in this Bulletin. Such requirements include the general education as well as those specified by each degree-granting program.

J. F. Drake Memorial Learning Resources Center

Through the generosity of the Carnegie Foundation, the first library building was constructed in 1906. This facility contained approximately 4,092 square feet of floor space and also housed the offices of the College President, the U.S. Post Office at Normal, the Business Manager and Treasurer, Home and Farm Demonstration Agents, and, on the second floor, living quarters for male faculty. In 1947, the original building was enlarged. The College outgrew the 9,000 total square feet so rapidly with the increasing student population and appropriations for library materials that the Reference Annex was added in 1962. In January 1968, a new building was constructed and occupied. The building was named in honor of Dr. Joseph Fanning Drake, the fourth President of the University. The three-story structure contained more than 60,000 square feet of floor space designed to accommodate 300,000 volumes and seats 1,000 patrons. A comprehensive renovation of the LRC facility was completed August 2002. It is still a 3-story structure which includes a new front entrance, the Centers of Excellence for Teaching and Learning, a student and a staff lounge, an International Room, a fully interactive Multi-Purpose/Distance Learning Auditorium which can seat 200 people, patron lockers on all three floors, three classrooms, and two conference rooms (first floor Conference Room seats 20 people, second floor Conference Room seats 43 people). In addition, the Computer Lab with 50 PCs and a Multimedia Lab with 40 PCs, is housed on the first floor. Organizationally, the LRC is structured to provide library/media resources and services to a diverse clientele on campus, in the community, and at distant sites. Today the LRC is charged with the responsibility for supporting all academically oriented facets and entities of the University by providing a wide range of information in all disciplines and in a variety of formats. It provides numerous and diverse resources, programs, services, and collections in support of the University's mission of providing quality professional preparation, research, and public service in pursuit of academic excellence.

Library hours

The J. F. Drake Memorial Learning Resources Center's (LRC) schedule is as follows:

Hours of Operation		
Academic Year	Summer Session	Classes Not in Session
M-R, 8am – 12am	M-R, 8am – 10am	M-F, 8am – 5pm
Fri, 8am – 5pm	Fri, 730am – 5pm	S&S, Closed
Sat, 10am – 5pm	Sat, 10am – 5pm	
Sun, 2pm – 10pm	Sun, 2pm – 9pm	

Loan Periods

Undergraduate students may check out a maximum of 10 books at a time for a 30 day loan period. Graduate students may also check out a maximum of 10 books at a time for a 90 day loan period. You must have your CURRENT student ID with you to check out materials.

Reference Desk

The Reference Department is on the Second Floor directly across from the Circulation Desk. Here you will find research assistance and bibliographic instruction. Included in this area are Interlibrary Loan and Government Documents**.** If you have any questions about researching your topics, need help finding materials or learning to use the catalog or databases, please ask the Librarian on duty.

Circulation Desk

Located on the second floor, the circulation desk also houses reserve materials and the AV Collection. Class Reserve Materials are found at the Circulation Desk. Faculty circulation privileges allow print materials to be checked out for an entire semester. AV materials may be checked out for 14 days.

LRC Collections

The Library houses 4 distinct collections as well as circulating materials. These collections include: The Black Collection, The Juvenile Collection, The International Collection and the Archival and Historical Collection. See our website at www.aamu.edu/lrc for a full description of each collection.

Magazines and Journals

The Serials Unit houses current journals, magazines, and newspapers, and also maintains bound volumes, microfilm, and microfiche collections. A "serial" is defined as any publication issued in successive parts which are intended to be continued indefinitely. These publications may be issued in print, non-print, and/or electronic format.

Electronic Resources

You may access the databases from any workstation on campus from the LRC Homepage, http://www.aamu.edu/lrc. In addition, we've made it easy for you to access the LRC's databases and e-journals from off-campus by using EZproxy. User authentication is required for all off-campus use. You must be registered with Alabama A&M University and have a valid email account. Your computer must be set up to allow cookies.

Computer Lab

The computer lab is located on the first floor of the LRC. There are 50 workstations available for research, word processing and other research related tasks.

University Archives

Archives Unit is dedicated to collecting and organizing historical documents and materials that reflect the heritage of Alabama A&M University. It is the goal of the LRC Archives to make these items accessible to the campus community as well as the community at large while preserving their legacy. A wealth of information is available, such as early student publications and photographs. Most information is available by faculty, students, alumni, and the general public; however, in order to protect the records and to ensure their long term preservation and accessibility, materials in Archives do not circulate.

First Floor
Conference Room One
Lobby
Computer Lab
Classroom 121
Student Lounge

Classroom 120
Classroom 118
Electronic Resources & Systems

Multipurpose Room
Multimedia Lab

Technical Services (Acquisitions, Cataloging, Collections Development)

Second Floor
Administrative Services
Lobby
Circulation
Conference Room Two
OPACS

Reference
Interlibrary Loan
Serials

Government Documents
Collection 700-799 – Fine Arts

Third Floor
Lobby
Circulating Materials:
- West Bay: 300-399, 500-599, 600-613
- East Bay: 000-0099, 100-199, 200-299, 400-499, 614-699, 800-899, 900-999,
  Rm 308

Special Collections:
- West Bay: Juvenile & Black Collections
- East Bay: International, Curriculum & Textbook Collections, Rm 311 & 312

Archives
Centers of Excellence for Teaching and Learning

Student Health and Wellness Center

Mr. Daniel Kasambira, Director
4011 Meridian Street
Voice: (256) 372-7000, Fax: (256) 372-7005, daniel.kasambira@aamu.edu

The Student Health and Wellness Center, located in the heart of the Alabama A&M University Campus, offers over 78,000 square feet of fitness space to students, employees, alumni and the community.

Our Core Values: "We are committed to ensuring you feel better when you leave the Student Health and Wellness Center than when you arrived."

Character – A culture of professionalism in all aspects of our operation.
Customer Service – Exceed your expectations by adding value to your Student Health and Wellness Center experience.
Cleanliness – It is our responsibility to make sure the facility is kept at a high standard.
Community Outreach – Partnerships with individuals, businesses, churches and non-profit organizations will assist in expanding our human and economic capital.
Commitment to Staff Development – Investment in our staff will provide personal and professional growth opportunities.

The center's features include:

Seven (7) lane swimming pool
One (1) outdoor volleyball court
Four (4) lane suspended running/walking track
One (1) weight room and cardio training area
Two (2) locker rooms complete with showers
One (1) lounge area with complimentary Wi-Fi
Six (6) lane bowling alley
Two (2) basketball/volleyball court gymnasium
Three (3) racquetball courts
Three (3) multipurpose activity rooms
Three (3) aerobics rooms

Hours of Operation				
Academic Year		Summer		Year Round
Facilities	Pool	Facilities	Pool	Bowling Alley
M-F, 6am – 10pm	M-F, 7am – 10am M-F, 4pm – 930pm	M-F, 6am – 9pm	M-F, 8am – 830am	M-F, 5pm – 10pm
Sat, 9am – 6pm	Sat, 9am – 530pm	Sat, 9am – 6pm	Sat, 9am – 530pm	Sat, 12pm – 6pm
Sun, 1pm – 7pm	Sun, 1pm – 630pm	Sun, 1pm – 7pm	Sun, 1pm – 630pm	Sun, 1pm – 7pm

Student Healthcare Center: Health & Counseling Services

Dr. Jennifer Parker-Ayers
Voice: (256) 372-5600/5800, studenthealth@aamu.edu

The mission of the Alabama A&M University Student Healthcare Center (SHC) is to provide quality student centered medical, counseling, and mental health services. By enabling our students to experience and further develop a healthy, productive, and complete lifestyle. This is achieved through practices of physical, social, and psychological wellness. The SHC proudly utilizes the community health model to support preventative illness and health care maintenance.

All professional services are rendered with attention to confidentiality. The healthcare center is an outpatient campus based facility located in the AAMU Student Health and Wellness Center. Services provided at the center are covered by the required AAMU student supplemental health insurance plan.

The AAMU Student Healthcare Center employs a licensed and professional staff which provides compassionate care to those we serve. We are a fully operational staff within the AAMU Division of Student Affairs. The students who receive health care services at our center are provided clinical and medical services for acute and chronic illnesses.

AAMU Healthcare Center Facts:

- Student wellness and satisfaction is our priority.
- We guarantee personal and confidential service.
- A full-time Primary Medical Provider is available daily.
- AAMU Department of Public Safety provides urgent care transportation service.

- No Appointment is required for acute Medical or Counseling Services.

SERVICES AVAILABLE			
	Acute and Preventive Care	Testing	Specialized
MEDICAL	Chronic illness maintenance (diabetes, hypertension, asthma) Acute care for non-emergency conditions Convenient medication dispensary on site Strains and sprains Medical diagnosis monitoring Gynecological examinations Treatment of minor infections	STD/STI HIV Pregnancy TB screening (minimal fee required) On site EKG	Bariatric surgery evaluations/coaching Patient teaching for diagnosis, medication, diet and/or exercise Imaging and medical specialty referrals Collaborative care with counselors for referrals, health maintenance or medication evaluations Vaccinations available on request (minimal fee required)
	Mental Health Prevention/Maint.	Primary Counseling & Psych Svcs	Specialized Expanded Care
COUNSELING	Mental health screening (depression, anxiety, ADHS, PTSD, etc.) Trauma crisis Mental illness treatment, maintenance, support Individual & Group Counseling	Anger Management/Coping Skills Suicide prevention/intervention strategies Student life management coaching Academic distress Adjustment therapy ADHD/autism support Chronic illness education, management, coping and support Weight management/psychological assessment	Referral for medication evaluation And treatment 24/7 doctor-on-call and after-hours emergency service Axis I diagnosis and referrals Support group referrals Psychiatric services referral

The counseling services staff strongly believes in student advocacy and healthcare at its best! The AAMU Student Health Services Counselors are state licensed professional counselors who are certified in areas such as rehabilitation, substance abuse, and crisis intervention. The staff is committed to providing superior, ethical, professional, and confidential services to those we serve.

Hours of Operation		
Daily	Patient Hours	After Hours
M-F, 8am – 5pm Closed for lunch 12:30pm – 1:30pm	M-F, 8:30am – 4:30pm	24/7 licensed nurse hotline – (800) 557-0309 24/7 on-call medical provider – (256) 425-4201 24/7 on-call counselor – (256) 425-4554 24/7 campus public safety – (256) 372-5555

Helpful Resources:

- Crisis Services of North Alabama (256) 716-1000
- National Suicide Prevention Hotline (800) 273-8255
- Huntsville Hospital (256) 265-1000
- Crestwood Medical Center (256) 883-7140

Career Development Services

Ms. Carolyn Boswell, Director
101 Patton Hall
Voice: (256) 372-5690, Fax: (256) 372-5689, carolyn.boswell@aamu.edu

Career Development Services is a centralized office with a mission to assist students and alumni to realize career objectives, prepare for employment opportunities and provide career planning services that will enable students to move confidently from the academic environment to the world of work. In support of this mission, the office strives to meet the following six objectives:

- To assist and prepare students to implement effective job search strategies.
- To provide employment counseling to students and alumni.
- To provide opportunities for experiential learning, that allows students to practice classroom theory in a working environment.
- To assist students in choosing and preparing for careers.
- To provide opportunities for participation in on-campus recruitment and interviews with local, state and national employers.
- To provide current data relative to employment trends that support academic preparation.

Some of the services provided by Career Development Services are as follows:

- On-campus interviews for CDS registered students, and alumni with local, state, and national employers.
- Workforce Readiness workshops and individual counseling sessions on resume and cover letter writing, interviewing skills, job search strategies and employment trends.
- Job listing services that provide current information about full-time, part-time and summer employment opportunities.
- Cooperative Education (undergraduate/graduate) and summer internships.
- CDS Career Resource Library. Resources include company binders, videotapes, books, CD's, and journals.
- Career counseling open to all students and prospective students.
- Annual career programs: Career Preparedness Week, Fall Career Fair/Interview Day, Graduate and Professional Schools Day, North Alabama Connection Professional Employment Day, Youth Motivation Task Force Conference, and Teacher Education Day.
- Job Referral Service.
- CDS 301: Career Development Seminar, a one hour credit course.
- Business Etiquette dinners.

Students are required to register with the office before the completion of 30 credit hours.

Cooperative Education Program

Cooperative Education is a unique plan of educational enrichment. It is designed to make a student's educational program more relevant and meaningful by integrating formal academic study with special periods of practical work experience directly related to the individual's major field of study. The work experiences usually increase in difficulty and responsibility as the student progresses through the academic curriculum.

The program is called Cooperative Education because it involves a cooperative effort between the employer and the University in combining their resources to form an educational system for career preparation and training. The University teaches basic facts, theories, and principles; the employer provides the opportunity for a student to apply these facts, theories, and principles to practical work situations and problems resulting in a Win/Win combination.

Visit CDS website at www.aamu.edu/cds.

Office of International Programs

104 Carver Complex, Bonner Wing
(256) 372-5059

Alabama A&M University has had a long history of international involvement, especially in the training of international students, many of whom come from the less developed countries of the world. In incorporating an international dimension to its traditional programs of teaching, research, and public service, and in keeping with its mission and goals, part of which is to provide and/or extend education services to the wider community, AAMU is guided by a recognition of the interdependence among people and countries throughout the world. It also recognizes its historical background and experience in working with and assisting people of limited resources as being uniquely suited for responding to the development needs of Third World countries.

Alabama A&M University formalized its involvement in international education and development activities by establishing an Office of International Programs (OIP) in 1978. In doing so, it committed itself to mobilize its resources towards the internationalization of AAMU's programs and activities. It further committed itself to the strengthening of its capacity and capabilities to respond to the needs of the state of Alabama, the U.S. government, and other international development agencies for technical and training expertise as may be needed by less-developed countries. AAMU believes that by its involvement in international programs and activities, it will acquire new knowledge, broaden the outlook of its community and above all, establish a better understanding and friendship between the U.S. and the people of other countries.

The University fully endorses the nine "Basic Principles of College and University Involvement in International Development Activities" as approved by the National Association of State Universities and Land-Grant Colleges (NASULGC). Pursuant to these principles, AAMU has developed and adopted policies and procedures governing its effective participation in international education development and programs. They serve as guide posts for faculty and staff involvement in international programs.

Three major thrusts of Alabama A&M University's International Programs are:

- **Developmental Assistance.** Under this thrust, AAMU is committed to playing a significant role in delivering technical assistance to developing or under-developed countries of the world through work with the U.S. Agency for International Development (USAID) and other international development agencies in agriculture, natural resources and rural development, human nutrition and environmental issues, and institution building in many countries of sub-Saharan Africa, the Caribbean, Central America, Asia and the New Independent States (NIS) of the former Soviet Union

- **Human Resources Development.** In keeping with AAMU's mission of providing educational opportunities to the wider community, AAMU strives to attract international students and to assist the USAID and other international agencies and governments in fulfilling their educational training program needs by providing a suitable learning environment for the many sponsored students who are sent to AAMU by these agencies and governments. Through the Office of International Programs, which serves as the sponsored students contact and management office for AAMU's international programs, appropriate and necessary special services are provided to facilitate and to ensure a rapid and effective completion of participants' training objectives. Each such exchange J-1 student or participant is charged an administrative/management fee of $250 per semester and $150 per summer session.

- **Internationalization of University Programs.** This thrust embodies the internationalization of teaching, research and public service, and offerings of international minors and majors in various academic program areas; student and faculty exchange programs on domestic and international levels; establishment of collaborative linkage relationships with universities, other institutions and research centers for academic and scientific exchanges; and study abroad programs for language and intercultural training for students and faculty. AAMU participates in visitor exchange programs, including the Fulbright-Hays Programs of the Bureau of Educational and Cultural Affairs of the U.S. Department of State.

In pursuance of these programs and activities, AAMU has established formal linkages with many universities and research centers in many countries in Africa, including the University of Ouagadougou, Burkina Faso; Ministry of Higher Education, Computer Services and Scientific Research, and the Institute of Agronomic Research, Cameroon; University of Cocody, Cote d'Ivore; Alemaya University of Agriculture, Ethiopia; Ministry of Agriculture and the Food Research Institute, Ghana; the University of Liberia, Liberia; National Institute of Agronomic Research, Niger; Obafemi Awolowo University and Federal University of Technology, Owerri, Nigeria; Ministry of Agriculture and Natural Resources, Sierra Leone; and the Food Research Institute, Sudan. In the Caribbean, linkages exist between AAMU and University of the Virgin Islands, Virgin Islands, the Caribbean Agricultural Research and Development Institute, the University of the West Indies, Trinidad, and the Food Research Institute, Jamaica. In Eastern Europe, collaborative linkages exist between AAMU and St. Petersburg State Agrarian University, Pushkin; Main Botanical Gardens, Russian Academy of Sciences,

Moscow, Russia; Tavrida National University, formerly Simferopol State University, Simferopol, Ukraine, and East European University of Economics and Management, formerly called Cherkassy Institute of Business Management, Cherkassy, Ukraine. These linkages provide opportunities for study abroad, exchanges, collaborative research, and programs for students and faculty at AAMU.

Alabama A&M University participates in the National Security Education Program (NSEP) and similar U.S. Government sponsored programs which provide scholarships for undergraduate students to pursue academic studies overseas for one semester or a year and fellowships for graduate students for a period ranging from one semester to up to two years.

The University is a member of the National Student Exchange (NSE) Consortium. Under this system, an AAMU student can attend another NSE-member institution while registered at AAMU, to take courses for one semester or a year for the same amount of tuition and fees paid at AAMU. Courses taken at a host campus are fully transferable, with grades applicable towards the student's graduation requirements of AAMU. Costs for housing arrangement should be checked with the host school prior to enrollment, as these may need to be paid separately by the student.

For additional information on any aspect of the programs and activities described in this section, the Office of International Programs should be contacted or visit the website at www.aamu.edu.

Office of Veteran Affairs

Carver Complex South
(256) 372-5805

The Office for Veteran Affairs serves as a resource center and an advocate for veterans. General information, counseling and professional referrals are available for veterans. The Office for Veteran Affairs works closely with the U.S. Veteran's Administration Office in the disbursement and coordination of appropriate documents and benefits.

Student Government Association

201 Ralph Lee Student Center
(256) 372-5619

The Student Government Association (SGA), to which all undergraduate students belong, is the major undergraduate governmental body. It is funded, in part, by the student activity fee. The SGA hears appeals for financial assistance for participants of organizations to attend workshops/conferences, acts as a liaison between the administration of AAMU and the students, and promotes educational and social programs for students.

Department of Public Safety

Public Safety Building
(256) 372-5555

The Department of Public Safety is responsible for protecting life, property and enforcing the laws of the State of Alabama and Alabama A&M University. The Department mandates the preservation of peace and public order, crime prevention and the apprehension and prosecution of violators of the law. The Department of Public Safety is committed to the philosophy of community-oriented law enforcement and pledges the highest professional standards while providing an environment conducive to academic excellence. In addition, the Department works cooperatively with other local law enforcement agencies to investigate violations of campus regulations and policies and state laws. The Department of Public Safety is committed to providing quality service 24 hours a day.

WJAB FM Radio Station

Room 202 Morrison Building
(256) 372-5795

WJAB - FM is a professional, non-commercial radio station serving the interests of the citizens of Huntsville and surrounding areas. A mixture of various forms of jazz and blues dominate WJAB-FM's twenty- four hour, seven days a week format. Major support for the operation of the station comes from the licensee, AAMU. Additional funds are provided by AAMU listeners, the business community as well as the Corporation for Public Broadcasting.

Honors Center Program

Honors House
(256) 372-5859

The AAMU Honors Program offers challenges and opportunities for academically talented students who are seeking to develop their full potential as scholars and as citizens. The program provides creative learning opportunities, experiential learning, leadership development, and professional interactions with noted scholars.

Goals

1. To attract students who are academically talented and to offer programs of study designed to stimulate them to do the quality of work equal to their potential.
2. To provide a program of study which is both challenging and rewarding, one which prepares participants to enter and to successfully complete graduate and professional programs of study.
3. To encourage and stimulate learning outside the classroom.
4. To enable qualified students to progress at an accelerated rate.
5. To maximize the opportunity for students to grow intellectually through classroom activities, colloquia, research, and writing seminars, and to broaden and enhance their social and cultural experiences.
6. To encourage honors program students to participate in various activities at AAMU and to serve as classroom volunteers, peer counselors, teaching assistants, research assistants, laboratory assistants, and program assistants for major University functions.
7. To enhance the educational climate of AAMU, thereby stimulating all students to perform to their maximum intellectual capacity.
8. To participate in cooperative linkages and collaborative agreements with graduate and professional schools at major universities across the nation and with industries seeking individuals who are highly trained.

Program Admission Requirements

To be admitted, entering freshmen must apply to AAMU and to the honors program. Second semester freshmen are also eligible to apply. Admission requirements are as follows:

1. ACT score of 22 and above or SAT score of 1030 and above.
2. High school grade point average of 3.3 in academic courses for entering freshmen.
3. Second semester college freshmen with ACT scores of 21-22 (SAT 1025) may be considered for admission, if they have at least a 3.5 grade point average in a minimum of twelve (12) semester credit hours of regular academic courses completed at AAMU and a cumulative high school grade point average of 3.3.
4. An interview with the Director, Assistant Director, and members of the Advisory Council.

Supporting data include the following:

1. For entering freshmen, three letters of recommendation required from a counselor and two high school faculty members under whom the student has completed an academic course. For second semester freshmen, letters may come from an advisor and two faculty members under whom the student has completed courses at AAMU.
2. An autobiographical essay.

Program Graduation Requirements

In addition to meeting the established eligibility requirements for admission to the honors program, participants must also meet specified standards to remain in the program. Standards are reviewed on an annual basis and are, therefore, subject to change. As a minimum, all honors program participants are currently required to complete the following in order to remain eligible for participation in the program:

- Enroll in a minimum of twelve (12) hours of course work per semester.
- Maintain the following overall cumulative grade point averages as specified for each classification:

Freshman	3.3
Sophomore	3.4
Junior	3.5
Senior	3.5

- Attend 90% of all regularly scheduled honors program meetings and at least 50% of all honors program sponsored events.
- Must complete at least 20 hours of volunteer service to the community and 20 hours of volunteer service to AAMU **each** semester (freshmen and sophomores); complete 10 hours of volunteer service to the community and 10 hours of volunteer service to AAMU **each** semester (juniors and seniors).

- Apply for at least five internships, research assistantships, and/or scholarships during each academic year.
- Participate in at least two campus organizations--one should be related to the participant's major field of study and one should be general in nature.
- Enroll in at least six semester hours of honors course work each semester as a freshman and three as a sophomore, if available.
- Enroll in IDS 301 Honors Seminar as a junior and must enroll in IDS 401 Senior Honor Project as a senior.
- Apply to a graduate or professional school prior to graduation from AAMU.
- Attend at least four non-athletic, University-sponsored forums, convocations, and other events each semester.

IDS 301 (*Honors Seminar*), 1 hour. A course placing selected current events, issues and problems in perspective through an analysis of their origins and their development over time. Students will explore these events, issues, and problems in-depth with special emphasis given to those of particular interest to the class. Required of all junior-level honors program participants.

IDS 401 (*Senior Honors Project*), 3 hours. This is a comprehensive culminating activity in which students demonstrate essential knowledge, skills, and appreciation of their field(s) of study. The nature of the project will depend on the discipline, (i.e., paintings, pottery, musical composition/recitals, original literary works, films/videotapes, and traditional investigative/research projects). Research projects will be supervised by honors faculty and departmental faculty.

Honors Courses

As freshmen and sophomores, honors program participants enroll in a minimum of nine semester credit hours of honors courses each semester. Seminars, colloquia, and projects are offered at the junior and senior levels. Courses currently approved are as follows:

ECO 200H	Honors Basic Economics
ENG 101H	Honors Composition I
ENG 102H	Honors Composition II
ENG 204H	Honors World Literature II
HIS 101H	Honors World History I
HIS 102H	Honors World History II
ORI 101H	Honors First Year Experience
PHY 101H	Honors Physical Science I

Withdrawal

Students may withdraw from the Honors Program at any time by notifying the director in writing. Freshman students who do not maintain the required 3.3 cumulative grade point average will be placed on inactive status for the succeeding semester. Students below the required grade point average for two consecutive semesters will be dropped from the program.

Reinstatement

Students dropped or who withdraw from the Honors Program may apply to be reinstated upon attaining the required minimum grade point average based on their classification, and receiving a positive recommendation from the Honors Program advisory council.

General Education Requirements

The general education program, as described, is the foundation of all undergraduate degree programs and is required of all students. Colleges and/or departments may require additional or more specific course work for their programs than that listed below. The general education program is designed to be completed during the first two years of all baccalaureate degree programs with the exception of a few to meet accreditation requirements.

Area I: Written Composition.

A grade of C or better is required in each of the following courses.

ENG 101 or 101H	Composition I
ENG 102 or 102H	Composition II

Area II: Humanities and Fine Arts.

Requirements include at least **twelve (12)** semester hours in humanities with a minimum of **three (3)** semester hours in the fine arts (performance courses excluded), **three (3)** hours of literature, and the remaining **six (6)** semester hours from the humanities and/or fine arts. In addition to literature, disciplines in the humanities include, but are not limited to, philosophy, religious studies (courses which explore religions only; courses in theology are not acceptable), foreign languages, art, music, theater, and dance.

All students must complete a six semester hour sequence either in literature or in history.

Fine Arts		Literature (also Humanities)	
ART 101	Art Appreciation	ENG 201	Survey of English Literature I
MUS 101	Music Appreciation	ENG 202	Survey of English Literature II
ART 220	History of Art I	ENG 203	World Literature I
ART 221	History of Art II	ENG 204	World Literature II
		ENG 204H	World Literature II Honors
		ENG 207	American Literature I
		ENG 208	American Literature II

Humanities			
FRE 101	Elementary French I	PHL 206	Ethics
FRE 102	Elementary French II	SPA 101	Elementary Spanish I
FRE 201	Intermediate French I	SPA 102	Elementary Spanish II
FRE 202	Intermediate French II	SPA 201	Intermediate Spanish I
PHL 201	Introduction to Philosophy	SPA 202	Intermediate Spanish II
PHL 203	Logic & Philosophy of Science	ENG 205	General Speech

All students must complete a six-semester-hour sequence either in literature or in history.

Area III: Natural/Physical Sciences and Mathematics.

Requirements include at least **eleven (11)** semester hours with at least **three (3)** semester hours in mathematics at the finite math level or higher and at least **eight (8)** semester hours in the natural sciences, which must include laboratory experiences in conjunction with the courses. Below is the list of AAMU courses that satisfy this requirement.

MTH 101, MTH 105, and MTH 107 **cannot** be used to meet the general education requirement. These courses, as well as any others which are at a level lower than finite mathematics, may be taken by students who desire or need additional skill development in mathematics prior to enrollment in higher level mathematics courses. The following courses will meet the mathematics general education requirements. Students should consult with their advisors regarding other options.

Mathematics			
MTH 110	Finite Mathematics	MTH 126	Calculus II
MTH 112	Pre-Calculus Algebra	MTH 145	Honors Calculus I
MTH 113	Pre-Calculus Trigonometry	MTH 146	Honors Calculus II
MTH 115	Pre-Calculus Algebra & Trigonometry	MTH 227	Calculus III

MTH 120	Calculus and Its Applications	MTH 237	Linear Algebra
MTH 125	Calculus I	MTH 238	Applied Differential Equations

Natural/Physical Sciences

BIO 101 /101L	General Biology I, Lab I	PHY 101/101L	Physical Science I, Lab I
BIO 102/102L	General Biology II, Lab II	PHY 101H	Physical Science I Honors
BIO 103/103L	Principles of Biology I, Lab I	PHY 102/102L	Physical Science II, Lab II
BIO 104/104L	Principles of Biology II, Lab II	PHY 103	General Physics I
BIO 203/203L	General Botany I/Lab I	PHY 104	General Physics II
BIO 204/204L	General Botany II/Lab II	PHY 105	Physics I
CHE 101/101L	General Chemistry I, Lab I	PHY 106	Physics II
CHE 102/102L	General Chemistry II, Lab II		
CHE 111/111L	Applied Chemistry I, Lab I		
CHE 112/112L	Applied Chemistry II, Lab II		

Area IV: History, Social, and Behavioral Sciences.

Requirements include **twelve (12)** semester hours with at least **three (3)** hours in history, **three (3)** hours in economics, and at least **six (6)** semester hours from among other disciplines in the social and behavioral sciences. Disciplines include, but are not limited to, anthropology, economics, geography, political science, history, psychology, and sociology. Below is a list of courses that can be used to meet this requirement.

History (also Social Science)

HIS 101	World History I
HIS 101H	World History I Honors
HIS 102	World History II
HIS 102H	World History II Honors
HIS 201	American History I
HIS 202	American History II
HIS 204	Intro to Africana Studies

Economics (also Social Science)

ECO 200	Basic Economics
ECO 200H	Basic Economics Honors
ECO 231	Principles of Macroeconomics
ECO 232	Principles of Microeconomics

Other Social Sciences

GEO 214	World Regional Geography
SOC 201	Introduction to Sociology
SOC 210	Social Problems
SOC 212	Marriage and the Family
UPL 103	Community and You

Behavioral Sciences

PSY 201	General Psychology
SOC 201	Introduction to Sociology
SOC 210	Social Problems
SOC 212	Marriage and the Family

All students must complete a six semester hour sequence either in literature or in history.

Area V: Other Requirements.

ORI 101 and 102 First Year Experience – 2 hrs.
These courses are required for all students who enter AAMU with fewer than 30 semester hours of college credit.

PED/MSC/HED Elective Physical Education or Military Science or Health-related courses – 2 hrs.
Some programs require a specific course(s), Please check with your advisor.

Health-related:

FAS 101	Food and Survival of Man
HED 101	Personal and Community Health
NHM 103	Nutrition Today

Physical Education:

PED 102	Fitness for Life	PED 114	Aerobics/Weight Training	PED 137	Golf
PED 107	Gymnastics	PED 132	Beginning Swim/Aquatic Ed		
PED 111	Tennis	PED 133	Intermediate Swimming		

Military Science:

MSC 101, Military Science I.

Computer Literacy – 3 hrs.

All students are required to achieve computer literacy through one of the following courses:

AGB 199	Computers in Agriculture	EGC 104	Computer Programming
CMG 225	Computer Applications for Construction	FED 215	Instructional Technology
CS 101	Fundamentals of Computer & Info Systems	INT 206	Computer Appl in Technology Management
CS 102	Introduction to Programming	ME 104	Engineering Programming I
CS 104	Introduction to Computers and Ethics	MIS 213	Computer Applications in Business
EE 109	Engineering Computing	TBC 102	Microcomputer Skills for Technology Mgt

The Office of Retention and Persistence

Dr. Constance Adams, Executive Director
242 Thomas Hall
Voice: (256) 372-5750, Fax: (256) 372-5755, constance.adams@aamu.edu

Mission

The mission of the Office of Retention and Persistence (ORP) is to build the foundation for optimal learning, essential to first-time freshmen, new and potential students as well as to provide students with the support needed to achieve their educational goals. This office serves as the portal of entry for all freshmen and new students; provides academic and support services to help students succeed in their educational pursuits; and facilitate and improve student success, retention and graduation rates. The general objectives are (a) to assist freshmen, and other students who have not officially declared majors, in a systematic progression through the freshman core curriculum by providing a comprehensive and effective advising system; (b) to ensure students complete the university-designated program of study; (c) to provide instructional programs to meet the varied intellectual needs of students; (d) facilitates retention initiatives and supports and monitors students' academic progress; (e) provides referrals to campus resources; (f) coordinates programs that foster the academic success of students; and (g) to provide a caring, nurturing and communing environment, where relevant skills and competencies, collegiate adjustments, career goals, and education plans-commensurate with students' abilities and interests are actualized.

Academic support services provided by the Office of Retention and Persistence include the Academic Advising Center, Tutorial Assistance Network (TAN), Retention and Persistence Program, Transfer Transition Orientation, and Changing Lanes Mentoring Program (CLMP).

New Student Orientation Program

ORI 101 & 102

First Year Experience – 2 credit hours. Two courses assisting new students in making a satisfactory adjustment to the collegiate environment. Topics include, but are not limited to, the history of AAMU, academic policies and procedures, study skills, test-taking strategies, time management, coping with stress, career preparedness, student life, financial aid, money management, and Service Learning. Entering freshmen and new transfer students who enter AAMU with fewer than 30 semester credit hours are required to register for these courses. These courses are mandatory for graduation. Students who are 27 years of age or older, may opt to enroll in ORI 101 & 102 as independent study courses.

Transfer Transition Orientation

Transfer students who transfer 30 or more semester hours of college credit to the university, participates in the Transfer Transition Orientation at the beginning of the first semester of their enrollment at AAMU. This academic assistance program is designed to assist transfer students in receiving appropriate credit for previously completed coursework promptly, securing advisor assignments, filing official declaration of major forms, understanding University policies and procedures and learning to access the AAMU Bulletin and other student reference documents/publications.

Academic Advising Center

The Academic Advising Center in cooperation with academic advisors in the students' major departments, assists freshman students in planning their schedules. Assistance is also provided to undecided majors who are in the process of determining their educational plans.

Tutorial Assistance Network (TAN)

TAN coordinates and maintains a campus wide peer tutorial program and supplemental instruction (SI). Tutors and SI Leaders are available in most academic courses and offer tutoring at no cost to the student. Individual and small group tutoring is provided for those students who are interested in regular, weekly tutoring assistance and walk - in tutoring is available in some courses for students who require periodic tutoring. Students may be assigned tutors by visiting the TAN office located in 223 Thomas Hall and completing a tutorial request application. For more information, call (256) 372-5487.

Changing Lanes Mentoring Program

Changing Lanes Mentoring Program helps entering freshmen stay on the road! This program provides incoming students with the opportunity to interact outside of the classroom with Alabama A & M University's top faculty and professional staff. The purpose of the program is to help incoming students adjust to the campus culture so they can grow to be successful academically, professionally and in life. Mentoring relationships are established based on the student's chosen major or interests. Once matched, mentors and protégés will have many opportunities to interact throughout the year. Protégés will not only receive one-on-one mentoring, but they will interact with other mentors and protégés socially, dialogue on topics that will enhance their personal growth in forums, and receive a semester newsletter that will highlight mentor and protégé achievements.

Transition from Freshman to Sophomore Requirements

Undeclared freshmen and undeclared new students who transfer fewer than 30 hours must satisfy the following requirements in order to exit University College and enter a major, college, department, or program of the intended major:

1. Complete the 22 semester credit hours specified for the freshman core (non-transitional/non-developmental) curriculum.
2. Declare a major by completing an official "Declaration of Major Form."
3. Meet all requirements for admission to the college, department, or program of the intended major.

Transitional Education Program

The Transitional Education Program is designed to assist academically challenged freshmen to increase their proficiencies in three areas: English, mathematics, and reading. Placement in each of the developmental courses is determined by criteria set by the responsible department. Freshmen whose placement scores fall below the requisite levels are required to register for the appropriate course(s). Students remain in the program(s) until they achieve specified competency levels. Grades earned in these courses will be computed into a student's grade point average, but credit hours earned cannot be applied toward the completion of degree programs.

The Transitional Education Courses are:

EDU 100L	Reading with Lab – 3 hrs.
EDU 100	Reading – 3 hrs.
EDU 150	College Reading – 3 hrs.
ENG 100	Developmental English – 3 hrs.
ENG 100L	Developmental English Laboratory – No credit hours.
MTH 100	Developmental Mathematics – 3 hrs.
MTH 101	Fundamentals of Mathematics – 3 hrs.
MTH 105	Intermediate Algebra – 3 hrs.
MTH 107	Modern Mathematics – 3 hrs.

TRIO/Special Programs

136 Buchanan Hall
(256) 372-5660

Upward Bound

The Upward Bound Program addresses the educational, personal, and social goals of eligible high school students, while encouraging them to attend college upon completion of high school. The program is designed to generate the skills and motivation necessary for success in education beyond high school. The program supports projects designed to increase high school graduation rates; increase competency in challenging subject matter, including English, mathematics, science, foreign language, and literature; encourage students to pursue programs that lead to careers in mathematics and science; and help gain parental participation in the social, emotional, and academic growth of program participants. The program is also designed to help students adequately prepare for post-secondary school by providing a variety of seminars and workshops. Cultural, social, and enrichment activities are also provided.

Student Support Services

The student support services program helps a target population of high-risk students make a smooth transition from high school to college. Services include academic advising, counseling, tutoring (peer, video, group, and professional), workshops and seminars, career exploration activities, assistance in securing financial assistance for post-secondary school and graduate/professional school, a home-away-from-home atmosphere, and a mentoring program. This program targets low income and first generation college students as well as students with disabilities.

Freshman Core Curriculum

If a student has declared a major, they should be assigned by the Chair to an Advisor within the Department of their major and follow that program's curriculum.

If a student has been accepted into the Honors Program, they should follow the Honors Program curriculum.

Undeclared freshmen and undeclared new students who transfer fewer than 30 hours must complete a minimum of 23 semester credit hours, which comprise the freshman core curriculum, in order to be released to their major departments. Students who are ready to exit University College must have taken and passed:

- Six (6) semester hours of written English Composition with a grade of C or higher in each course.
- Four (4) semester hours of science comprised of a three (3) semester hour lecture and a one (1) semester hour lab.
- Three (3) semester hours of mathematics at the MTH 110 level or higher.
- Three (3) semester hours of literature or fine arts.
- Three (3) semester hours of a social science.
- Two (2) semester hours of physical education or health science or military science.
- Two (2) semester hours of ORI 101 and 102, First Year Experience, **or** have transferred in ≥ 30 hours.

The freshmen core courses should be chosen with the goal of fulfilling General Education Requirements **and** Major Program Lower-level Requirements. For example: If you are an engineering major, taking MTH 112 will satisfy general education but it will not satisfy the engineering program which requires MTH 125 as the minimum MTH course. Please use this page in conjunction with the curriculum page of your major.

Note: If ORI 101 and 102 is waived, the two (2) semester credit hours for these classes must be made up, if needed, to fulfill program hour requirements.

FRESHMAN YEAR						
First Semester				**Second Semester**		
Course No.	**Course Title**	**Hrs**		**Course No.**	**Course Title**	**Hrs**
ENG 101	Composition I[1]	3		ENG 102	Composition II[1]	3
ORI 101	First Year Experience[2]	1			Science Elective[4]	3
MTH 110	Finite Mathematics[5]	3			Science Elective Lab[4]	1
	PED/MSC/HED Elective[3]	2		ORI 102	First Year Experience[2]	1
	Fine Arts Elective[6]	3			Social Science Elective[7]	3

[1]Area I – Must earn grade of C or better.
[2]Cannot be substituted. May be waived if transferred in ≥ 30 earned hours.
[3]Area V – Choose one: PED 102, 107, 111, 114, 132, 133, 137, MSC 101, HED 101, FAS 101, NHM 103.
[4]Area III – Choose one lecture/lab: BIO 101/101L, 102/102L, CHE 101/101L, 102/102L, 111/111L, 112/112L, PHY 101/101L, 102/102L, 103, 104, 105, 106.
[5]Area III – A higher math may be taken.
[6]Area II – Choose one course: (Fine Arts: ART 101, 220, 221, MUS 101).
[7]Area IV – Choose one: ECO 200, 231, 232, HIS 101, 102, 201, 202, SOC 201, 210, 212, PSY 201, GEO 214, UPL 103.

Note: The superscripts (the little numbers/symbols after the Course Titles) denote a restriction to that particular course requirement. The legend (an explanation of the little numbers/symbols used; usually at the page bottom of the relevant text) contains the explanation of the superscript.

College of Agricultural, Life and Natural Sciences

Dr. Lloyd Walker, Dean
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Introduction

The College of Agricultural, Life and Natural Sciences operates in the traditional land-grant concept with instructional, research, and outreach programs. The college aims to provide a dynamic education for capable individuals who have the determination to prepare for a career in agribusiness, environmental science, food and animal science, forestry, family and consumer sciences, urban and regional planning, and related scientific areas.

Mission Statement/Objectives

The mission is accomplished by applying scientific knowledge and basic skills of specific instructional programs. Students prepare for rewarding careers through the following modes: 1) Pursuit of courses in the general education curriculum of the University that provide desirable broad educational experiences for all students; 2) Development of a fundamental understanding of the basic principles of the physical, biological, and social sciences, as well as the humanities as applied to agribusiness, environmental science, food and animal science, family and consumer sciences, forestry, urban and regional planning, and related areas; and, 3) Mastery of technical knowledge, basic skills, and their application as required for proficiency in their chosen areas of specialization.

College Organization

The College of Agricultural, Life and Natural Sciences is organized into five (5) academic departments, each headed by a department chairperson. The departments are (1) Biological and Environmental Sciences; (2) Community and Regional Planning; (3) Family and Consumer Sciences; (4) Food and Animal Sciences; (5) Military Science. The college also operates a very active food and agricultural research program, and experiment station facilities which are available for use by faculty and students in the various academic departments.

Programs Offered

Bachelor of Arts Degrees		
MAJOR	CONCENTRATION	MINOR
Interdisciplinary Studies		

Bachelor of General Studies Degree		
MAJOR	CONCENTRATION	MINOR
General Studies		

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Biology	Environmental Health Pre-Nursing Pre-Professional Health Teacher Certification (6-12)	Biology Environmental Health
Environmental Science	Agricultural Science Crop Science Environmental Health Science Horticulture Plant Science Soil Science	Remote Sensing & GIS
Family & Consumer Sciences	Apparel, Merch. & Design-Fashion Design Apparel, Merch. & Design-Fashion Merch.	Apparel, Merch. & Design Fashion Design Fashion Merchandising
Family & Consumer Sciences	Human Dev & Family Studies Teacher Certification (6-12)	Family Financial Planning Human Dev & Family Study
Family & Consumer Sciences	Nutrition & Hospitality Mgt-Hospitality Mgt	Hospitality Management Nutrition & Hospitality Mgt
Family & Consumer Sciences	Nutrition & Hospitality Mgt-General Dietetics	General Dietetics
Food Science	Animal Science	Food Science

Forestry	Fisheries Forest Management Forest Science Wildlife Biology	Fisheries
Interdisciplinary Studies		
Urban and Regional Planning		Urban and Regional Planning
	Military Science	

Financial Aid/Scholarships

Students pursuing degrees in agriculture, environmental science, forestry, food and animal science, family and consumer sciences, urban and regional planning and related areas are provided opportunities to participate in work-study programs in the academic departments and in the research and extension/outreach programs in the college. Scholarships and cooperative educational opportunities with industries, organizations, and governmental agencies are also available for qualified students in agriculture, food and animal science, family and consumer sciences, forestry, environmental science, urban and regional planning, and related program areas.

College Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements. Requirements for each program can be found in the departmental sections of the Bulletin.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.

Department of Biological and Environmental Sciences

Dr. Florence Okafor, Chair
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Introduction

Department of Biological and Environmental Sciences include the program areas of Biology, Environmental Science, Forestry.

Our academic programs are dynamic and prepare students for a variety of careers in health care, food and agriculture, basic and applied biosciences and environmental sciences that lead to careers in research, industry, teaching and public service professions. Diverse Issues in Higher Education's Top 100 Degree Producers, ranked AAMU in the top 10 producers of African American graduates in Biological and Biomedical Sciences in the nation and the PhD program in Plant and Soil Science as one of the leading producers of African American PhDs in Agricultural Sciences. Our Forestry, Ecology, and Wildlife degree Program is the only professionally accredited forestry program at a historically black college or university.

Mission Statements/Objectives

The mission of the Department of Biological and Environmental Sciences is to provide our graduates with a solid academic foundation in the biological and environmental sciences with skills for further educational opportunities for careers in research, teaching and public services. We expect that our students will become productive and informed citizens, who are well prepared for positions in public and private institutions, and for graduate and professional studies in the biomedical, biological, natural resources and environmental fields.

Objectives:

- Teach fundamental principles and unifying concepts in the biological and environmental sciences.
- Provide research opportunities for undergraduate and graduate students to promote integrative learning.
- Train students to function as scientists, by integrating research and pedagogy; exposing the students to the scientific process.
- Teach scientific literacy, which is the ability to communicate scientific concepts effectively in both written and oral formats, as well as to think critically and logically.
- Provide a visible and easily accessible resource in the biological and agricultural sciences to the community through seminars by faculty and volunteer activities through student organizations.

The Forestry, Ecology & Wildlife Program (FEWP), as part of the total University, seeks to reflect the mission of the traditional land-grant institution, combining education, research and service to the public and the forestry profession. The undergraduate degree program is designed to educate broad-based, ecologically sensitive resource managers. Such a background will enable them to succeed as professional managers and practice conservation of forests and other natural resources for multiple uses. Faculty and graduate students in the FEWP conduct basic and applied research on forest ecosystems and resources in northern Alabama and beyond to provide needed information to land managers, resource planners, scientists and society. As part of a Historically Black College or University, FEWP seeks to address the needs of capable students who as a group are underrepresented in the forestry profession, as well as the minority, forest-landowner community that has historically been under-served by the forestry profession.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Biology	Environmental Health Pre-Nursing Pre-Professional Health Teacher Certification (6-12)	Biology Environmental Health
Environmental Science	Agricultural Science Crop Science Environmental Health Science Horticulture Plant Science Soil Science	Remote Sensing & GIS
Forestry	Fisheries Forest Science Forest Management Wildlife Biology	Fisheries

Financial Aid/Scholarships

In addition to financial support available from university (need and merit-based) support programs, opportunities exist for student research assistance via faculty research projects. Specialized scholarships are available from certain public/governmental agencies. Incoming students may also qualify for the USDA Scholars Program, among other merit-based scholarships.

Cooperative Education/Internships

A large number of students majoring in Environmental Science, Forestry and accept summer and cooperative placements with governmental agencies, universities, private forestry and biotech and other agribusiness industries. This includes the Multi-Workforce Strategic Initiative Program (MWSI), housed on campus, for qualified forestry majors interested in a career with the USDA Forest Service. Tuition, support, summer job and permanent employment opportunities are available through the MWSI program.

An extensive research program provides unique opportunities for undergraduate students enrolled in the department to gain valuable practical experience in their chosen field of study. Under this program, several part-time work positions are available for competent and needy undergraduate students. The department also assists in securing summer employment for its students within its own research program or with private, state, and federal agencies.

Student/Professional Organizations

Agronomy Club
Alpha Zeta
Water Resources Club
Environmental Science Club
Graduate Student Association – Department of Biological and Environmental Sciences
Horticulture Club
Minorities in Agriculture, Natural Resources, and Related Sciences (MANNRS)
Society of American Foresters – Student Chapter
Association of Southern Forestry Clubs
Strategies for Ecology Education, Development and Sustainability (SEEDS) – Ecological Society of America – Student Chapter

Special Programs/Awards/Recognitions

Students have an opportunity to participate in Outstanding Student Awards given at the College level, for students at each classification level. Students also participate in the University's Academic honors programs (e.g., Dean's List, etc.)

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Biology-Pre-Professional Health majors must have a ≥ 3.0 GPA upon entering the second semester freshman portion of the program and maintain for the remainder of the program.
9. Maintain a grade of "C" or better in BIO and NRE prefix courses.
10. All students must take the departmental Exit Exam in their senior year as part of the requirement to obtain a BS degree in Biology.

A two-year pre-nursing program is offered. Upon completion of these two years, the student is advised to register in a two-year professional curriculum in nursing. Cooperative agreements are currently maintained with Emory University in Atlanta, Georgia; the University of Alabama in Birmingham (UAB); the University of Alabama in Huntsville (UAH); the University of North Alabama in Florence (UNA). The B.S. degree in nursing will be awarded by the respective institution attended for the final two years.

Biology
123 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3		ART 101, MUS 101	3
BIO 103	Principles of Biology	3	BIO	203[1], 204[1]	3
BIO 103L	Principles of Biology Lab	1	BIO	203 Lab[1], 204 Lab[1]	1
HIS 101	World History I Sequence	3		FRE 101, SPA 101	3
	HED 101, MSC 101, PED 102	2	BIO 201	Invertebrate Zoology[2, 3]	3
BIO 100	Careers in Life Science[2]	1	BIO 201L	Invertebrate Zoology Lab[2, 3]	1
		17			18

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 203	World Literature I	3	HIS 102	World History II Sequence	3
ECO 200	Basic Economics	3	PSY 201	General Psychology	3
CS 101	Fund of Comp & Info Systems	3		FRE 102, SPA 102, PHL 201	3
BIO 202	Comparative Vertebrate Anatomy[2, 3]	3	ENG 204	World Literature II[2]	3
BIO 202L	Comp Vertebrate Anat & Lab[2, 3]	1	MTH 125	Calculus I[2]	4
MTH 113	Pre-Calculus Trigonometry[2]	3			16
		16			

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
PHY 105	Physics I[2]	4	PHY 106	Physics II[2]	4
CHE 101	General Chemistry I	3	BIO 311	Genetics[2]	3
CHE 10L	General Chemistry I Lab	1	BIO 311L	Genetics Lab[2]	1
	BIO Major Elective[2]	4	CHE 102	General Chemistry II	3
	BIO Major Elective[2]	4	CHE 102L	General Chemistry II Lab	1
		16		Free Elective	4
					16

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
BIO 330	Microbiology[2]	3	BIO 411	Cell Biology[2]	3
BIO 330L	Microbiology Lab[2]	1	BIO 411L	Cell Biology Lab[2]	1
BIO 434	Physiology[2]	3	CHE 407	Biochemistry[2]	3
BIO 434L	Physiology Lab[2]	1	CHE 407L	Biochemistry Lab[2]	1
CHE 301	Organic Chemistry I[2]	3	CHE 302	Organic Chemistry II[2]	3
CHE 301L	Organic Chemistry I Lab[2]	1	CHE 302L	Organic Chemistry II Lab[2]	1
		12			12

[1]Lec/Lab must match. [2]MinGrade of C required.
[3]Students in Pre-Professional Health Concentration must substitute BIO 221/L and 222/L for BIO 201/L and 202/L.

Environmental Science
124 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3		ART 101, MUS 101	3
CHE 101	General Chemistry I	3	CHE 102	General Chemistry II	3
CHE 101L	General Chemistry I Lab	1	CHE 102L	General Chemistry II Lab	1
HIS	Elective Sequence[1]	3	NRE 101	Intro to Plant Science[2]	4
	FAS 101, HED 101, NHM 103	2	NRE 170	Intro to Environmental Science[2]	3
MTH 113	Pre-Calculus Trigonometry[2]	3			18
		19			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	201, 202, 203, 204	3	HIS	Elective Sequence[1]	3
ECO 231	Princ of Macroeconomics	3	GEO 214	World Regional Geography	3
AGB 199	Computers in Agriculture	3		2nd Fine Arts or Humanities[1]	3
NRE 251	Intro to Soil Science[2]	4	ENG 205	General Speech	3
BIO 103/L	Princ of Biology & Lab	4		Concentration Course[3]	3
		17			15

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
CHE 221/L	Analytical Chemistry & Lab[2]	4	PHY 103	General Physics[2]	4
CHE 301/L	Organic Chemistry I & Lab[2]	4	NRE 365	Intro to GIS[2]	3
	Free Elective	3		Concentration Course[3]	3
	Concentration Course[3]	3		Concentration Course[3]	3
		14			13

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
BIO 330/L	Microbiology & Lab	4	NRE 491	Seminar[2]	1
NRE 406	Soil Microbiology[2]	4	NRE 472	Soil, Water & Air Pollution[2]	3
NRE 430	Biometry[2]	3		Concentration Course[3]	3
NRE 470	Soil, Plant & Water Analysis[2] [CS]	4		Concentration Course[3]	3
		15		Concentration Course[3]	3
					13

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although Concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

NOTE: MinGrade of C required for NRE course pre-requisites.

Forestry
136 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 113	Pre-Calculus Trigonometry	3	CHE 102	General Chemistry II	3
CHE 101	General Chemistry I	3	CHE 102L	General Chemistry II Lab	1
CHE 101L	General Chemistry I Lab	1	BIO 103	Principles of Biology I	3
NRE 101	Intro to Plant Science[2]	4	BIO 103L	Principles of Biology I Lab	1
NRE 281	Intro to Forestry[2]	3	HIS	Elective Sequence[1]	3
		18			15

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective[1]	3	HIS	Elective Sequence[1]	3
ECO 232	Princ of Microeconomics	3	ENG 205	General Speech	3
BIO 104	Principles of Biology II	3	PHL 201	Intro to Philosophy	3
BIO 104L	Principles of Biology II Lab	1	HED 101	Personal and Community Health	2
NRE 251	Intro to Soil Science[2]	4	AGB 199	Computers in Agriculture	3
NRE 282	Dendrology[2]	3		Soc/Behav Sci Elective[3]	3
		17			17

SUMMER

Course No.	Course Title	Hrs
NRE 380	Forestry Field Techniques[2]	6

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Fine Arts Elective[1]	3	NRE 371	Forest Mensuration[2]	4
NRE 365	Intro to GIS[2]	3	NRE 375	Silviculture[2]	4
NRE 379	Forest Ecology[2]	3	NRE 376	Forest Pest Management[2]	3
NRE 430	Biometry[2]	3	NRE 387	Wildlife-Forestry Relationships[2]	3
	Concentration Course[4]	3		Concentration Course[4]	3
	Concentration Course[4]	3			17
		18			

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
NRE 474	Forest Ecological Management[2]	2	NRE 480	Natural Resource Policy[2]	3
NRE 483	Forest Resource Economics[2]	3	NRE 491	Seminar[2]	1
	Concentration Course[4]	3	NRE 497	Forest Ecological Mgt Project[2] [CS]	4
	Concentration Course[4]	3		Concentration Course[4]	3
	Free Elective	3		Concentration Course[4]	3
		14			14

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Soc/Beh Sci electives: ECO 231, GEO 214, PSC 201, 205, PSY 201, SOC 201, 210.

[4]Although concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Minors, Concentrations, Electives" Section of the Bulletin for this Department unless otherwise specified here.

Concentrations, Minors & Electives

(BIO) SECONDARY EDUCATION - BIOLOGY TEACHER (6-12) CONCENTRATION (SBIO)

Total Hours – 138. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – See GenEd Listing[1] except 207, 208	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1]	4	
Lec/Lab	See GenEd Listing[1]	4	
Math	See GenEd Listing[1] except 110	3	
			11

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
CHE 101/L General Chemistry I & Lab		4	
CHE 102/L General Chemistry II & Lab		4	
			15
			56

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8
		64

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
SED 424 Teaching Science in Sec Schools	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 494 Clinical Experiences in Sec Schls	6	
SED 495 Internship[3] (also Prof Study course)	12	
		35

TEACHING FIELD

MinGPA 2.5. MinGrade C.

BIO 103/L Principles of Biology I & Lab	4	
BIO 201/L Invertebrate Zoology & Lab	4	
BIO 202/L Comparative Vertebrate Anat & Lab	4	
BIO 203/L, 204/L [covers BIO 104/L]	4	
BIO 205 Ecology	3	
BIO 311/L Genetics & Lab	4	
BIO 330/L Microbiology & Lab	4	
BIO 411/L Cell and Molecular Biology & Lab	4	
BIO 434/L Physiology & Lab	4	
3xx-4xx BIO Elective	4	
		39
		74

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [3]Apply for Internship 1st sem, senior year.
NOTE: One EPP General Study math course requires a grade of ≥ C.

(FOR) WILDLIFE BIOLOGY CONCENTRATION

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

NRE 286 Wildlife Biology and Identification	3
NRE 386 Principles of Wildlife Management	3
NRE 387 Wildlife-Forestry Relationships	3
And Any **TWELVE HOURS** of the following:	
BIO 201/L Invertebrate Zoology & Lab	4
BIO 202/L Comparative Vertebrate Anat/Lab	4
BIO 205 Ecology	3
BIO 311/L Genetics & Lab	4
BIO 321/L Intro to Parasitology & Lab	4
BIO 340/L Developmental Biology & Lab	4
BIO 402/L Limnology & Lab	4
BIO 411/L Cell Biology & Lab	4
BIO 481 Research in Biology	2-4
NRE 379 Forest Ecology	3
NRE 388 Principles of Fisheries Sciences	3
NRE 389 Fisheries Mgt and Aquaculture	3
NRE 475 Principles of Wetlands	3
NRE 477 Insect Biology and Pest Mgt	3
NRE 484 Ecological Processes	3
NRE 488 Wildlife Techniques	3
NRE 490 Special Probs in Plant/Soil Science	1-3
	21

(FOR) FISHERIES CONCENTRATION

MinGPA 2.0, MinGrade C

NRE 388 Principles of Fisheries Science	3
NRE 389 Fisheries Mgt and Aquaculture	3
And Any **FIFTEEN HRS** of the following:	
BIO 201/L Invertebrate Zoology & Lab	4
BIO 202/L Comparative Vert Anat & Lab	4
BIO 205 Ecology	3
BIO 311/L Genetics & Lab	4
BIO 321/L Intro to Parasitology & Lab	4
BIO 340/L Developmental Biology & Lab	4
BIO 402/L Limnology & Lab	4
BIO 411/L Cell Biology & Lab	4
BIO 481 Research in Biology	2-4
NRE 286 Wildlife Biology & ID	3
NRE 379 Forest Ecology	3
NRE 386 Princ of Wildlife Management	3
NRE 475 Principles of Wetlands	3
NRE 477 Insect Biology and Pest Mgt	3
NRE 484 Ecological Processes	3
NRE 490 Special Probs in Plant/Soil Sci	1-3
	21

(FOR) FOREST MANAGEMENT CONCENTRATION

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

NRE 372 Forest Fire Ecology & Mgt	2
NRE 381 Wood Products	3
NRE 384 Forest Operations Systems & Mgt	3
NRE 385 Forest Recreation	3
Forestry Elective	3
Free Elective	7
	21

(FOR) FOREST SCIENCE CONCENTRATION

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

Forestry Elective	14
Free Elective	7
	21

(ES) ENVIRONMENTAL HEALTH SCIENCE CONCENTRATION

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

NRE 101 Intro to Plant Science	(4)
NRE 170 Intro to Environmental Sci	(3)
NRE 223 Intro to Env Health Science	3
NRE 400 Epidemiology	3
NRE 451 Environmental Toxicology	3
NRE 453 Hazardous Waste Management	3
NRE 460 Soil Chemistry	3
NRE 470 Soil, Plant & Water Anal	(4)
NRE 486 Environmental Policy & Law	3
NRE 496 Env Health Internship	3
	21
	+ (11)

(ES) SOIL SCIENCE CONCENTRATION

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

NRE 251 Intro to Soil Science	(4)
NRE 350 Soil Morphology	4
NRE 366 Climate and Global Change	4
NRE 450 Earth Science	3
NRE 452 Soil Fertility	3
NRE 460 Soil Chemistry	3
NRE 461 Soil Physics	4
NRE 470 Soil, Plant & Water Analysis	(4)
	21
	+ (8)

(ES) PLANT SCIENCE CONCENTRATION
MinGPA 2.0. MinGrade C.

NRE 417 Sustainable Crop Production	3
NRE 432 Plant Disease Diagnosis	4
NRE 441 Phyto-physiology	4
NRE 422 Landscape Design and Construction	4
NRE 423 Ornamentals	3
NRE 425 Lawn and Turf Management	3
NRE 490 Special Problems [CS]	3
	24

(ES) AGRICULTURAL SCIENCE CONCENTRATION
MinGPA 2.0. MinGrade C.

BIO 490 Biology Internship	3
FAS 112 Intro to Animal Bio-Health Sci	3
FAS 320 Animal Biosecurity And Diseases	3
FAS 353 Animal Breeding and Genetics	3
NRE 389 Fisheries Mgt and Aquaculture	3
NRE 417 Sustainable Crop Production	3
NRE 432 Plant Disease Diagnosis	4
	22

(BIO) PRE-NURSING CONCENTRATION
MinGPA 2.0. MinGrade C.

BIO 221/L Human Anat & Phys I & Lab	4
BIO 222/L Human Anat & Phys II & Lab	4
PSY 265 Elementary Statistics	3
ENG 205 General Speech	3
SOC 201 Introduction to Sociology	3
PHL 201 Introduction to Philosophy	3
HDF 211 Child Growth & Development	3
	23

(BIO) PRE-PROFESSIONAL HEALTH CONCENTRATION
MinGPA 3.0 cumulative, major, concentration. MinGrade C.

BIO 412/L Molecular Biology & Lab	4
BIO 471 Seminar/Exam Prep	1
BIO 481 Research in Biology	2
BIO/CHE Electives	3
BIO Electives	(8)
MTH 126 Calculus II	4
	14
	+ (8)

(BIO) ENVIRONMENTAL HEALTH CONCENTRATION
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

BIO 200 Environmental Biology	3
BIO 223 Intro to Environmental Health	3
BIO 324 Ecotoxicology I/Env Toxicology	3
BIO 433 Fundamentals of Epidemiology	3
BIO 490 Internship	3
NRE 486 Environmental Policy and Law	3
And Any **ONE** of the Following:	
BIO 205 Ecology	3
BIO 321/L Parasitology & Lab	4
BIO 430/L Medical Microbiology & Lab	4
BIO 450 Radiation Biology	3
MTH 355 Applied Statistics	3
PSY 265 Elementary Statistics	3
SOC 265 Elementary Statistics	3
	21-22

(ES) CROP SCIENCE CONCENTRATION
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

Choose Any of the Following for a minimum concentration total of 21 hours:	
NRE 410 Forage Management	3
NRE 411 Weed Science & Herbicide Tech	3
NRE 417 Sustainable Crop Production	3
NRE 425 Lawn and Turf Management	3
NRE 430 Biometry	3
NRE 431 Principles of Plant Breeding	3
NRE 432 Plant Disease Diagnosis	4
NRE 440 Seed Production Practices	4
NRE 441 Phyto-physiology	4
NRE 470 Soil, Plant and Water Analysis	4
NRE 477 Insect Biology & Pest Mgt	3
NRE 491 Seminar	1

(ES) HORTICULTURE CONCENTRATION
MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

Choose Any of the Following for a minimum concentration total of 21 hours:	
NRE 401 Floral and Garden Center Mgt	4
NRE 421 Plant Propagation	3
NRE 422 Landscape Design and Construction	4
NRE 423 Ornamentals I – Trees and Shrubs	3
NRE 425 Lawn and Turf Management	3
NRE 427 Ornamentals II – Flower/Foliage Plants	3
NRE 428 Fruit and Vegetable Production	3
NRE 430 Biometry	3
NRE 431 Principles of Plant Breeding	3
NRE 432 Plant Disease Diagnosis	4
NRE 470 Soil, Plant and Water Analysis	4
NRE 477 Insect Biology & Pest Mgt	3
NRE 491 Seminar	1

(ES) REMOTE SENSING & GIS MINOR

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

*NRE 365 Introduction to Geographic Info Systems	3
NRE 465 Applications of Geostatistics	3
NRE 476 Remote Sensing of the Environment	4
And Any **EIGHT HOURS** of the following courses:	
NRE 366 Climate and Global Change	4
NRE 471 Aerial Photo-Interpretation	3
NRE 478 GIS, Spatial Analysis, and Modeling	4
NRE 481 Hydrology and Watershed Management	3
EE 303 Electromagnetic Field Theory	3
EE 304 Numerical Methods & Digital Computation	3
CS 204 Visual Programming	3
CS 309 Computer Graphics	3
	18

*NRE 365 is not counted as a part of the minor for students who major in URP, ES and FOR. Students not majoring in the three majors in the previous sentence then must take 11 hours instead of the eight hours listed above.

(FOR) FISHERIES MINOR (NonFOR mjr)

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

NRE 388 Principles of Fisheries Science	3
NRE 389 Fisheries Management and Aquaculture	3
And Any **TWELVE HOURS** of the following courses:	
BIO 201/L Invertebrate Zoology & Lab	4
BIO 202/L Comparative Vertebrate Anatomy & Lab	4
BIO 205 Ecology	3
BIO 311/L Genetics & Lab	4
BIO 321/L Introduction to Parasitology & Lab	4
BIO 340/L Developmental Biology & Lab	4
BIO 402/L Limnology & Lab	4
BIO 411/L Cell Biology & Lab	4
BIO 481 Research in Biology	2-4
NRE 475 Principles of Wetlands	3
NRE 477 Insect Biology and Pest Management	3
NRE 484 Ecological Processes	3
NRE 490 Special Probs in Plant & Soil Science	1-3
	18

(BIO) BIOLOGY MINOR

MinGPA 2.0. MinGrade C.

BIO 103 Principles of Biology	3
BIO 103L Principles of Biology Lab	1
And Any Four Lec/Lab below Broken Down as Follows: 2 @ 2xx level, 1 @ 3xx level, 1 @ 4xx level for a maximum of 16 hours plus the 4 hours above	
BIO 202/L Comparative Vertebrate Anat & Lab	4
BIO 203/L General Botany I & Lab	4
BIO 204/L General Botany II & Lab	4
BIO 221/L Human Anat & Physiology I & Lab	4
BIO 222/L Human Anat & Physiology II & Lab	4
BIO 330/L Microbiology & Lab	4
BIO 340/L Developmental Biology & Lab	4
BIO 411/L Cell Biology & Lab	4
BIO 434/L Principles of Physiology & Lab	4
	20

(BIO) ENVIRONMENTAL HEALTH MINOR

MinGPA 2.0. MinGrade C. MinGrade C NRE course pre-reqs.

BIO 223 Intro to Environmental Health	3
BIO 490 Internship	3
BIO 433 Fundamentals of Epidemiology	3
And Any of the Following for a minimum minor total of 18 hours:	
BIO 200 Environmental Biology	3
BIO 205 Ecology	3
BIO 321/L Parasitology & Lab	4
BIO 324 Ecotoxicology I/Env Toxicology	3
BIO 330/L Microbiology & Lab	4
BIO 430/L Medical Microbiology & Lab	4
BIO 450 Radiation Biology	3
NRE 453 Hazardous Waste Management	3
NRE 486 Environmental Policy and Law	3
MTH 355 or PSY 301 or SOC 301	3
	18

(ES) ENVIRONMENTAL SCIENCE ELECTIVES			
BIO 321 Introduction to Parasitology	3	NRE 452 Soil Fertility and Fertilizers	3
BIO 322 General Entomology	3	NRE 453 Hazardous Waste Management	3
BIO 324 Ecotoxicology I	3	NRE 461 Soil Physics	4
BIO 205 Ecology	3	NRE 475 Principles of Wetlands	3
BIO 402 Limnology	3	NRE 476 Remote Sensing of the Environment I	4
CHE 302/L Organic Chemistry II & Lab	3	NRE 478 GIS, Spatial Analysis, and Modeling	4
NRE 223 Intro to Env Health Science	3	NRE 481 Hydrology and Watershed Mgt	3
NRE 350 Soil Morphology	4	NRE 486 Environmental Policy and Law	3
NRE 366 Climate and Global Change	4	NRE 490 Special Probs in Plant & Soil Science	1-3
NRE 370 Natural Resource Conservation/ Mgt	3	NRE 494 Irrigation and Drainage Systems	4
NRE 400 Fundamentals of Epidemiology	3	NRE 495 Soil & Water Conservation Applications	3
NRE 417 Sustainable Crop Production	3	NRE 496 Environmental Health Internships	3
NRE 450 Earth Science	3	UPL 442 Planning and the Environment	3
NRE 451 Environmental Toxicology	3		

(ES) CROP SCIENCE ELECTIVES MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 365 Introduction to GIS	3
NRE 370 Natural Resources Management	3
NRE 406 Soil Microbiology	4
NRE 433/L Intro to Molecular Gen & Lab	4
NRE 435 Introduction to Bioinformatics	4
NRE 452 Soil Fertility and Fertilizers	3
NRE 494 Soil & Water Conservation Appl	4
NRE 495 Irrigation and Drainage Systems	3

(ES) HORTICULTURE ELECTIVES MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 365 Introduction to GIS	3
NRE 370 Natural Resources Management	3
NRE 406 Soil Microbiology	4
NRE 433/L Intro to Molecular Gen & Lab	4
NRE 435 Introduction to Bioinformatics	4
NRE 452 Soil Fertility and Fertilizers	3
NRE 494 Soil & Water Conservation Appl	4
NRE 495 Irrigation and Drainage Systems	3

BIOLOGY ELECTIVES	
BIO 202/L Comparative Vertebrate Anat & Lab	4
BIO 221/L Human Anat & Phys I & Lab	4
BIO 222/L Human Anat & Phys II & Lab	4
BIO 340/L Embryology & Lab	4

FREE ELECTIVES
Any course except developmental courses.

(FOR) FORESTRY ELECTIVES MinGrade C. MinGrade C NRE course pre-reqs.	
NRE 101 Introduction to Plant Science	4
NRE 286 Wildlife Biology and Identification	3
NRE 370 Natural Resource Conservation & Mgt	3
NRE 372 Forest Fire Ecology and Management	2
NRE 381 Wood Products	3
NRE 384 Forest Operations Systems and Mgt	3
NRE 385 Forest Recreation	3
NRE 386 Principles of Wildlife Management	3
NRE 388 Principles of Fisheries Science	3
NRE 389 Fisheries Management and Aquaculture	3
NRE 471 Aerial Photo Interpretation	3
NRE 477 Insect Biology and Pest Management	3
NRE 481 Hydrology and Watershed Management	3
NRE 484 Ecological Processes	3
NRE 486 Environmental Policy and Law	3
NRE 488 Wildlife Techniques	3

(BIO) RECOMMENDED BIOLOGY ELECTIVE COURSES (Choose 8 hours)

MinGrade C NRE course pre-reqs.

BOTANY		ZOOLOGY		MEDICAL TECHNOLOGY	
BIO 200/L Env Biology	4	BIO 200/L Env Biology	4	BIO 321/L Intro to Parasitology	4
BIO 205/L Ecology	4	BIO 205/L Ecology	3	BIO 412/L Molecular Biology	4
BIO 344/L Princ of Plant Tax.	4	BIO 344/L Princ of Plant Tax.	4	BIO 430/L Med Microbiology	4
BIO 451/L Plant Anatomy	4	BIO 451/L Plant Anatomy	4	BIO 431/L Princ of Immunology	4
BIO 454/L Plant Pathology	4	BIO 454/L Plant Pathology	4	CHE 408/L Biochemistry II	4
BIO 461/L Plant Physiology	4	BIO 461/L Plant Physiology	4	CHE 221/L Analytical Chem	4
CHE 408/L Biochemistry II	4	CHE 408/L Biochemistry II	4	MTH 355 Applied Statistics	3

(BIO) RECOMMENDED BIOLOGY ELECTIVE COURSES (Choose 8 hours)

PRE-MEDICINE		ENVIRONMENTAL HEALTH	
BIO 221/L Hum Anat & Phys I	4	BIO 200/L Env Biology	3
BIO 222/L Hum Anat & Phys II	4	BIO 205/L Ecology	3
BIO 340/L Dev Biology/ Embryology	4	BIO 223 Intro to Env Health	3
BIO 430/L Med Microbiology	4	BIO 324 Ecotoxicology I	4
BIO 431/L Princ of Immunology	4	BIO 433 Fund of Epidemiology	4
CHE 408/L Biochemistry II	4	BIO 450 Radiation Biology	3
MTH 126 Calculus II	4	MTH 355 Applied Statistics	3
MTH 355 Applied Statistics	3		

(FOR) COURSES FOR FOREST SCIENCE SPECIALTY TRACKS

MinGrade C NRE course pre-reqs.

*WILDLIFE		*ECOLOGY		*GIS / REMOTE SENSING	
NRE 286 Wildlf Bio & Id	3	NRE 370 Nat Res Con & Mgt	3	NRE 465 Appl Geostatistics	3
NRE 386 Princ Wildlf Mgt	3	NRE 372 Forest Fire Ecol & Mgt	2	NRE 471 Use Int Aer Photo	3
NRE 388 Princ Fish Mgt	3	NRE 477 Insect Bio/Pest Mgt	3	NRE 476 Remote Sens Env	4
NRE 389 Fish Man & Aqua	3	NRE 484 Ecological Processes	3	NRE 478 GIS, Spat Anal	4
NRE 488 Wildlife Tech	3	NRE 486 Env Policy & Law	3	NRE 481 Hydrol/Wtrshed Mgt	3
Free Elective	3	Free Elective	4	Forestry Elective	5
	18		18		22

*Students must satisfy all Forest Science curriculum requirements, including at least 11 hours of forestry electives and 7 hours of free electives; forestry courses can be used as free electives.

(FOR) COURSES FOR FOREST SCIENCE SPECIALTY TRACKS

MinGrade C NRE course pre-reqs.

*FOREST BUSINESS		*TAILOR-YOUR-OWN	
AGB 421 or MGT 315	3	Forestry Elective	11
AGB 422 Agric Financing	3	Free Elective	7
LSM 409 Intl Log & SCM	3		18
MGT 450 Princ of Real Estate	3		
NRE 381 Wood Products	3		
NRE 384 For Ops Sys & Mgt	3	Student builds own	
Forestry Electives	5	specialty track. Advisor	
	23	approval required.	

*Students must satisfy all Forest Science curriculum requirements, including at least 11 hours of forestry electives and 7 hours of free electives; forestry courses can be used as free electives.

Each student choosing Forestry-Forest Science should select from one of the specialty tracks listed above. Students must adhere to the courses associated with the track they choose; course substitutions are not allowed without advisor approval. The Forestry-Forest Science curriculum contains 11 restricted (forestry) and 7 general (advisor approved) elective hours. This gives students who choose this concentration the flexibility to specialize in a variety of areas. Such specialization can be of advantage in qualifying graduates for a greater variety of employment opportunities and allows students to better tailor their studies toward specific career goals. Additionally, students interested in post-graduate study have the option of tailoring their curricula to enhance preparation for graduate school.

Department of Community and Regional Planning

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Introduction

The Department of Community And Regional Planning (DCRP) offers a program leading to the degree of Bachelor of Science in Urban and Regional Planning. As a professional discipline, urban and regional planning is concerned with sustaining and enhancing the quality of life in cities and regions, and designing livable communities. The Department also coordinates the University's General Studies program which is designed to support the educational pursuit of upper level undergraduate students by allowing flexibility in structuring an academic program of study best suited for their needs and goals.

Mission Statement/Objectives

The mission of the Bachelor of Science in Urban and Regional Planning (BSUP) is to prepare students for entry level positions as professional planners, possessing a sound knowledge base and skills-set that enables them to practice planning, work in a related profession or pursue graduate education.

Programs Offered

Bachelor of Arts Degrees		
MAJOR	CONCENTRATION	MINOR
Interdisciplinary Studies		

Bachelor of General Studies Degree		
MAJOR	CONCENTRATION	MINOR
General Studies		

Bachelor of Science Degree		
MAJOR	CONCENTRATION	MINOR
Interdisciplinary Studies		
Urban and Regional Planning		Urban and Regional Planning

Financial Aid/Scholarships

In addition to financial assistance provided by federal and state governments and AAMU's institutional aid programs, there are College of Agricultural, Life and Natural Sciences and Department of Community And Regional Planning financial assistance and scholarship awards. These include the L. L. Crump Scholarship and work study grants for students who major in urban and regional planning.

Cooperative Education/Internships

Consistent with the Department's mission of education directed at placement of its graduates into the planning profession, the urban and regional planning program augments classroom teaching with internships, department field trips and seminars, and appropriate full-time employment assistance.

Student/Professional Organizations

The Urban Planning Association (UPA) is a student organization which promotes the professional growth and development of students majoring in urban and regional planning. The UPA is affiliated with the Alabama Chapter of the American Planning Association and supports student participation in activities of the American Planning Association and the Association of Collegiate Schools of Planning (ACSP).

Special Programs/Awards/Recognition

The Bachelor of Science degree program is one of fifteen undergraduate planning programs in the country accredited by the Planning Accreditation Board (PAB). The Urban program is also directly affiliated with the Association of Collegiate Schools of Planning (ACSP).

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.

4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. General Studies:
    - Must have completed 50 hours to be eligible for the program.
    - Must have completed General Education requirements.
    - Must earn a grade of "C" or better in ENG 101 and 102 (Composition I and II) and may earn a grade of "D" in other courses.
    - Must complete 21 hours in a discipline for the concentration.
    - Maintain a cumulative grade point average of 2.0 or above for the concentration.
    - 50% coursework of the 21 hour concentration must be earned at AAMU.
    - Must complete at least 39 credit hours at the 300-400 level.

All Urban and Regional Planning majors are required to select an area of knowledge in a particular subject or a minor. Suggested minors include: political science, public history, sociology, economics, marketing, finance, GIS, construction management or computer science. Students may also complete a special grouping of 18 credit hours which have been approved by the student's advisor.

General Studies
124 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
	Science Elective[3]	3		Fine Arts Elective[1]	3
	Science Elective Lab[3]	1		Science Elective[3]	3
	Computer Literacy[1]	3		Science Elective Lab[3]	1
	Soc/Behav Sci Elective[1]	3	HIS	Elective[1]	3
	PED/MSC/HED Elective[1]	2	MTH	Elective[1]	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	Economics Elective[1]	3		Discipline Elective[4, 5]	3
ENG 205	General Speech	3		Discipline Elective[4, 5]	3
HIS	Elective[1]	3		Discipline Elective[4, 5]	3
	Discipline Elective[4, 5]	3		Discipline Elective[4, 5]	3
		15			15

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Discipline Elective[4, 5]	3		Free Elective	3
	Discipline Elective[4, 5]	3		3xx-4xx Elective[5]	3
	Free Elective	3		3xx-4xx Elective[5]	3
	Free Elective	3		3xx-4xx Elective[5]	3
	Free Elective	3		3xx-4xx Elective[5]	3
	Free Elective	3			15
		18			

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	3xx-4xx Elective[5]	3		3xx-4xx Elective[5]	3
	3xx-4xx Elective[5]	3		3xx-4xx Elective[5]	3
	3xx-4xx Elective[5]	3		3xx-4xx Elective[5]	3
	3xx-4xx Elective[5]	3		3xx-4xx Elective[5]	3
	3xx-4xx Elective[5]	3		Free Elective	1
		15			13

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Lec/Lab must match. Science Electives: BIO 101/L, 102/L, CHE 101/L, 102/L, 111/L, 112/L, PHY 101/L, 102/L, 103, 104, 105, 106.

[4]Discipline elective course subjects must be the same.

[5]All 3xx-4xx courses must total 39 hours. If 3xx-4xx courses are applied to discipline, these can be used to fulfill the required 39 hours and 1xx-2xx courses can be used to fulfill program hours.

NOTE: Must complete GenEd and have passed 50 hours total to be eligible to enter the General Studies Program.

Interdisciplinary Studies
124 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
	Science Elective[3]	3		Science Elective[3]	3
	Science Elective Lab[3]	1		Science Elective Lab[3]	1
	Computer Literacy[1]	3		Fine Arts Elective[1]	3
	Soc/Behav Sci Elective[1]	3		PED/MSC/HED Elective[1]	2
		14	MTH	Elective[1]	3
					16

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	200, 231	3	HIS	Elective[1]	3
ENG 205	General Speech	3		Support Course and/or Electives	3
HIS	Elective[1]	3		Support Course and/or Electives	3
	Support Course and/or Electives	3		Free Elective	3
		15		Complementary Course[2, 4]	3
					18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Support Course and/or Electives	3		Support Course and/or Electives	3
	Support Course and/or Electives	3		Support Course and/or Electives	3
	Support Course and/or Electives	3		Support Course and/or Electives	1
	Complementary Course[2, 4]	3		Complementary Course[2, 4]	3
	Complementary Course[2, 4]	3		Complementary Course[2, 4]	3
	Free Elective	3		Concentration Course[2]	3
		18			16

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Concentration Course[2]	3		Concentration Course[2]	3
	Concentration Course[2]	3		Concentration Course[2]	3
	Concentration Course[2]	3		Concentration Course[2]	3
	Complementary Course[2, 4]	3		ITD Capstone Course[2, 5]	3
	Free Elective	3			12
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Lec/Lab must match. Science Electives: BIO 101/L, 102/L, CHE 101/L, 102/L, 111/L, 112/L, PHY 101/L, 102/L, 103, 104, 105, 106.

[4](Additional credit hours may be added to the required complementary hours to obtain a second concentration based on existing/approved concentrations in the AAMU Bulletin to which the student is adhering. NOTE: The student must officially declare the second concentration through Banner.) OR (the complementary hours can be composed of 9 credits from one program and 9 credits from another program). [5]Selected from discipline-specific ITD concentration subject.

NOTE: BA/BS is dependent on the discipline-specific concentration chosen for this program. Must have passed 30 hours total to be eligible to enter the Interdisciplinary Studies Program.

Urban and Regional Planning
126 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
	Computer Literacy[1]	3		Fine Arts Elective[1]	3
	Science Elective[3]	3		Science Elective[3]	3
	Science Elective Lab[3]	1		Science Elective Lab[3]	1
UPL 103	Community and You[2]	3	MTH	Elective[1]	3
	NHM 103, FAS 101	2	HIS	Elective[1]	3
		16			17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO 231	Princ of Macroeconomics	3	ECO 232	Princ of Microeconomics	3
ENG 205	General Speech	3	HIS	Elective[1]	3
PSC 206	State and Local Government[2]	3	UPL 201	Small Town Planning[2]	3
UPL 203	History & Theory of Planning[2]	3		Minor Course[4]	3
UPL 101	Intro to Urban Planning[2]	3			15
		18			

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 304	Advanced Composition[2]	3	UPL 316	Planning Research Methods II[2]	3
UPL 310	Urban Economic Analysis[2]	3	UPL 327	Land Use Planning[2]	3
UPL 216	Planning Research Methods I[2]	3	UPL 330	Demographic Analysis[2]	3
UPL 317	Graphic & Site Design Workshop[2]	3	GEO 401	Urban Geography[2]	3
NRE 365	Intro to Geographic Info Systems[2]	3		Minor Course[4]	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
UPL 404	Social Equity in Planning[2]	3	UPL 408	Comprehensive Planning Workshop[2]	3
UPL 407	Legal Basis of Planning[2]	3	UPL 420	Senior Project[2] [CS]	3
	Minor Course[4]	3	UPL 429	Professional Practice[2]	3
	Minor Course[4]	3		Minor Course[4]	3
	Free Elective[2]	3		Minor Course[4]	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]Lec/Lab must match. Science Electives: BIO 101/L, 102/L, 103/L, CHE 101/L, 102/L, 111/L.
[4]Although minors are a minimum 18 hours, some may require an additional 1-2 hours. Please check the Bulletin.

Concentrations, Minors & Electives

URBAN AND REGIONAL PLANNING MINOR MinGPA 2.0. MinGrade C.	
UPL 101 Introduction to Urban Planning	3
UPL 201 Small Town Planning	3
UPL 310 Urban Economic Analysis	3
UPL 317 Graphic and Site Design Workshop	3
UPL 404 Social Equity in Planning	3
UPL 409 Seminar on Planning Problems	3
	18

URBAN AND REGIONAL PLANNING ELECTIVES	
UPL 405 Practicum I	3
UPL 406 Practicum II	6
UPL 409 Seminar on Planning Problems	3
UPL 410 Seminar on Social Policy Planning	3
UPL 435 Transportation Planning	3
UPL 438 Transportation Modeling	3
UPL 440 Health Planning	3
UPL 442 Environmental Planning	3
UPL 443 Housing Issues	3
UPL 444 Historic Preservation and Neighborhood Conservation	3
UPL 445 Environmental Assessment	3
UPL 453 Community Development Process	3

FREE ELECTIVES
Any course except developmental courses.

Department of Family and Consumer Sciences

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Introduction

The Department of Family and Consumer Sciences includes programs in Apparel, Merchandising and Design, Human Development and Family Studies, and Nutrition and Hospitality Management.

The undergraduate major in Apparel, Merchandising and Design promotes and enhances the development of knowledge and skills requisite for continuing personal and professional development throughout the life cycle. The program enables students to develop competencies in the ecological, socio-psychological, and economic aspects of apparel and interior design production, distribution, and consumption.

The program is organized to provide a general understanding of textiles, clothing, fashion and related areas, while offering diversification through concentrations in Fashion Merchandising and Fashion Design. As structured, the programs provide unique opportunities and experiences to assist students in becoming creative, efficient and contributing members of society and the Family and Consumer Sciences profession. The curriculum offers the training necessary to meet the demands of the apparel and home furnishings industries, as well as retailing establishments associated with these industries. Students are prepared for jobs in apparel design, production, and merchandising, and associated public relations jobs.

The Human Development and Family Studies Concentration focuses on the family and relationships throughout the life cycle in a setting of multicultural forces. Both theoretical and research findings are integrated into a multi-disciplinary approach to addressing the problems facing families in modern society. Graduates may pursue careers in family life, child and adolescent development, government, social service agencies or private businesses that specialize in goods and services for the family.

The Nutrition and Hospitality Management Concentration is designed for students who possess a strong interest in the sociological, psychological, physiological, and economic aspects of food as it relates to nutritional status and world hunger. The concentration provides a broad education in the science of nutrition and preparation of food as related to lifestyles, cultures, and health.

The two tracks within the Nutrition and Hospitality Management concentration are General Dietetics and Hospitality Management. The General Dietetics track is accredited as a Didactic Program in Dietetics (DPD) by the Academy of Nutrition and Dietetics (AND) and qualifies the student for admission to an accredited Dietetic Internship to become a registered dietitian. The DPD Program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics, 216 West Jackson Boulevard, Chicago Illinois 60606-6995, Phone Number (312) 899-4875. In addition, the curriculum offers excellent training to meet the demands of private industry, hospitals, government, educational institutions, hotels/motels, and restaurants.

Mission Statement/Objectives

The mission of the Family and Consumer Sciences program is the preparation of professionals, equipped to enhance the general well-being of individuals, families and communities, within the context of the environments in which they are a part through teaching, research, demonstration and economic development activities.

The objectives of Family and Consumer Sciences are to guide the student in:

- Developing a sound and satisfying philosophy of life inherent with democratic principles;
- Preparing for professional practice in a specialized field;
- Using intelligence in solving personal and family problems in today's society;
- Enhancing his or her own general and cultural education, and
- Accepting responsibility as an informed citizen in a changing world.

The objectives of the concentration in Apparel, Merchandising and Design are to:

- Develop professional competencies in students which enable them to enter graduate and professional schools and professional careers related to the broad spectrum of apparel design, textiles and merchandising,
- Provide support instruction for minors in other disciplines who desire to pursue careers related to clothing, and merchandising,
- Provide resource services to individuals in the urban and rural community, including parents, teachers, department store personnel and textile employees.

The objectives of the concentration in Human Development and Family Studies are to:

- Prepare competent individuals for professional careers and graduate study;

- Assist students in developing an understanding of the interrelationship of physical, psychological, and social development throughout the life-span;
- Provide opportunities for students to study and observe children and adolescents of varying stages of development; and
- Provide opportunities for students to obtain strength in the management of individual and family resources.

The objectives of the concentration in Nutrition and Hospitality Management are to:

- Prepare nutrition professionals with the necessary credentials to meet the needs of industry,
- Government, education, medical facilities and graduate study;
- Prepare students to successfully compete for accredited dietetic internships;
- Provide nutrition resource information to consumers;
- Prepare managers to meet the needs of the food and lodging industry;
- Conduct basic and applied research to increase students' knowledge base in Nutrition and Hospitality Management.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Family & Consumer Sciences	Apparel, Merch. & Design-Fashion Design Apparel, Merch. & Design-Fashion Merch.	Apparel, Merch. & Design Fashion Design Fashion Merchandising
Family & Consumer Sciences	Human Dev & Family Studies Teacher Certification (6-12)	Family Financial Planning Human Dev & Family Study
Family & Consumer Sciences	Nutrition & Hospitality Mgt-Hospitality Mgt	Hospitality Management Nutrition & Hospitality Mgt
Family & Consumer Sciences	Nutrition & Hospitality Mgt-General Dietetics	General Dietetics

Student/Professional Organizations

The **Student Unit of the American Association of Family and Consumer Sciences** is the umbrella professional organization for students enrolled in Family and Consumer Sciences. This is an educational and scientific organization founded to improve individual and family life through education, research, cooperative programs and public information.

Kappa Omicron Nu, a national Family and Consumer Sciences honor society, has as its objective the emphasis of scholastic, professional and intellectual excellence. It is open to students enrolled in a Family and Consumer Sciences major who have completed 45 semester hours or equivalent and rank in the top 25% of their class in the unit.

The **Nutrition and Hospitality Management Club** enhances the development of students in Nutrition and Hospitality Management and provides opportunities for pre-professional experiences.

The Trendsetters Fashion Club seeks to enhance the personal and professional development of students in Apparel, Merchandising and Design. Membership is open to majors, minors, and non-majors interested in the objectives of the organization.

Special Programs/Awards/Recognitions

The Abigail K. Hobson Memorial Scholarship Award: Contributions from friends and alumni of the area are used to provide a cash award of $200.00 or more to a student in Family and Consumer Sciences who shows a need for financial aid, has an above average scholastic record, and has desirable personal qualities.

Mozelle Davis Award: Friends of Mozelle Davis, former assistant professor in Family and Consumer Sciences, provide a cash award of $200.00 or more to a student with a concentration in Fashion Design within the Area of Apparel, Merchandising and Design.

The Eliza P. Patton Award: Friends of the late Mrs. Eliza P. Patton, former associate professor in Family and Consumer Sciences, provide two annual scholarships of $125.00 or more each, to two students in Family and Consumer Sciences whose interests are Apparel, Merchandising and Design, and Nutrition and Hospitality Management, where funds permit.

Human Development Award: Contributions from friends and alumni of the area are used to generate cash awards for two deserving students with a major in Human Development and Family Studies.

The Wayne Hendricks Award: Ms. Nancy Wayne Hendricks gives one annual scholarship of $1,000.00 to a student majoring in Nutrition and Hospitality Management. Ms. Hendricks has also endowed an additional scholarship for a deserving student in Nutrition and Hospitality Management.

The *Richardson Scholarship*, endowed by family and friends of Dr. Bernice Richardson, former professor and Chair, Family and Consumer Sciences (FCS), provides $1000.00 per semester to an FCS major of sophomore, junior or senior classification.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Satisfactory completion of the Family and Consumer Sciences entrance, mid-level and exit assessments.
9. Completion of all courses in FCS with a minimum grade of "C".
10. Maintain membership in the parent-professional organization, the American Association of Family and Consumer Sciences, as well as in specialized organizations in the program areas.
11. Completion of a minimum of 500 hours of clinical experiences/internships. See specific details by major as presented below.
12. Completion of minors as required by majors.

In addition to the academic course requirements, all students majoring in FCS/Apparel, Merchandising and Design must complete at least 500 hours of practical work in Apparel, Merchandising and Design, including completing FCS 418, Directed Field Experience, before graduating from Alabama A&M University.

In addition to the academic course requirements, all students majoring in FCS/Human Development and Family Studies must complete at least 500 hours of practical work in Human Development and Family Studies, which includes completing FCS 418, Directed Field Experience, before graduating from Alabama A&M University.

In addition to the academic course requirements, all students majoring in FCS/Nutrition and Hospitality Management must complete at least 500 hours of practical work in Nutrition and Hospitality Management before graduating from Alabama A&M University. All FCS/NHM majors must complete the requirements for FCS 418, Directed Field Experience.

Family & Consumer Sciences – Apparel, Merchandising & Design
121 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH	110 or higher	3		ART 101, MUS 101	3
BIO 101	General Biology I	3	CHE 101	General Chemistry I	3
BIO 101L	General Biology I Lab	1	CHE 101L	General Chemistry I Lab	1
HIS 101	World History I	3		SOC 201, PSY 201, UPL 103	3
NHM 103	Nutrition Today	2	AMD 104L	Art and Design[2]	3
FCS 101	Intro to the Profession[2]	1			17
		17			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	200. 231, 232	3		SOC 201, PSY 201, UPL 103	3
AGB 199	Computers in Agriculture	3	ENG 205	General Speech	3
AMD 201L	Basic Clothing Construction	3	NHM 102	Princ of Nutrition[2]	3
ART 110	Fundamentals of Drawing	3		Free Elective[2]	3
	Elective from Areas II-IV not taken	3	ECO	231 or 232	3
		18			18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Free Elective[2]	3	HDF 312	Family Economics/Resource Mgt[2]	3
	Free Elective[2]	3		Free Elective[2]	3
	Concentration Course[3]	3		Free Elective[2]	3
	Concentration Course[3]	3		Free Elective[2]	3
HDF 314	Family & Society[2]	3		Concentration Course[3]	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Concentration Course[3]	3		Free Elective[2]	2
FCS 418	Directed Field Experience[2] [CS]	6		Concentration Course[3]	3
FCS 420	Senior Seminar[2] [CS]	1		Concentration Course[3]	3
	Concentration Course[3]	3			8
		13			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although Concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

NOTE: Elective hours must first be used towards fulfilling concentration hours.

Family & Consumer Sciences – Human Development and Family Studies
121 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH	110 or 112	3		ART 101, MUS 101	3
BIO 101	General Biology I	3	BIO 102	General Biology II	3
BIO 101L	General Biology I Lab	1	BIO 102L	General Biology II Lab	1
HIS	Elective[1]	3		SOC 201, PSY 201, UPL 103	3
NHM 103	Nutrition Today	2	AMD 104L	Art and Design[2]	3
FCS 101	Intro to the Profession[2]	1			17
		17			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	Elective[1]	3		SOC 201, PSY 201, UPL 103	3
AGB 199	Computers in Agriculture	3	ENG 205	General Speech	3
PHL	201 or 206	3	HIS 203	Found. American History & Govt.	3
	Concentration Course[2]	3		Concentration Course[3]	3
NHM 102	Princ of Nutrition[2]	3			15
		18			

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
SOC 210	Social Problems	3	HDF 312	Family Economics/Resource Mgt[2]	3
	Free Elective[2]	3		Free Elective[2]	3
	Free Elective[2]	3		Free Elective[2]	3
	Free Elective[2]	3		Free Elective[2]	3
	Concentration Course[3]	3		Concentration Course[3]	3
		15		Concentration Course[3]	3
					18

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Elective from Areas II-IV not taken	3	FCS 418	Directed Field Experience[2] [CS]	6
FCS 420	Senior Seminar[2] [CS]	1			
HDF 314	Family & Society[2]	3			
	Free Elective[2]	2			
	Concentration Course[3]	3			
	Concentration Course[3]	3			
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although Concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

NOTE: Elective hours must first be used towards fulfilling concentration hours.

Family & Consumer Sciences – Nutrition & Hospitality Management – General Dietetics

125 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH	110 or 112	3		ART 101, MUS 101	3
CHE 101	General Chemistry I	3	CHE 102	General Chemistry II	3
CHE 101L	General Chemistry I Lab	1	CHE 102L	General Chemistry II Lab	1
HIS	101 or 201	3	PSY 201	General Psychology	3
NHM 103	Nutrition Today	2	NHM 102	Princ of Nutrition[2]	3
FCS 101	Intro to the Profession[2]	1			17
		17			

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	Elective[1]	3		SOC 201, 210, 212, UPL 103	3
AGB 199	Computers in Agriculture	3	ENG 205	General Speech	3
BIO 103	Princ of Biology	3		Free Elective[2]	3
BIO 103L	Princ of Biology Lab	1		Free Elective[2]	2
	Concentration Course[3]	3		Concentration Course[3]	3
		16			17

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
BIO 221	Human Anatomy/Physiology I	3	HDF 312	Family Economics/Resource Mgt[2]	3
BIO 221L	Human Anatomy/Physiology I Lab	1		Free Elective[2]	3
BIO 222	Human Anatomy/Physiology II	3		Free Elective[2]	3
BIO 222L	Human Anatomy/Physiology II Lab	1		Concentration Course[3]	3
AMD 104L	Art and Design[2]	3		Concentration Course[3]	3
HDF 314	Family & Society[2]	3			15
	Concentration Course[3]	3			
		17			

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FCS 418	Directed Field Experience[2] [CS]	6	NHM 201L	Science of Food Preparation	4
FCS 420	Senior Seminar[2] [CS]	1		Free Elective[2]	3
	Free Elective[2]	3		Free Elective[2]	3
		10		Concentration Course[3]	3
				Concentration Course[3]	3
					16

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although Concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

NOTE: Elective hours must first be used towards fulfilling concentration hours.

Family & Consumer Sciences – Nutrition & Hospitality Management – Hospitality Management
125 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH	110 or 112	3		ART 101, MUS 101	3
BIO 101	General Biology I	3		CHE 111[3] or PHY 101[3]	3
BIO 101L	General Biology I Lab	1		CHE 111 Lab[3] or PHY 101 Lab[3]	1
HIS	101 or 201	3	PSY 201	Geneal Psychology	3
NHM 103	Nutrition Today	2	NHM 102	Princ of Nutrition[2]	3
FCS 101	Intro to the Profession[2]	1			17
		17			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	Elective[1]	3		SOC 201, 210, 212	3
AGB 199	Computers in Agriculture	3	ENG 205	General Speech	3
AMD 104L	Art and Design[2]	3	MGT 207	Legal Env & Ethics	3
	Free Elective[2]	3	NHM 201L	Science of Food Preparation	4
		15			16

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ACC 203	Intro to Accounting I	3	ACC 204	Intro to Accounting II	3
HDF 314	Family & Society[2]	3	HDF 312	Family Economics/Resource Mgt[2]	3
	Free Elective[2]	3		Free Elective[2]	3
	Free Elective[2]	3		Concentration Course[4]	3
	Concentration Course[4]	3		Concentration Course[4]	3
	Concentration Course[4]	3			15
		18			

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Elective from Areas II-IV not taken	3	FCS 420	Senior Seminar[2] [CS]	1
FCS 418	Directed Field Exp[2] [CS]	6		Free Elective[2]	3
	Free Elective[2]	3		Concentration Course[4]	3
	Free Elective[2]	2		Concentration Course[4]	3
	Concentration Course[4]	3			10
		17			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Lec/Lab must match.

[4]Although Concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

NOTE: Elective hours must first be used towards fulfilling concentration hours

Concentrations, Minors & Electives

(FCS) SECONDARY EDUCATION - FAMILY AND CONSUMER SCIENCES TEACHER (6-12) CONCENTRATION (SFCS)

Total Hours – 124. MinGPA 2.5. Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – See GE Listing[1] except 207, 208	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1,3]	4	
Lec/Lab	See GenEd Listing[1,3]	4	
Math	See GenEd Listing[1]	3	
			11

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
			7
			48

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8
		56

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
FCS 401 Family & Consumer Sci Education	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
FCS 495 Internship[4] (also Prof Study course)	12	
		29

TEACHING FIELD

MinGPA 2.5. MinGrade C.

AMD 104L Art & Design	3	
AMD 201L Basic Clothing Construction	3	
AMD 203LL Consumer Aspects of Clothing	3	
AMD 305 Housing & Interiors	3	
FCS 101 Intro to the Profession	1	
FCS 303 Career Tech/FCS Education	3	
FCS 420 Senior Seminar	1	
HDF 201 Family Relations	3	
HDF 304 Parenting	3	
HDF 312 Family Economics & Resource Mgt	3	
HDF 314 Family & Society	3	
NHM 102 Principles of Nutrition	3	
NHM 201L Science of Food Preparation	4	
NHM 301L Food Service Operations	3	
		39
		68

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3]The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

NOTE: One EPP General Study math course requires a grade of ≥ C.

(FCS) AMD CONCENTRATION – FASHION DESIGN
MinGPA 2.0. MinGrade C.

AMD 203L Consumer Aspects of Clothing	3
AMD 204L Clothing Throughout the Lifecycle	3
AMD 302 Historic Costume	3
AMD 303 Fashion Merchandising I	3
AMD 306 Fashion Merchandising II	3
AMD 307L Flat Pattern Design	3
AMD 308 Visual Merchandising	3
AMD 315 Consumer Textiles I	3
AMD 404L Advanced Clothing & Design	3
AMD 406L Draping	3
AMD 410L Apparel CAD	3
AMD 419 Merchandising/Design Seminar	2
ART 309 Figure Drawing	3
ART 406 Fashion Illustration	3
	41

(FCS) AMD CONCENTRATION – FASHION MERCHANDISING
MinGPA 2.0. MinGrade C.

ACC 203 Intro to Accounting I	3
AMD 203L Consumer Aspects of Clothing	3
AMD 204L Clothing Throughout the Lifecycle	3
AMD 302 Historic Costume	3
AMD 303 Fashion Merchandising I	3
AMD 306 Fashion Merchandising II	3
AMD 307L Flat Pattern Design	3
AMD 308 Visual Merchandising	3
AMD 315 Consumer Textiles I	3
AMD 404L Advanced Clothing & Design	3
AMD 419 Merchandising/Design Seminar	2
MKT 315 Princ of Marketing	3
MKT 317 Retail Management	3
MKT 323 Promotion Management	3
	41

(FCS) HUMAN DEVELOPMENT & FAMILY STUDIES CONCENTRATION
MinGPA 2.0. MinGrade C.

ENG 304 Advanced Composition	3
HDF 201 Family Relations	3
HDF 211 Child Growth & Development	3
HDF 303 Family Theory	3
HDF 304 Parenting	3
HDF 306 Middle Childhood & Adolescence	3
HDF 410 Reading/Res. in Family Study	3
HDF 413 Behavior Management	3
HDF 415 Assessment in HDF	3
HDF 416 Program Development	3
SPE 201 Intro to Exceptional Children	3
SWK 200 Intro to Social Welfare	3
SWK 205 Gerontology	3
	39

(FCS) NHM CONCENTRATION – GENERAL DIETETICS
MinGPA 2.75. MinGrade C.

BIO 330/L Microbiology & Lab	4
CHE 301/L Organic Chem I & Lab	4
CHE 407/L or FAS 453L Biochemistry	4
FAS 312 Food Service Health Management	1
MGT 315 Princ of Management	3
NHM 301L Food Service Operations I	3
NHM 302L Food Service Operations II	3
NHM 306L Maternal/Child Nutrition	3
NHM 405L Adv Human Nutrition	3
NHM 407 Medical Nutrition Therapy I	3
NHM 408L Medical Nutr Therapy II	3
NHM 409L Experimental Foods	3
NHM 410 Community Nutrition	3
NHM 401 Dietetics Capstone [CS]	3
NRE 430 Biometry	3
	46

(FCS) NHM CONCENTRATION – HOSPITALITY MANAGEMENT
MinGPA 2.0. MinGrade C.

FAS 312 Food Service Health Mgt	1
FIN 315 Princ of Finance	3
MGT 350 Managerial Communication	3
MGT 433 Human Resource Management	3
MKT 315 Princ of Marketing	3
NHM 202 Intro to Hospitality Mgt	3
NHM 206L Facilities Planning	3
NHM 301L Food Service Operations I	3
NHM 302L Food Service Operations II	3
NHM 304 Professional Beverage Mgt	3
NHM 312L Buffets and Banquets	3
NHM 403 Quantity Food Management	3
NHM 309L Professional Baking	3
	37

(FCS) APPAREL, MERCHANDISING, & DESIGN MINOR
MinGPA 2.0. MinGrade C.

AMD 104L Art and Design	3
AMD 201L Basic Clothing Construction	3
AMD 203L Consumer Aspects of Clothing	3
AMD 302 Historic Costume	3
AMD 303 Fashion Merchandising I	3
AMD 315 Consumer Textiles I	3
	18

(FCS) AMD – FASHION DESIGN MINOR
MinGPA 2.0. MinGrade C.

AMD 104L Art and Design	3
AMD 201L Basic Clothing Construction	3
AMD 204L Clothing Throughout the Lifecycle	3
AMD 302 Historic Costume	3
AMD 307L Flat Pattern Design	3
AMD 404LAdvanced Clothing and Design	3
	18

(FCS) AMD – FASHION MERCHANDISING MINOR
MinGPA 2.0. MinGrade C.

AMD 203L Consumer Aspects of Clothing	3
AMD 302 Historic Costume	3
AMD 303 Fashion Merchandising I	3
AMD 306Fashion Merchandising II	3
AMD 308 Visual Merchandising	3
AMD 315 Consumer Textiles I	3
	18

(FCS) HUMAN DEV & FAMILY STUDIES MINOR
MinGPA 2.0. MinGrade C.

HDF 201 Family Relations	3
HDF 211 Child Growth and Development	3
HDF 304 Parenting	3
HDF 312 Family Economics and Resource Mgt	3
HDF 314 Family and Society	3
HDF 415 Assessment in Hum Dev/Fam Study	3
	18

(FCS) NUTRITION & HOSPITALITY MGT MINOR
MinGPA 2.0. MinGrade C.

NHM 102 Principles of Nutrition	3
NHM 201L Science of Food Preparation	4
NHM 202 Introduction to Hospitality Mgt	3
NHM 301L Food Service Operations I	3
NHM 302L Food Service Operations II	3
NHM 412 Special Problems	3
	19

(FCS) NHM – GENERAL DIETETICS MINOR
MinGPA 2.5. MinGrade C.

NHM 201L Science of Food Preparation	4
NHM 306L Maternal & Child Nutrition	3
NHM 405L Advanced Human Nutrition**	3
NHM 407 Medical Nutrition Therapy I	3
NHM 408L Medical Nutrition Therapy II	3
NHM 410 Community Nutrition	3
	19

**A strong chemistry background is required.

(FCS) NHM – HOSPITALITY MANAGEMENT MINOR
MinGPA 2.0. MinGrade C.

NHM 202 Introduction to Hospitality Mgt	3
NHM 206L Facilities Planning	3
NHM 304 Professional Beverage Mgt	3
NHM 309L Professional Baking	3
NHM 312L Buffets and Banquets	3
NHM 403 Quantity Food Management	3
	18

(FCS) HDF – FAMILY FINANCIAL PLANNING MINOR (on-line)
MinGPA 2.0. MinGrade C.

HDF 301 Fund. Family Financial Planning	3
HDF 305 Insurance Planning for Families	3
HDF 315 Income Tax Planning for Families	3
HDF 405 Investment Planning for Families	3
HDF 406 Retirement Planning for Families	3
HDF 407 Estate Planning for Families	3
HDF 408 Family Fin'l Planning Capstone	3
	21

APPAREL, MERCHANDISING, & DESIGN ELECTIVES	
AMD 305 Housing and Interiors	3
AMD 421 Problems and Independent Study	1-3
AMD 422 Fashion Study Tour	1-3

HUMAN DEV & FAMILY STUDIES ELECTIVES	
HDF 301 Fundamentals of Family Fin'l Planning	3
HDF 305 Insurance Planning for Families	3
HDF 315 Income Tax Planning for Families	3
HDF 405 Investment Planning for Families	3
HDF 406 Retirement Planning for Families	3
HDF 407 Estate Planning for Families	3
HDF 412 Independent Study	1-3

NUTRITION & HOSPITALITY MGT ELECTIVES	
NHM 304 Professional Beverage Management	3
NHM 309L Professional Baking	3
NHM 310 Travel, Tourism, and Resort Mgt	3
NHM 312L Buffets and Banquets	3
NHM 406L International Cuisine and Catering	3
NHM 412 Special Problems	1-3
MKT 308 Salesmanship	3
ACC 219 Managerial Accounting	3

FREE ELECTIVES
Any course except developmental courses.

Department of Food and Animal Sciences

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Introduction

The major in Food Science, which is certified by the Institute of Food Technologists (IFT), was developed to train individuals to meet the needs of the food industry and other agencies for competent food technologists and research-oriented personnel. It provides a broad educational background in the science and technology of food. The curriculum has been made sufficiently flexible to meet the needs and interests of individual students by permitting a selection of minors within the framework of the recommended program.

The concentration in Animal Science prepares the student for positions in the feed and pharmaceutical industries, with government agencies as inspectors or consultants, as farm managers, and for positions with financial institutions or real estate firms. The curriculum provides a strong background in the art and science of farm animal production and management and also prepares students for entry to veterinary colleges.

Mission Statement/Objectives

The Department of Food and Animal Sciences undertakes, in the land-grant tradition, teaching, research and extension functions in food science and animal science. The Department fulfills its teaching mission by offering undergraduate and graduate level programs, workshops, seminars and experiential learning opportunities. As a means to fulfill its research mission, faculty, staff and students conduct basic and applied research addressing the problems of the State of Alabama, particularly the northern section. Under the University's and College's own national mandates, the Department assists developing countries via training, research and demonstration activities. It fulfills the extension programs by offering specialized seminars and short courses for businesses, farmers, and community participants from urban and rural areas of the State of Alabama, particularly, the northern sections.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Food Science	Animal Science	Food Science

Financial Aid/Scholarships

In addition to financial assistance provided by federal and state governments and AAMU's institutional aid programs, there are College of Agricultural, Life and Natural Sciences, and Department of Food and Animal Sciences financial assistance and scholarship awards. Students may also qualify for Institute of Food Technologists awards and other professional organizations' scholarship programs.

Student/Professional Organizations

Alpha Zeta Honorary Society
Block and Bridle Club
IFTSA (AAMU Chapter) / Food Science Club
Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS)
Phi Tau Sigma Honor Society

Participation in student organizations is encouraged as this provides opportunities for networking and exposure to your chosen professional area.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Officially declare one of the above referenced programs as a major.
9. Candidates must also complete all core courses in the major with a grade of C or better in each course.

SPECIAL FEES PER SEMESTER (non-refundable)			
Course No.		**Course Title**	**Fee**
FAS	401L	Food Microbiology	$20.00
FAS	407L	Food Chemistry	$20.00
FAS	408L	Food Analysis	$20.00
FAS	430L	Physiology of Reproduction	$20.00
FAS	453L	Agricultural Biochemistry	$20.00
FAS	461L	Food Engineering	$20.00
FAS	472L	Food Processing	$20.00

Food Science
125 Credits Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3	MTH 113	Pre-Calculus Trigonometry	3
CHE 101	General Chemistry I	3	CHE 102	General Chemistry II	3
CHE 101L	General Chemistry I Lab	1	CHE 102L	General Chemistry II Lab	1
ECO	Economics Elective[1]	3	BIO 103	Princ of Biology	3
FAS 102	Intro to Food Science[2]	3	BIO 103L	Princ of Biology Lab	1
		17	FAS 101	Foods for Life	2
					17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
HIS	Elective[1]	3		2nd Soc/Behav Sci Elective[1, 3]	3
AGB 199	Computers in Agriculture	3	ENG 205	General Speech	3
	Fine Arts Elective[1]	3	FAS 351	Nutrition and Metabolism[2]	3
	Soc/Behav Sci Elective[1]	3			12
FAS 306	Sensory Evaluation[2]	3			
		18			

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MTH 125	Calculus I	4	MTH 126	Calculus II	4
CHE 301	Organic Chemistry I	3	CHE 302	Organic Chemistry II	3
CHE 301L	Organic Chemistry I Lab	1	CHE 302L	Organic Chemistry II Lab	1
BIO 330	Microbiology	3	PHY 103	General Physics I	4
BIO 330L	Microbiology Lab	1	FAS 453L	Agricultural Biochemistry[2]	4
FAS	402[2], 422[2]	3			16
		15			

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
NRE 430	Biometry[2]	3	FAS 403	Seminar[2]	1
FAS 401L	Food Microbiology[2]	4	FAS 408L	Food Analysis[2]	4
FAS 407L	Food Chemistry[2]	4	FAS 490	Food Science Capstone[2] [CS]	3
FAS 461L	Food Engineering[2]	4	FAS 472L	Food Processing[2]	4
		15		Food Science Elective	3
					15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]Per AGSC, no more than six hours of HIS courses may be used to fulfill Area IV of General Education.

Concentrations, Minors & Electives

(FDC) ANIMAL SCIENCE CONCENTRATION
MinGPA 2.0. MinGrade C.

FAS 112 Intro to Animal Science	3
FAS 352 Feeds and Feeding	3
FAS 353 Animal Breeding and Genetics	3
FAS 357 Monogastric Animal Management	3
FAS 358 Ruminant Animal Management	3
FAS 421 Biology of Lactation	3
FAS 430L Physiology of Reproduction	4
FAS 485 Animal Physiology/Endocrinology	3
	25

(FDC) FOOD SCIENCE MINOR
MinGPA 2.0. MinGrade C.

FAS 102 Introduction to Food Science	3
FAS 306 Sensory Evaluation	3
FAS 401L Food Microbiology	4
FAS 407L Food Chemistry	4
FAS 461L Food Engineering	4
	18

(FDC) FOOD SCIENCE ELECTIVES

FAS 312 Food Service Health Management	1
FAS 326 Poultry Production and Management	3
FAS 402 Meat Science and Technology	3
FAS 405 Special Problems	1-3
FAS 422 Poultry Products Technology	3
FAS 442 Fruits, Vegetables, Cereal Products	4
FAS 450 Regulations of Food Safety & Quality	3
FAS 485 Poultry Physiology & Endocrinology	3
FAS 486 Food Biotechnology	3

Department of Military Science

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Introduction

The Reserve Officers' Training Corps (ROTC) Program is a cooperative program contractually agreed to by the United States Army and Alabama A&M University. The faculty and administration at the University felt the student body should have an opportunity to compete for and receive commissions as officers in the United States Army. The administration requested in 1970 that a Reserve Officers Training Corps (ROTC) be established at the University at the earliest possible time. The U.S. Army responded to the request, and Army ROTC was established at Alabama A&M University by Department of the Army General Order Number 4, dated 28 January 1971. The Professor of Military Science is the head of the department, and the remaining commissioned officers are assistant professors who perform duties as instructors and additional duties in the field of administration, operations and supply.

Mission Statement/Objectives

The mission of the Military Science Department is to recruit, train and commission the future officer leadership of the United States. Training of cadets is centered on preparation of cadets for attendance at various camps through teaching of land navigation/map reading, leadership, discipline, military customs, courtesies and values.

The Military Science Department will achieve its mission by meeting the following objectives:

- Training and preparation of cadets for attendance and successful completion of the Leaders Training Course (LTC) and Leadership Development and Assessment Course (LDAC)
- Train/prepare advanced course cadets for successful completion of the Basic Officer Leader Course (BOLC) II & III.
- Provide the military service with highly qualified and motivated young men and women with leadership potential to help meet the requirement for officers in the active and reserve components.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
	Military Science	

The Military Science program consists of a two-year basic course and a two-year advanced course enrolling both male and female students. The basic course is taken during the freshman and sophomore years. Students are under no military obligation while enrolled in the basic course. Students can only minor in ROTC as no major is offered.

Those students who successfully complete the basic course or Leaders Training Course, meet the Army physical standards, and demonstrate officer potential, will be considered for contracting and enrollment in the advanced course.

Veterans who have had at least two years of active duty service, National Guard or United States Army Reserve members who have completed basic training and students who have completed at least three years of JROTC, and have completed 60 semester hours, may receive placement credit and authorization to enroll in the advanced program when approved by the Professor of Military Science (PMS).

Graduate level students may enroll and receive a commission as an officer in the U.S. army. A graduate level student must have two years remaining as a student at the University and must complete the Leaders Training Course and/or National Advanced Leaders Course prior to commissioning.

Under the cross-enrollment program, students attending the University of Alabama in Huntsville and Athens State University are allowed to take ROTC at Alabama A&M University, receive credit and qualify for a commission as an officer in the United States Army.

Financial Aid/Scholarships

Scholarship benefits include full tuition payment and a flat rate allowance for the purchase of textbooks, supplies, and equipment. Additionally, subsistence allowance in the amount of $250-$400.00 per month is paid to all scholarship recipients each school year the scholarship is in effect.

Students may compete for and earn an ROTC scholarship. The Army ROTC scholarship provides full tuition & fees and textbooks.

All contracted scholarship and non-scholarship cadets are paid a monthly tax free stipend. Stipend amounts are:

MS I	$300.00
MS II	$350.00
MS III	$450.00
MS IV	$500.00

Another way to get financial assistance is through the Simultaneous Membership Program (SMP). This is a volunteer officer training program open for National Guard and U.S. Army Reserve students. Students can participate simultaneously in the ROTC Program and continue monthly drills with their Reserve and National Guard Unit. SMP students can receive monthly drill pay from their unit and receive a monthly stipend from the ROTC program.

Cooperative Education/Internships

Qualified cadets may attend the four Leaders Training Course (LTC) at Fort Knox, Kentucky during the summer. LTC allows cadets with no previous ROTC to earn credit for completion of the ROTC basic course.

MS III cadets attend a paid six-week Advanced Leadership Camp at Fort Lewis, Washington during the summer prior to entering MS IV.

Qualified cadets in the advanced program may also compete and attend Cadet Troop Leaders Training (CTLT) and Airborne School, Air Assault School and other military training offered during the summer

Student/Professional Organizations

The cadet corps has a variety of activities that include the Ranger Challenge Team, Color Guard, Honor Guard, and intramural sports.

Special Programs/Awards/Recognitions

Numerous awards are available and awarded to ROTC cadets from both Army and civilian organizations.

A distinguished military student (DMS) is a MS IV cadet who has been designated by the PMS and has met the following qualifications:

- Possesses outstanding qualities of leadership and high moral character.
- Exhibited a definite aptitude for and interest in the military service.
- Achieved a military science standing in the upper third of the ROTC class and rank in the upper third of the order-of-merit list (OML) as established by the PMS.
- Attained an overall academic standing in the upper half of his university or college class.
- Demonstrated initiative and learning capabilities through his or her participation and achievements in campus and civic activities.
- The PMS, with the concurrence of the University President, will designate distinguished military students in writing. All distinguished military students are authorized to wear the Distinguished Military Student Badge.

A distinguished military graduate (DMG) is a cadet designated by the Commander, U.S Army Cadet Command who has met the following qualifications.

- Maintained the scholastic standards listed for a DMS.
- Successfully completed the advanced course, to include training at LDAC.
- Graduated with a baccalaureate degree or has a statement from the head of the institution that all requirements for a baccalaureate degree have been completed and that the degree will be conferred at the next regular commencement.

Admission Policy

Enrollment in the basic military science program is voluntary with no military obligation.

To enroll in the advanced course, a student must:

- Be medically qualified as determined by standard Army medical examination.
- Achieve a minimum qualifying GPA of 2.0.
- Complete the two-year basic course or attend Leaders Training Course at Fort Knox, Kentucky during the summer.
- gain approval by the PMS.
- Must pass the Army's Physical Fitness Test (APFT).
- Meet and maintain height/weight standards in accordance with the Army's guidelines.

- Under the cross-enrollment program, students attending the University of Alabama in Huntsville and Athens State University are allowed to take ROTC at Alabama A&M University, receive credit and qualify for a commission as an officer in the United States Army.

Department Graduation Requirements

Candidates for commissioning in the U.S. army must satisfy the following requirements:

1. Meet and satisfy all University and major academic requirements for graduation.
2. Complete all ROTC department requirements to include meeting U.S. Army physical fitness requirements.
3. Participate in the commissioning ceremony.

Special Fees/Assessments

A $20.00 (nonrefundable) laboratory fee is required of all cadets at registration. This fee covers instructional materials and field trips as well as attendance at the annual Military Ball.

Uniforms, texts, and other equipment are furnished by the Military Science Department at no expense to the cadet. In instances where shortages or damages beyond fair wear and tear occur, cadets are required to make full restitution.

Concentrations, Minors & Electives

The Military Science Program consists of a two-year basic course and a two-year advanced course enrolling both male and female students. Twenty (20) semester credit hours are required for the minor in Professional Leadership (Military Science). Veterans who receive placement credit will not receive the twenty (20) semester credit hours and consequently do not meet the requirement to select Professional Leadership as a minor. LTC candidates must register for the LTC six (6) credit hours (MSC 206) during the summer prior to LTC. In this instance, the semester-hour requirement will be met in order to earn a minor in Professional Leadership.

MILITARY SCIENCE MINOR MinGPA 2.0. MinGrade C.	
MSC 101 Military Science I-A	2
MSC 102 Military Science I-B	2
MSC 201 Military Science II-A	2
MSC 202 Military Science II-B	2
MSC 301 Military Science III-A	3
MSC 302 Military Science III-B	3
MSC 401 Military Science IV-A	3
MSC 402 Military Science IV-B	3
	20

Note: HIS 315, Military History, is required for Commssionees when offered.

BASIC COURSE
(MSC 101, 102, 201, 202)
The Basic Course is taken during the freshman and sophomore years of college. While enrolled in the Basic Course, students are under no military obligation. Military Science is considered an integral part of the regular University program and in keeping with tradition. MSC 101, 102, 201, 202 are considered as electives. Both male and female students are accepted on a voluntary basis. Those students who successfully complete the basic course, meet the Army physical standards, and demonstrate officer potential, will be considered for contracting and enrollment in the advanced course.

ADVANCED COURSE
(MSC 301, 302, 401, 402)
Students who have successfully completed the basic ROTC course or LTC are eligible to enroll in the Advanced Course. Veterans who have had at least two years of active duty service, National Guard or United States Reserve members who have completed basic training, and students who have completed at least three years of JROTC, and who have completed 60 semester hours, may receive placement credit and authorization to enroll in the advanced program when approved by the Professor of Military Science (PMS).

College of Business and Public Affairs

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Introduction

According to the Fall and Summer 2010 Salary Survey of National Association of Colleges and Employers (NACE) (Data are reported to NACE by colleges and universities nationwide) business graduates (BA or BS) were offered average starting salaries well above the salary levels for all other areas except engineering and computer science. Average salary levels for undergraduates were: Economics-$51,698; Accounting-$48,691; Management-$43,879; Marketing-$41,670; Finance-$50,356; Mgt Information Systems-$48,932; Chemistry-$39,404; Computer Science-$61,112; Mechanical Engineering-$58,457; Chemical Engineering-$65,628; Civil Engineering-$51,758; Electrical Engineering-$59,381; English-$37,157; History-$38,731; Psychology-$32,358; Sociology-$35,173; Biology/Life Science-$33,430.

Mission Statement/Objectives

The mission of the College of Business and Public Affairs (CBPA) at Alabama A&M University is to provide quality management education programs to a diverse student population at the undergraduate and graduate levels. The college utilizes effective teaching, advising, applied scholarship, and community involvement to produce graduates who will become leaders, managers, entrepreneurs, and productive employees in the private and public sectors.

Consistent with the University's history and contemporary mission, the college concentrates on instruction while seeking to combine the classic goal of intellectual development with the land-grant tradition of service. Applied and interactive educational experiences are emphasized in both the graduate and undergraduate programs. While the College of Business and Public Affairs and the University are committed to graduate education, the college emphasizes undergraduate education as its primary responsibility. In addition to the coverage of basic business principles, all programs develop students' computer, communications, interpersonal relations, and leadership skills, thereby, preparing graduates for success in local, state, national, and global business environments. The AAMU College of Business and Public Affairs builds on its historic mission of providing education for African-Americans to an expanded mission of educating a student body that is diverse in terms of ethnicity, national origin, and socio-economic background.

Opportunities are provided for all students to gain leadership skills through involvement with student organizations and to gain practical experiences through co-ops and internships in cooperation with business, government and non-government organizations. Students are exposed to diversity and international perspectives. Faculty members are highly caring of their students and 85% of the full-time faculty members have doctoral degrees. They are committed to excellence in teaching and are engaged in scholarly activities. They are also active in institutional, professional and community service.

The College of Business and Public Affairs, established September 1, 1968, will achieve its mission by meeting the following objectives:

- To promote intellectual development and traditional education of students
- To guide students' understanding of the environment in which businesses operate in the U.S. and around the world as well as specific techniques and principles of the primary business disciplines
- To provide an in-depth study of a specific business discipline that includes how specialists in that field interact with specialists from other disciplines to make decisions
- To offer students experiences in and out of the classroom that promote professionalism, ethical behavior, and leadership skills
- To provide the University community an opportunity to study various aspects of the business environment and different business operations

College Organization

The College of Business and Public Affairs is organized into four (4) departments, each headed by a department chair. The departments are (1) Accounting and Logistics; (2) Finance, Agribusiness and Economics; (3) Management and Marketing; and (4) Social Sciences.

The college has three outreach centers: the Center for Entrepreneurship and Economic Development (CEED), the Disadvantaged Business Enterprise (DBE) Support Services and the Small Business Development Center (SBDC). The centers provide management counseling and conducts training workshops free of charge. The Small Business Development Center (SBDC) primarily serves the North East Alabama Region.

Programs Offered

Bachelor of Arts Degrees		
MAJOR	CONCENTRATION	MINOR

Political Science	General Social Science Teacher Cert. (6-12)	History International Relations Philosophy Political Science
Sociology		Sociology

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Accounting		Accounting
Business Management and Administration	International Business Mgt Information Systems	Business Administration International Business
Criminal Justice		Criminal Justice
Entrepreneurship		Entrepreneurship
Finance		Economics Finance
Logistics & Supply Chain Management		
Management		Management
Marketing		Marketing

Financial Aid/Scholarships

The preponderance of scholarships and financial assistance for students pursuing degrees in the College of Business and Public Affairs is administered by the University Scholarship Program and the Office of Financial Aid. Qualified students receive President's, Provost's and Dean's Scholarships. There are, however, some funds for business scholarships funded by corporations and private donors. These are competitive scholarships that are awarded depending on availability of funds. Other corporate and organizational scholarships may become available throughout the academic year. Information on such programs is available through the appropriate departmental offices and the Office of the Dean.

Internships and cooperative education opportunities are available for students in the College of Business and Public Affairs. Most are paid positions, however, some internship, that provide excellent opportunities to gain valuable work experience in a student's field of study, are not paid. The Kauffman Entrepreneurial Internship Program, administered by the Department of Management and Marketing, is available to all business majors. Other positions are available with businesses throughout the United States. Information on many positions is available through Career Development Services. Advisors and departmental chairs are good sources of information about internship and co-op opportunities for business majors.

Student/Professional Organizations

Discipline specific student organizations are available for students through each department in the College of Business and Public Affairs. In addition, business students from all programs can be considered for membership in Phi Beta Lambda Business Fraternity and Delta Mu Delta Honor Society in Business. The discipline-specific organizations are discussed in the department sections of the Bulletin.

Phi Beta Lambda, Inc. is an organization with chapters on more than 600 college campuses across the United States. Its mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs. Business students who have completed 30 semester credit hours (SCH) or more with a 2.5 grade point average or higher are encouraged to seek membership in this organization.

Delta Mu Delta is a national honor society in business open to all business majors at both the graduate and undergraduate levels. Undergraduate members must

- be candidates for the baccalaureate degree,
- have completed at least half of the work required for the degree,
- have a cumulative grade point of 3.2 or above,
- be in the top 20 percent of their class, and
- be of good character.

College Graduation Requirements

Undergraduate degree candidates in the College of Business and Public Affairs must satisfy each of the following requirements:

1. Complete the University General Education Curriculum requirements.

2. Complete the Department and Major Curriculum requirements. Requirements for each program can be found in the departmental sections of the Bulletin.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Students must take the Senior Exit Exam as established for the AAMU business program, criminal justice, political science and sociology.
8. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
9. Transfer students pursuing a baccalaureate degree in the College of Business and Public Affairs must earn at least 50 percent of the business credit hours, excluding General Education, required for the degree at Alabama A&M University.
10. All business electives must be upper-level (300 to 499) courses unless otherwise stated.

Department of Accounting and Logistics

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Introduction

The role of the accountant has been transformed in recent years. Technological advances have created an environment of rapid change, and in response, accounting has evolved in complexity. Accountants are more than financial historians who simply record and communicate financial data; they have become a critical part of management. Today's accountants are moving out of the corporate shadows to take center stage in their companies, handling greater responsibility and participating in broader business issues. The accounting profession is one of the most rapidly growing professions in the country.

Logistics and Supply Chain professionals manage, coordinate, manufacture and transport products from raw materials to the finished goods available at local stores. The Logistics and Supply Chain Management major is designed to provide students with an interdisciplinary foundation in logistics and supply chain management in preparation for careers in operations management, logistics, purchasing, industrial distribution and transportation.

Mission Statement/Objectives

To meet rapidly increasing demand, the Accounting curriculum provides a thorough education in the discipline. The program develops and enhances a student's critical thinking, judgment, and communication skills, while providing a sound technical foundation. Students who wish to sit for the Uniform Certified Public Accountant (CPA) examination in Alabama and 44 other jurisdictions must meet a 150 semester –credit hour requirement. At AAMU, this can be accomplished through taking additional coursework at the undergraduate level or by pursuing a master's degree. If students wish to sit for the CPA exam, they should select ACC 442, Auditing II, and ACC 451, Federal Income Tax II, as electives. These courses are required by Alabama law to sit for the CPA exam.

This specialized accounting and logistics knowledge, along with a broad liberal arts, mathematics, science, and business background, is designed to prepare students:

- to enter the accounting profession in public accounting, industry, or the public sector;
- for future growth and development within the accounting and logistics profession;
- for advanced studies in accounting, logistics and supply chain management and other business fields, and
- to provide the educational foundation for future advancement to administrative and leadership positions.

Students who wish to sit for the Uniform Certified Public Accountant (CPA) examination in Alabama must meet a 150 semester-credit hour requirement. At AAMU, this can be accomplished through taking additional coursework at the undergraduate level or and by pursuing a master's degree in accounting.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Accounting		Accounting
Logistics and Supply Chain Management		

Financial Aid/Scholarships

Students may refer to the College of Business and Public Affairs Scholarship section for more information on scholarships available to all business majors. Many accounting organizations also award scholarships to deserving students majoring in accounting. Information is posted on the student bulletin board and disseminated through the department.

Student/Professional Organizations

National Association of Black Accountants (NABA) is a national organization whose primary purpose is to develop, encourage, and serve as a resource for greater participation by African-Americans and other minorities in the accounting profession. NABA's major thrust and its programs are designed to strengthen the skills base for its student members, provide support to those professionals seeking higher levels of accomplishment, identify opportunities for minority students and professionals in the accounting profession, and encourage a greater number of African-American students to select accounting as their chosen field of study.

Omicron Honorary Accounting Club is an organization that, combined with NABA, work together as a team performing campus and community service, providing educational activities for accounting majors and supporting and enhancing the accounting program at the University.

Association of Logistics and Supply Chain Management (ALSCM) is an organization dedicated to providing professional growth and development of student members in the fields of transportation, logistics and supply chain management. ALSCM is also associated with Council of Supply Chain Management Professionals (CSCMP) and Institute of Supply Chain Management (ISM).

Council of Supply Chain Management Professionals (CSCMP) is the preeminent worldwide professional association of supply chain management that provides educational opportunities and relevant information via a variety of programs, services, and activities.

Institute of Supply Chain Management (ISM) is a not-for-profit association that provides education, development, and advancement of the profession and the expansion of professional skills and knowledge.

Special Programs/Awards/Recognitions

The Department of Accounting and Logistics honors selected students for academic achievement, service and other accomplishments during their tenure as a student each academic year. Accounting majors are selected to be honored for academic achievement and service with the "Outstanding Achievement" award. The Logistics and Supply Chain graduating senior with the highest academic average receives the "Outstanding Academic Achievement Award" each year.

The Alabama Society of Certified Public Accountants (ASCPA) honors the top graduating senior each academic year with the "Outstanding Accounting Achievement" award.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. A grade of 'D' or better is required in the major and minor coursework.
8. Students must take the Senior Exit Exam as established for the AAMU business program.
9. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
10. Transfer students pursuing a baccalaureate degree in the College of Business and Public Affairs must earn at least 50 percent of the business credit hours required for the degree at Alabama A&M University.
11. All business electives must be upper-level (300 to 499) courses unless otherwise stated.

Accounting
126 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra[2]	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3	MIS 213	Comp Applications in Business	3
	PED/MSC/HED Elective[1]	2	MTH 120	Calculus and its Applications	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
	Soc/Behav Science Elective[1]	3	MGT 207	Legal Env and Ethics	3
ECO 231	Princ of Macroeconomics	3	ECO 232	Princ of Microeconomics	3
ENG 205	General Speech	3	ECO 271	Business Statistics I	3
ACC 203	Intro to Accounting I	3	ACC 204	Intro to Accounting II	3
		15			15

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ACC 301	Intermediate Accounting I	3	ACC 302	Intermediate Accounting II	3
ACC 303	Cost Accounting	3	ACC 351	Federal Tax Accounting I	3
FIN 315	Princ of Finance	3	MGT 315	Princ of Management	3
MGT 318	Business Law	3	MGT 350	Managerial Communications	3
MKT 315	Princ of Marketing	3		NonBusiness Elective	3
		15	MGT 413	Production Operations Mgt	3
					18

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ACC 306	Intermediate Accounting III	3	ACC 472	Accounting Info Systems	3
ACC 441	Auditing I	3	ACC 442	Strategic Mgt and Policy [CS]	3
ACC 461	Seminar in Int'l Accounting	3	ACC 421	Advanced Accounting	3
	NonBusiness Elective	3	ACC 450	Accounting for Non-Profit Orgs	3
	Free Elective	3		Business Elective	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

Logistics And Supply Chain Management
123 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra[2]	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3		Soc/Behav Science Elective[1]	3
	PED/MSC/HED Elective[1]	2	MTH 120	Calculus and its Applications	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
MIS 213	Comp Applications in Business	3	ECO 271	Business Statistics I	3
ENG 205	General Speech	3	ECO 232	Princ of Microeconomics	3
ECO 231	Princ of Macroeconomics	3	LSM 201	Intro to Logistics & SCM	3
ACC 203	Intro to Accounting I	3	ACC 204	Intro to Accounting II	3
		15			15

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MGT 207	Legal Env and Ethics	3	MIS 315	Princ of Mgt Info Systems	3
LSM 305	Purchase/Supply Chain Mgt	3	LSM 323	Transportation Management	3
FIN 315	Princ of Finance	3	MGT 350	Managerial Communications	3
MGT 315	Princ of Management	3	LSM 340	Advanced Logistics & SCM	3
	Free Elective	3		Business Elective	3
		15			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MGT 413	Production Operations Mgt	3	MGT 442	Strategic Mgt and Policy [CS]	3
MKT 315	Princ of Marketing	3		Business Elective	3
LSM 409	International Logistics	3		NonBusiness Elective	3
LSM 428	Strategic Logistics & SCM	3		NonBusiness Elective	3
LSM	3xx-4xx Elective	3	LSM	3xx-4xx Elective	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

Concentrations, Minors & Electives

ACCOUNTING MINOR (nonACC mjr)
MinGPA 2.0. MinGrade D.

ACC 301 Intermediate Accounting I	3
ACC 302 Intermediate Accounting II	3
ACC 303 Cost Accounting	3
ACC 306 Intermediate Accounting III	3
And Any **TWO COURSES** of the following:	
ACC 351 Federal Tax Accounting I	3
ACC 403 Advanced Cost Accounting	3
ACC 421 Advanced Accounting	3
ACC 441 Auditing I	3
ACC 450 Accounting for Non-Profit Orgs	3
ACC 461 Seminar in Int'l Accounting	3
ACC 472 Accounting Information Systems	3
	18

BUSINESS ELECTIVES

ACC 3xx-4xx	3
ECO 3xx-4xx	3
ETR 3xx-4xx	3
FIN 3xx-4xx	3
MGT 3xx-4xx	3
MKT 3xx-4xx	3
LSM 3xx-4xx	3
MIS 3xx-4xx	3

NON-BUSINESS ELECTIVES
Any course except ACC, ECO, ETR, FIN, MGT, MKT, LSM, MIS and developmental courses.

FREE ELECTIVES
Any course except developmental courses.

Department of Finance, Agribusiness and Economics

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Introduction

The bachelor program in Finance provides opportunities for students to learn analytical, theoretical and real world knowledge in financial management of corporations, non-profit and governmental organizations that prepares them for a large array of careers in public, not-for profit, and private organizations. Studies in finance are particularly relevant for policy analysis and policy making decisions. Students who graduate from this program are also prepared to pursue graduate studies in finances, economics, business, law, public policy, public administration, urban and regional planning and other fields.

Mission Statement/Objectives

The mission of the Department of Finance, Agribusiness and Economics is to support the mission of the College of Business and Public Affairs to offer a high quality academic program. The Department offers a program of instruction for those who expect to pursue careers in finance or economics working in public, private or non-profit organizations. The Department also offers service courses for business and non-business majors. The Department functions in the land-grant tradition of teaching, research, and extension by providing baccalaureate and graduate studies that are compatible with the times and within the reach of all qualified and capable individuals who are interested in further developing their technical and professional skills and competencies. The department endeavors to provide a cohesive, dynamic, forward looking and market-driven educational process for the emergence of scholars, leaders, thinkers, and other contributors to society.

The objectives of the department are:

1. To develop teaching programs on finance, agricultural economics and agribusiness management in response to the emerging business and economic issues and enhance students' professional competence for career in business, non-profit and governmental organizations.
2. To collaborate with Alabama Agricultural Extension Service and other 1890s land-grant universities to develop action-oriented research and outreach programs for minority and limited resource communities for agricultural productivity, cooperative and micro enterprise development and their sustainability.
3. To create a keen interest and understanding among students and faculty about the world at large through study abroad and/or exchange programs.
4. To create a competitive and interdisciplinary learning, research, and outreach environment within the College and the University.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Finance		Economics Finance

Financial Aid/Scholarships

In addition to financial assistance provided by the federal and state governments, and AAMU's institutional aid programs, there are scholarships and financial assistance offered through the College of Business and Public Affairs and the Department of Finance, Agribusiness and Economics. Students may also qualify for the Nimrod Cobb, Cargill and Alfa-Alabama Farm Federation scholarships. The Department offers two more scholarships, one is named for Dr. Yedla K. Rao, the former Chairman of the Department; and the other is named for Edward L. Lowder Colonial Bank of Huntsville. Information on other scholarships are available under the College of Business and Public Affairs "Financial Assistance/ Scholarship" section.

Cooperative Education/Internships

ECO 490/ FIN 490, Internship in Economics/ Finance: Students majoring in economics and finance are encouraged to take this course. Internship placement must be approved by the advisor and department chair. For information on other internship opportunities, see the College of Business and Public Affairs section of the Bulletin.

For information on other internship opportunities, see the College of Business and Public Affairs section of the Bulletin.

Student/Professional Organizations

Agribusiness Club
Alpha Zeta Honorary Society

Collegiate FFA
Minorities in Agriculture, Natural Resources, and Related Sciences (MANNRS)

Economics and Finance Club promotes and encourages students' achievement through academic and extra-curricular activities. Particularly, through visiting different business and public organizations, inviting guest lecturers to the College of Business and Public Affairs, and enhancing internship opportunities for students, the club offers a variety of professional development experiences related to alternative careers for graduates of programs in the economics and finance. Membership in the Club is open to all students interested in its activities.

TVA Investment Challenge Program: Tennessee Valley Authority (TVA) made available $200,000 out of its decommissioning funds for each of the 25 universities in its service zone. Alabama A&M University is one of those 25 universities. The students of the Department of Economics and Finance of AAMU are given the opportunity to invest the fund in the stock market. No monetary benefit will come from this investment fund for the college, department, faculty or students. The sole purpose of this program is to provide the students an opportunity to manage real money. It is a valuable learning experience that is rare.

Special Programs/Awards/Recognitions

Students in the Department of Finance, Agribusiness and Economics have an opportunity to participate in Outstanding Student Awards and scholarships at the College and Department levels for each classification. Students also participate in the University's academic honors program (e.g., Dean's List, etc.). Some scholarships for incoming freshmen are available periodically from different research grants. The Department of Finance, Agribusiness and Economics recognizes students for "Outstanding Academic Achievement" in the Spring semester of each year.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. A grade of 'D' or better is required in the major and minor coursework.
8. Students must take the Senior Exit Exam as established for the AAMU business program.
9. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
10. Transfer students pursuing a baccalaureate degree in the College of Business and Public Affairs must earn at least 50 percent of the business credit hours required for the degree at Alabama A&M University.
11. All business electives must be upper-level (300 to 499) courses unless otherwise stated.

Finance
123 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra[2]	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3		PSY 201, SOC 201	3
	PED/MSC/HED Elective[1]	2	MTH 120	Calculus and its Applications	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO 231	Princ of Macroeconomics	3	ECO 232	Princ of Microeconomics	3
MIS 213	Comp Applications in Business	3	ACC 204	Intro to Accounting II	3
ENG 205	General Speech	3	ECO 271	Business Statistics I	3
ACC 203	Intro to Accounting I	3	MGT 207	Legal Env and Ethics	3
		15			15

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ECO 272	Business Statistics II	3	MIS 315	Princ of Mgt Info Systems	3
FIN 315	Princ of Finance	3	MGT 350	Managerial Communications	3
MGT 315	Princ of Management	3	FIN 316	Managerial Finance	3
	Free Elective	3	FIN 317	Computer Applications in Finance	3
MKT 315	Princ of Marketing	3	FIN 432	Investment	3
		15			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FIN 449	Money and Capital Market	3	MGT 442	Strategic Mgt and Policy [CS]	3
ECO 446	International Trade & Policy	3	FIN 487	Int'l Financial Management	3
MGT 413	Production Operations Mgt	3	FIN 489	Special Topics in Finance	3
FIN	3xx-4xx Elective	3	FIN	3xx-4xx Elective	3
	Free Elective	3		Free Elective	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

Concentrations, Minors & Electives

FINANCE MINOR (NonBusiness prgms mjr)
MinGPA 2.0. MinGrade D.

ECO 271 Business Statistics I	3
FIN 315 Principles of Finance	3
FIN 316 Managerial Finance	3
FIN 3xx-4xx Elective	6
Business Elective	3
	18

FINANCE MINOR (Business prgms mjr)
MinGPA 2.0. MinGrade D.

ECO 272 Business Statistics II	3
FIN 316 Managerial Finance	3
FIN 3xx-4xx	12
	18

ECONOMICS MINOR (Business prgms mjr)
MinGPA 2.0. MinGrade D.

ECO 272 Business Statistics II	3
ECO 401 Intermediate Macroeconomics **OR**	3
ECO 402 Intermediate Microeconomics	
ECO 3xx-4xx Elective	12
	18

ECONOMICS MINOR (NonBusiness prgms mjr)
MinGPA 2.0. MinGrade D.

(ECO 231 & 232) or ECO 200	3-6
ECO 271 Business Statistics I	3
ECO 401 Intermediate Macroeconomics **OR**	3
ECO 402 Intermediate Microeconomics	
ECO 3xx-4xx Elective	6-9
	18

BUSINESS ELECTIVES

ACC 3xx-4xx	3
ECO 3xx-4xx	3
ETR 3xx-4xx	3
FIN 3xx-4xx	3
MGT 3xx-4xx	3
MKT 3xx-4xx	3
LSM 3xx-4xx	3
MIS 3xx-4xx	3

NON-BUSINESS ELECTIVES

Any course except ACC, ECO, ETR, FIN, MGT, MKT, LSM, MIS and developmental courses.

FREE ELECTIVES

Any course except developmental courses.

Department of Management and Marketing

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Introduction

In today's increasingly competitive environment, organizations in both the private and public sectors are interested in individuals that would provide effective leadership at all levels of their organizations. The Department of Management and Marketing offers Bachelor of Science programs designed to provide students with a broad-based education for managerial success. This broad-based education prepares students for excellent employment and entrepreneurial opportunities in business, government and the not-for-profit sector.

Mission Statement/Objectives

The objective of the Department of Management and Marketing is to provide high quality education that prepares students for leadership positions in their chosen professions and to meet the challenges of personal development. Consistent with the mission of the College of Business and Public Affairs, the Department focuses on providing students with the knowledge to develop the skills to analyze problems, communicate solutions, and understand the impact of their decisions.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Business Management and Administration	International Business Mgt Information Systems	Business Administration International Business
Entrepreneurship		Entrepreneurship
Management		Management
Marketing		Marketing

Financial Aid/Scholarships

Please refer to the College of Business and Public Affairs Scholarship section for more information on scholarships available to all business majors.

Cooperative Education/Internships

The Department offers internship courses that provide students the opportunity to acquire some practical experience and enhance their personal and professional development. Students may participate in paid internship through the Kauffman Entrepreneurial Internship Program, which is administered by the Department. The Center for Entrepreneurship and Economic Development (CEED) in the College of Business and Public Affairs, also places students in paid internships in the Huntsville area. Also, other internship opportunities are available locally and throughout the country.

Student/Professional Organizations

American Production and Inventory Control Society (APICS) – The Educational Society for Resource Management is an international organization offering education and materials in support of the effective use of resources in the manufacturing and service organizations. Our student chapter was established in 1994.

American Marketing Association is a chapter of the International Collegiate American Marketing Association. This organization is most committed to providing a forum for students' professional growth and development, and actively encourages their involvement. Membership benefits include the opportunity to participate in valuable business seminars and workshops offered by top marketing professionals and a one-year subscription to Marketing News, a publication dedicated to the discussion of the latest topics and issues in the field, and written especially for members.

Mu Kappa Tau National Honor Society was chartered in the Spring of 1986 for the purpose of recognizing junior and senior marketing students with an over GPA of 3.25 and above. In addition to promoting and stimulating interest in the area of Marketing, the organization fosters a relationship among its honor students, marketing faculty, and marketing professionals.

Society for Human Resource Management (SHRM) - The Society for Human Resource Management is the leading voice of the human resource profession, representing the interests of over 65,000 professional and 6,000 student members from around the world. SHRM provides its membership with services that equip human resource professionals to become leaders and decision-makers within their organizations. The society is a founding member and Secretariat of the World Federation of Personnel Management Association (WFPMA), which links human resource associations in 55 nations.

Association of Logistics and Supply Chain Management (ALSCM) - is an organization dedicated to providing professional growth and development of student members in the fields of transportation, logistics and supply chain management. ALSCM is also associated with Council of Supply Chain Management Professionals (CSCMP) and Institute of Supply Chain Management (ISM).

Council of Supply Chain Management Professionals (CSCMP) – is the preeminent worldwide professional association of supply chain management that provides educational opportunities and relevant information via a variety of programs, services, and activities. Membership is for all full-time undergraduate and graduate students.

Institute of Supply Chain Management (ISM) – is a not-for-profit association that provides education, development, and advancement of the profession and the expansion of professional skills and knowledge. Membership is for all full-time undergraduate and graduate students.

Students in Free Enterprise, Inc. (SIFE) is a non-profit organization that provides college students the opportunity to learn about the free enterprise system. It also offers students the opportunity to develop leadership, teamwork, and communication skills through learning, practicing, and teaching the principles of the free enterprise system.

Special Programs/Awards/Recognitions

Each academic year, the Department of Management and Marketing recognizes the graduating senior with highest academic achievement in management, marketing, international business, logistics and supply chain management, and management information systems.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. A grade of ‘D’ or better is required in the major and minor coursework.
8. Students must take the Senior Exit Exam as established for the AAMU business program.
9. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
10. Transfer students pursuing a baccalaureate degree in the College of Business and Public Affairs must earn at least 50 percent of the business credit hours required for the degree at Alabama A&M University.
11. All business electives must be upper-level (300 to 499) courses unless otherwise stated.

Business Management and Administration
120-123 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra[2]	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3		Soc/Behav Sci Elective[1]	3
	PED/MSC/HED – See GenEd Listing[1]	2	MTH 120	Calculus and its Applications	3
		16			17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO 231	Princ of Macroeconomics	3	ECO 232	Princ of Microeconomics	3
MIS 213	Comp Applications in Business	3	ECO 271	Business Statistics I	3
ENG 205	General Speech	3	MGT 207	Legal Env and Ethics	3
ACC 203	Intro to Accounting I	3	ACC 204	Intro to Accounting II	3
		15			15

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FIN 315	Princ of Finance	3	MGT 350	Managerial Communication	3
MIS 315	Princ of Mgt Info Systems	3	MKT 315	Princ of Marketing	3
MGT 315	Princ of Management	3		Free Elective	3
	Concentration Course[3]	3		Concentration Course[3]	3
	Concentration Course[3]	3		Concentration Course[3]	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MGT 413	Production Operations Mgt	3	MGT 442	Strategic Mgt and Policy [CS]	3
	NonBusiness Elective	3		Business Elective	3
	Concentration Course[3]	3		Concentration Course[3]	3
	Concentration Course[3]	3		Concentration Course[3]	3-6
	Concentration Course[3]	3			12-15
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Minors, Concentrations, Electives" Section of the Bulletin for this Department unless otherwise specified here.

Entrepreneurship
120 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus I[2]	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3		Soc/Behav Sci Elective[1]	3
	PED/MSC/HED – See GenEd Listing[1]	2	MTH 120	Calculus and its Applications	3
		16			17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
MIS 213	Comp Applications in Business	3	ECO 271	Business Statistics I	3
ENG 205	General Speech	3	MGT 207	Legal Env and Ethics	3
ECO 231	Princ of Macroeconomics	3	ECO 232	Princ of Microeconomics	3
ACC 203	Intro to Accounting I	3	ACC 204	Intro to Accounting II	3
		15			15

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FIN 315	Princ of Finance	3	MGT 350	Managerial Communications	3
MIS 315	Princ of Mgt Info Systems	3	MKT 315	Princ of Marketing	3
MGT 315	Princ of Management	3	ETR 320	Plan/Launch New Ventures	3
ACC 219	Managerial Accounting	3	MGT 352	Entrepreneurship	3
ETR 315	Intro to Entrepreneurship	3		Free Elective	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MGT 413	Production Operations Mgt	3	MGT 442	Strategic Mgt and Policy [CS]	3
ETR 430	Grow/Manage New Ventures	3	MGT 458	International Business	3
ETR 440	Field Studies in ETR Firms	3	ETR 445	Sr Portfolio: Write Bus Plan	3
	NonBusiness Elective	3	ETR 495	Entrepreneur Internship	3
		12		NonBusiness Elective	3
					15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

Management
123 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus I[2]	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3		Soc/Behav Sci Elective[1]	3
	PED/MSC/HED – See GenEd Listing[1]	2	MTH 120	Calculus and its Applications	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
MIS 213	Comp Applications in Business	3	ECO 271	Business Statistics I	3
ENG 205	General Speech	3	MGT 207	Legal Env and Ethics	3
ECO 231	Princ of Macroeconomics	3	ECO 232	Princ of Microeconomics	3
ACC 203	Intro to Accounting I	3	ACC 204	Intro to Accounting II	3
		15			15

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FIN 315	Princ of Finance	3	MGT 350	Managerial Communications	3
MGT 315	Princ of Management	3	MKT 315	Princ of Marketing	3
ACC 219	Managerial Accounting	3	MGT 332	Org Behavior and Theory	3
	NonBusiness Elective	3	MGT 352	Entrepreneurship	3
	NonBusiness Elective	3	MGT 397	Management Science	3
		15		Business Elective	3
					18

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MIS 315	Princ of Mgt Info Systems	3	MGT 442	Strategic Mgt and Policy [CS]	3
MGT 413	Production Operations Mgt	3	MGT 458	International Business	3
MGT 433	Human Resource Management	3	MGT	3xx-4xx Major Elective	3
MGT	3xx-4xx Major Elective	3		Free Elective	3
		12		Business Elective	3
					15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

Marketing
123 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus I[2]	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3		Soc/Behav Sci Elective[1]	3
	PED/MSC/HED – See GenEd Listing[1]	2	MTH 120	Calculus and its Applications	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
MIS 213	Comp Applications in Business	3	ECO 271	Business Statistics I	3
ENG 205	General Speech	3	MGT 207	Legal Env and Ethics	3
ECO 231	Princ of Macroeconomics	3	ECO 232	Princ of Microeconomics	3
ACC 203	Intro to Accounting I	3	ACC 204	Intro to Accounting II	3
		15			15

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FIN 315	Princ of Finance	3	MGT 350	Managerial Communications	3
MIS 315	Princ of Mgt Info Systems	3	MKT 316	Buyer Behavior	3
MKT 315	Princ of Marketing	3	MKT 323	Promotions Management	3
MGT 315	Princ of Management	3	MKT	3xx-4xx Elective	3
	Free Elective	3		NonBusiness Elective	3
		15			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MGT 413	Production Operations Mgt	3	MGT 442	Strategic Mgt and Policy [CS]	3
MKT 410	Marketing Research	3	MKT 411	Advanced Marketing Research	3
MKT 477	Marketing Management	3	MKT 464	Global Marketing	3
MKT	3xx-4xx Elective	3	MKT 487	Strategic Marketing	3
	NonBusiness Elective	3		NonBusiness Elective	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

Concentrations, Minors & Electives

(BUS) INT'L BUSINESS CONCENTRATION
MinGPA 2.0. MinGrade D.

ACC 461 Seminar in Int'l Accounting	3
ECO 446 Int'l Trade and Policy	3
FIN 487 Int'l Financial Management	3
MGT 332 Org Behavior and Theory	3
MGT 458 International Business	3
MGT 465 International Management	3
MKT 464 Global Marketing	3
Foreign Language Sequence	6
Foreign Language	3
	30

(BUS) MGT INFO SYSTEMS CONCENTRATION
MinGPA 2.0. MinGrade D.

MGT 458 International Business	3
MIS 331 Info System Analysis and Design	3
MIS 345 Database Management System	3
MIS 356 Data Communication/Networking	3
MIS 479 Intro Object-Oriented Programming	3
MIS 489 System Development Project	3
[1]MIS 3xx-4xx Elective	9
	27

[1]CS 2xx-4xx courses may also be used.

MANAGEMENT MINOR (NonBusiness prgms mjr)
MinGPA 2.0. MinGrade D.

MGT 207 Legal Environment & Ethics	3
MGT 315 Principles of Management	3
MGT 332 Org Behavior and Theory	3
MGT 413 Production/Operations Mgt	3
MGT 433 Human Resource Management	3
3xx-4xx Business Elective	3
	18

MANAGEMENT MINOR (Business prgms mjr)
MinGPA 2.0. MinGrade D.

MGT 332 Org Behavior and Theory	3
MGT 352 Entrepreneurship	3
MGT 397 Management Science	3
MGT 433 Human Resource Management	3
MGT 458 International Business	3
MGT 3xx-4xx Elective	3
	18

MARKETING MINOR (NonBusiness prgms mjr)
MinGPA 2.0. MinGrade D.

MKT 315 Principles of Marketing	3
MKT 316 Buyer Behavior	3
MKT 410 Marketing Research	3
MKT 477 Marketing Management	3
MKT 487 Strategic Marketing	3
Business Elective	3
	18

MARKETING MINOR (Business prgms mjr)
MinGPA 2.0. MinGrade D.

MKT 316 Buyer Behavior	3
MKT 323 Promotion Management	3
MKT 410 Marketing Research	3
MKT 464 Global Marketing & Environment	3
MKT 477 Marketing Management	3
MKT 487 Strategic Marketing	3
	18

(BUS) BUSINESS ADMINISTRATION MINOR* (NonBusiness prgms mjr)
MinGPA 2.0 MinGrade D.

ACC 203 Introduction to Accounting I	3
ACC 204 Introduction to Accounting II	3
FIN 315 Principles of Finance	3
MGT 315 Principles of Management	3
MKT 315 Principles of Marketing	3
*ECO 200 or (231 and 232)	3-6
	18-21

(BUS) INTERNATIONAL BUSINESS MINOR**
MGT 458 must be taken first
MinGPA 2.0. MinGrade D.

ACC 461 Seminar in Int'l Accounting	3
ECO 446 Int'l Trade and Policy	3
FIN 487 Int'l Financial Management	3
MGT 458 International Business	3
MKT 464 Global Marketing	3
MKT 465 International Management	3
	18

*The economics course taken to fulfill General Education cannot be used to fulfill the minor.
**Upon approval of the School of Business Dean, students may fulfill up to 6 SCH of the minor requirements by participating in one of the following activities: Study abroad, Internship abroad, Internship domestic that involves international business experience.

(ETR) ENTREPRENEURSHIP MINOR (NonETR mjr)
MinGPA 2.0. MinGrade D.

ETR 315 Introduction to Entrepreneurship	3
ETR 320 Planning/Launching New Ventures	3
ETR 430 Growing/Managing New Ventures	3
ETR 445 Senior Portfolio: Write Bus. Plan	3
MGT 207 Legal Environment & Ethics	3
MGT 315 Principles of Management	3
	18

BUSINESS ELECTIVES

ACC 3xx-4xx	3
ECO 3xx-4xx	3
ETR 3xx-4xx	3
FIN 3xx-4xx	3
MGT 3xx-4xx	3
MKT 3xx-4xx	3
LSM 3xx-4xx	3
MIS 3xx-4xx	3

NON-BUSINESS ELECTIVES
Any course except ACC, ECO, ETR, FIN, MGT, MKT, LSM, MIS and developmental courses.

FREE ELECTIVES
Any course except developmental courses.

Department of Social Sciences

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Introduction

The Department of Social Sciences is comprised of seven academic disciplines. These are political science, sociology, criminal justice, geography, history, international relations and philosophy.

Mission Statement/Objectives

In keeping with the mission of the University, the Department assists students in attaining: 1) a general acquaintance with the social sciences; 2) knowledge of the subject matter and methods in Criminal Justice, Political Science and Sociology; 3) an understanding of the global relationships and interdependence of all peoples; 4) competence in analyzing and interpreting the complex problems of contemporary society; and 5) preparation for employment and/or further study.

Programs Offered

Bachelor of Arts Degrees		
MAJOR	CONCENTRATION	MINOR
Political Science	General Social Science Teacher Cert. (6-12)	History International Relations Philosophy Political Science
Sociology		Sociology

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Criminal Justice		Criminal Justice

Cooperative Education/Internships

Up to six semester hours in the Political Science major program may be earned in an internship or cooperative work experience. Internships suitable for this purpose, however, are not always available. The major and minor in Criminal Justice requires an internship of three semester hours. Placement and internships must be approved by the Department.

Student/Professional Organizations

The Department sponsors a number of clubs and organizations in which Department majors are required to participate in fulfillment of the Assessment Plan's student portfolio. The AAMU Democrats encourages voter registration and political participation. The Pre-Law Club is a departmental club that assists departmental majors who are interested in attending law school. The Pre-Law Club is also open to interested students in any major. The Political Science program has established a campus chapter of Pi Sigma Alpha Honor Society as well as Student International Studies Association open to all students. The Sociology Program has established a campus chapter of Alpha Kappa Delta, International Honorary Sociological Society and a Sociology/Criminal Justice Club for its majors and minors.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. All Criminal Justice, Political Science and Sociology majors must complete a minor.
9. A grade of 'C' or better is required in the major and minor coursework for Criminal Justice, Political Science and Sociology.
10. All majors and minors are expected to participate in ongoing program area activities.
11. All Department of Social Sciences majors must complete a Senior Record Check for specified program.
12. All Department of Social Sciences majors must complete a Data Profile Sheet.
13. All Department of Social Sciences majors must be assigned an academic advisor.

14. All Department of Social Sciences majors must take PAME I during the first year of matriculation.
15. All Department of Social Sciences majors must pass PAME II during the senior year.
16. All Department of Social Sciences majors must participate in the Reading Across the Campus and Community (RACC) program.
17. All Departmental majors are encouraged to participate in a cooperative work experience or internship.

Criminal Justice
123 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
	MTH 110 or higher	3		Fine Arts Elective[1]	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	1st half of: (101/102) or (201/202)	3	HIS	2nd half of: (101/102) or (201/202)	3
	PED/MSC/HED Elective[1]	2		CS 101, MIS 213	3
		16			17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
PSY 201	General Psychology	3	PHL 201	Intro to Philosophy[2]	3
ENG 205	General Speech	3	ECO	Elective[1]	3
PSC 201	Intro to Political Science[2]	3	CRJ 251	Rules of Evidence[2]	3
CRJ 250	Intro to Criminal Justice[2]	3	CRJ	Support Elective	3
		15			15

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 304	Advanced Composition[2]	3	SOC 201	Intro to Sociology[2]	3
CRJ 252	Criminal Law & Procedure[2]	3	CRJ	Major Elective[2]	3
	SOC 301[2], PSY 301[2], ECO 271[2]	3	CRJ	Major Elective[2]	3
CRJ	Support Elective	3	CRJ	Support Elective	3
	Minor Course[3]	3		Minor Course[3]	3
	Minor Course[3]	3		Minor Course[3]	3
		18			18

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
CRJ 254	Intro to Corrections[2]	3	CRJ 458	Internship[2]	3
SOC 443	Social Research[2]	3		Free Elective	3
CRJ	Major Elective[2]	3			6
CRJ 351	Criminology[2]	3			
	Minor Course[3]	3			
	Minor Course[3]	3			
		18			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]Although minors are a minimum 18 hours, some may require an additional 1-2 hours. Please check the Bulletin.

Political Science
123 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
	MTH 110 or higher	3		ART 101	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	101, 102	3		CS 101, MIS 213	3
	PED/MSC/HED Elective[1]	2	MUS 101	Music Appreciation	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 201	American History I Sequence	3	HIS 202	American History II Sequence	3
ENG 203	World Literature II	3	ENG 404	Survey of African Amer. Literature	3
ECO	Elective[1]	3		PSY 201 or SOC 201	3
ENG 205	General Speech	3	PSC 205	American Government[2]	3
PHL 201	Intro to Philosophy	3		Minor Course[3]	3
PSC 201	Intro to Political Science[2]	3	HIS 304	African American History	3
		18			18

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 304	Advanced Composition	3		PHL 303[2], PSY 301[2], ECO 271[2]	3
GEO 214	World Regional Geography	3	PSC 310	Blacks in American Politics[2]	3
PSC 206	State and Local Government[2]	3		Free Elective	3
	Minor Course[3]	3		Minor Course[3]	3
	Minor Course[3]	3		Minor Course[3]	3
		15			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
PSC 307	Comparative Govt[2]	3	PSC 401	Western Political Thought[2]	3
PSC	Major Elective[2]	3	PSC 408	International Relations[2]	3
PSC	Major Elective[2]	3		DSS Elective	3
	Minor Course[3]	3	PSC	Major Elective[2]	3
		12			12

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]Although minors are a minimum 18 hours, some may require an additional 1-2 hours. Please check the Bulletin.

Sociology
123 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
	MTH 110 or higher	3		ART 101, MUS 101	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
HIS	Elective[1]	3		CS 101, 102, 104	3
	PED/MSC/HED Elective[1]	2			14
		16			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
SOC 201	Intro to Sociology	3	SOC 210	Social Problems	3
MIS 213	Computer Applications in Business	3	ENG 205	General Speech	3
HIS	101, 102	3	ECO	Elective[1]	3
PSY 201	General Psychology	3	PHL	Elective	3
SOC	Major Elective[2]	3		SOC Support Elective	3
		18			18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 304	Advanced Composition	3	SOC	Major Elective[2]	3
	SOC 301[2], PSY 301[2], ECO 271[2]	3	SOC	Major Elective[2]	3
SOC	Major Elective[2]	3		Minor Course[3]	3
	SOC Support Elective	3		Minor Course[3]	3
	Minor Course[3]	3		Minor Course[3]	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
SOC 212	Marriage and the Family[2]	3	SOC 443	Social Research[2]	3
SOC 441	Sociological Theory[2]	3	SOC 450	Senior Seminar[2]	3
	Free Elective	3	SOC	Major Elective[2]	3
	SOC Support Elective	3		Minor Course[3]	3
	Minor Course[3]	3			12
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]Although minors are a minimum 18 hours, some may require an additional 1-2 hours. Please check the Bulletin.

Concentrations, Minors & Electives

(PSC) SECONDARY EDUCATION - GENERAL SOCIAL SCIENCE TEACHER (6-12) CONCENTRATION (SGSS)

Total Hours – 141. MinGPA 2.5. Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – ENG 203 & 204	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1,3]	4	
Lec/Lab	See GenEd Listing[1,3]	4	
Math	See GenEd Listing[1]	3	
			11

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	HIS 101 & 102	6	
Economics	See Area V		
Soc/Beh Sci	PSY 201 & GEO 214	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
Economics	See GenEd Listing[1]	3	
SOC 201 Intro to Sociology		3	
HIS 201 American History I		3	
HIS 202 American History II		3	
			19
			60

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
PHL 303 Advanced Applied Reasoning	3	
HIS 304 African American History	3	
		14
		74

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
SED 423 Teaching Soc Science in Sec Schools	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 494 Clinical Experiences in Sec Schls	6	
SED 495 Internship[4] (also Prof Study course)	12	
		35

TEACHING FIELD

MinGPA 2.5. MinGrade C.

PSC 201 Intro to Political Science	3	
PSC 205 American Government	3	
PSC 206 State and Local Government	3	
PSC 307 Comparative Government	3	
PSC 310 Blacks in American Politics	3	
PSC 397 Program Seminar I	0.5	
PSC 398 Program Seminar II	0.5	
PSC 401 Western Political Thought	3	
PSC 408 International Relations	3	
PSC 497 Program Seminar III	0.5	
PSC 498 Program Seminar IV	0.5	
3xx-4xx PSC Major Electives	9	
		32
		67

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3]The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

NOTE: One EPP General Study math course requires a grade of ≥ C.

POLITICAL SCIENCE MINOR

MinGPA 2.0. MinGrade C.

PSC 201 Intro to Political Science	3
PSC 205 American Government	3
PSC 206 State and Local Government	3
PSC 1xx-4xx Elective	9
	18

(PSC) INTERNATIONAL RELATIONS MINOR

MinGPA 2.0. MinGrade C.

PSC 307 Comparative Government	3
PSC 401 Western Political Thought	3
PSC 408 International Relations	3
And Any **NINE HOURS** of the following:	
PSC 309 Introduction to African Politics	3
PSC 312 Revolution in Third World	3
PSC 313 U.S. Foreign Policy	3
PSC 314 Politics of the Middle East	3
PSC 320 International Political Economy	3
HIS 303 History of Africa	3
HIS 305 Modern Asia	3
HIS 402 History of Latin America	3
HIS 403 Modern Europe	3
GEO 214 World Regional Geography	3
GEO 315 Political Geography	3
ECO 446 International Trade and Policy	3
MGT 458 International Business	3
*International Internship	3-6
*Structured Study Abroad	3-6
	18

SOCIOLOGY MINOR (nonSOC mjr)

MinGPA 2.0. MinGrade C.

SOC 201 Introduction to Sociology	3
SOC 210 Social Problems	3
SOC 441 Sociological Theory	3
SOC 1xx-4xx Elective	9
	18

*Students may also receive either 3-6 elective credit hours by participating in an approved international internship program or 3-6 elective credit hours from approved structured study abroad program of 8-10 weeks. Participation in either of these programs requires a documented specified program of learning outcomes which must be approved by the student's Department Chair and the Director of International Programs.

CRIMINAL JUSTICE MINOR (nonCRJ mjr)

MinGPA 2.0. MinGrade C. Dpt permit to enroll, not on academic probation.

CRJ 250 Introduction to Criminal Justice	3
CRJ 251 Rules of Evidence in Crim Cases	3
CRJ 351 Criminology	3
And Any **NINE HOURS** of the following:	
CRJ 1xx-4xx	6
SOC 253	3
SOC 323	3
	18

(PSC) HISTORY MINOR

MinGPA 2.0. MinGrade C.

HIS 101 World History I	3
HIS 102 World History II	3
HIS 104 Intro to History as a Discipline	3
HIS 201 American History I	3
HIS 202 American History II	3
HIS 3xx-4xx	3-6
	18

(PSC) PHILOSOPHY MINOR

MinGPA 2.0. MinGrade C.

PHL 206 Ethics	3
PHL 301 History of Western Philosophy I	3
PHL 302 History of Western Philosophy II	3
PHL 203, 303	3
And Any **SIX HOURS** of the following courses:	
PHL 3xx-4xx Elective	3
PHL 3xx-4xx Elective	3
PSC 401 Western Political Thought	3
	18

DSS ELECTIVES

PSC MAJOR ELECTIVES

CRJ MAJOR ELECTIVES

CRJ 1xx-4xx	3
GEO 1xx-4xx	3
HIS 1xx-4xx	3
PHL 1xx-4xx	3
PSC 1xx-4xx	3
SOC 1xx-4xx	3

PSC 3xx-4xx	3

CRJ 1xx-4xx	3
SOC/CRJ 253 Deviant Behavior	3
SOC/CRJ 323 Juvenile Delinquency	3
SOC/CRJ 351 Criminology	3

SOC MAJOR ELECTIVES

SOC 2xx-4xx	3

CRJ SUPPORT ELECTIVES

GEO 1xx-4xx	3
HIS 1xx-4xx	3
PHL 1xx-4xx	3
PSC 1xx-4xx	3
PSY 1xx-4xx	3
SOC 1xx-4xx	3

SOC SUPPORT ELECTIVES

CRJ 1xx-4xx	3
GEO 1xx-4xx	3
HIS 1xx-4xx	3
PHL 1xx-4xx	3
PSC 1xx-4xx	3
PSY 1xx-4xx	3

FREE ELECTIVES

Any course except developmental courses.

College of Education, Humanities and Behavioral Sciences

Dr. Curtis Martin, Dean
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Introduction

The College of Education, Humanities and Behavioral Sciences is committed to educate and serve students from diverse, underserved and oppressed populations from rural and urban communities. The College is exceptionally dedicated to preparing entry and advanced level professionals who are equipped to compete in the global market. One core area of our mission is to prepare students to demonstrate measurable success in their identified area of competence. Students are provided with a knowledge base platform for ongoing professional development within their perspective disciplines. The College strives to compile, review and coordinate a curriculum that focuses on core competencies that are compliant with the governing accrediting bodies.

Three departments constitute the Education component of the College: The Department of Reading, Elementary/Early Childhood Education and Special Education, the Department of Educational Leadership and Secondary Education, and the Department of Health Sciences, Human Performance and Communicative Sciences and Disorders. Students in these departments are trained to become educators, educational leaders and speech therapists, among many other professions.

The Department of English and Foreign Languages and the Department of Visual, Performing and Communication Arts constitute the Humanities component of the college. Through courses in literature, language, music, art and film, students are exposed to a variety of modes that humans, through history and space, have used to express their tragedies, their triumphs and their aspirations, with the end to make them appreciate humanity's diverse cultures and heritage.

The interdisciplinary specialties in the Department of Behavioral Sciences share a unique alignment. Students are prepared for professional practice at the entry and advanced levels for practice with at-risk vulnerable populations. Students are also trained to examine and develop policies for addressing the needs of at-risk, vulnerable and oppressed populations in a global society.

Mission Statement/Objectives

Achievement in the College of Education, Humanities and Behavioral Sciences is demonstrated through the successful matriculation and graduation of well-trained, qualified, highly skilled students who are able to effectively communicate and provide quality service to society at large. Importantly, students are prepared for advanced levels of education through the attainment of terminal degrees in their respective disciplines. The College provides critical thinking skills necessary for professional development, research and practice.

College Organization

The College of Education, Humanities and Behavioral Sciences is organized into six (6) departments, each headed by a department chair. The departments are (1) Educational Leadership and Secondary Education, (2) English and Foreign Languages; (3) Health Sciences, Human Performance and Communicative Disorders; (4) Reading, Elementary/Early Childhood and Special Education; (5) Social Work, Psychology and Counseling, and; (6) Visual, Performing and Communication Arts.

Programs Offered

Bachelor of Arts Degrees		
MAJOR	CONCENTRATION	MINOR
Communications Media	Operations Performance Production	Communications Media
Cultural Studies	Middle East	
English	English Language Arts Teacher Cert. (6-12)	English
Psychology		Psychology
Social Work		

Bachelor of Music Degree		
MAJOR	CONCENTRATION	MINOR
Music	Business Choral Teacher Certification (P-12) Instrumental Teacher Certification (P-12) Performance	Music-Choral Music-Instrumental

	Piano Pedagogy	

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Pre-Elementary Education – Teacher Certification (P-3)		
Elementary Education – Teacher Certification (K-6)		
Communicative Sciences and Disorders		
General Art	Graphic Design Studio Art Visual Arts Teacher Certification (P-12)	Art History Graphic Design Studio Art
Physical Education – Teacher Certification (P-12)		
Special Education – Pre-Elementary Teacher Cert. (P-3)		
Special Education – Collaborative Teacher Cert. (K-6)		
Special Education – Collaborative Teacher Cert. (6-12)		
Sport Management		

Policy Statement – Teacher Education Programs are approved by the Alabama State Board of Education. Because of the necessity to remain current and the changes that may occur in Certification by the State Board of Education, the College of Education, Humanities and Behavioral Sciences reserves the right to change the requirements in each Teacher Education program as necessary. It is the sole responsibility of the student to be aware of and to follow his or her State-Approved Teacher Education Program as shown on the appropriate State-Approved Checklist.

Financial Aid/Scholarships

Information on available financial assistance is provide through the Office of Financial Aid, and jobs and further education is available through both the program area and the Office of Career Development Services and Placement.

Stipulations – The First-Year Teacher Quality Assurance Program is designed to assist those who:

1. Teach in the State of Alabama and who have successfully completed an approved program of study in Teacher Education;
2. Have been recommended for certification by Alabama A&M University, and
3. Should have current state teacher evaluation within two years after program completion.

First year teachers who have met the above criteria are eligible for supervisory assistance and/or remediation from the College of Education, Humanities and Behavioral Sciences faculty. In situations where the Dean of Education or his/her designee has determined that the assurance program applies, there should not be any cost to either the teacher or the employing school system. The assurance program does not apply in situations where the teacher has been given an out-of-field teaching assignment. If assistance is requested and agreed upon by the College of Education, Humanities and Behavioral Sciences, the school system personnel, and the teacher, assistance will be provided throughout the first two years of teaching.

Procedure for Initiating Requests for Assistance – To initiate a request for assistance when the teacher's performance has been assessed as being unsatisfactory, the school principal or the central office supervisory personnel should contact the Dean of the College of Education, Humanities and Behavioral Sciences, (256) 372-5500. The Dean, his/her designees, and the appropriate department chair will determine the nature and extent of the faculty's involvement. The school principal and/or the supervisory personnel must be willing to share all information pertinent to the first-year teacher's classroom performance.

Service to School Systems – Beginning Teacher Assistance Information – No cost or low cost ways to assist beginning teachers to adjust to their new jobs and to enhance their professional growth.

Request for Assistance – Investigation will proceed and assistance will be provided in addressing verified performance problems of graduates from the College of Education, Humanities and Behavioral Sciences upon appropriate notification.

Quick Response – Immediate access is available to the First-Year Teacher Quality Assurance Program through the Dean's Office of the College of Education, Humanities and Behavioral Sciences.

Service to Beginning Teachers – Beginning Teacher Clients – First-year teachers will have the opportunity to share common concerns and problems, as well as to gather sound, practical and research-based information on topics of concern from their experiences and from knowledgeable professional educators.

Internship (Student Teaching)

Prior to enrolling in the internship (student teaching), candidates shall meet all the Teacher Education Program admission criteria described by the College of Education, Humanities and Behavioral Sciences before the first day of the internship (student teaching).

1. The teacher candidate must have been admitted to a Teacher Education program.
2. The teacher candidate must have completed 100% of course work.
3. The teacher candidate must have obtained and maintained a minimum 2.5 grade point average in general studies, professional studies, the teaching field and overall.
4. The teacher candidate must have a passing score on the appropriate Praxis II examination.
5. The teacher candidate must have successfully completed a minimum of 205 clock hours in diverse accredited public and/or private school settings.
6. The teacher candidate must reaffirm the fingerprint/background clearance.
7. The teacher candidate must have removed all grades of "Incomplete."
8. The teacher candidate must have repeated all courses in professional studies and the teaching field with grades of "D" and "F."

Admission Policy

In accordance with the College of Education, Humanities and Behavioral Sciences policy, all students registering for the first course in the College of Education, Humanities and Behavioral Sciences must have an overall grade point average of 2.5 or higher.

Admission to Alabama A&M University does not qualify a student for admission to the Teacher Education Program. Eligibility for admission to a Teacher Education Program is determined after completion of the sophomore year at the University. Admission to the Teacher Education Program serves as the first level of assessment under the conceptual framework, "The Educator as a Service Professional." The College of Education, Humanities and Behavioral Sciences has clearly defined criteria for admitting students to a Teacher Education Program.

1. Candidates are required to follow the admissions procedure described below in order to be admitted to the Teacher Education Program:
   a. The teacher candidate must submit a formal application for admission to the teacher education program. A $10.00 application fee is required.
   b. A grade of "C" or better must be earned in English 101 and 102, Composition.
   c. Candidates are required to secure and maintain a cumulative 2.5 grade point average in the following areas:
      1. General Studies
      2. Professional Studies
      3. Teaching Field
      4. Overall
   e. The teacher candidate must submit a negative TB skin test or chest x-ray completed by a licensed physician.
   f. The teacher candidate must take and pass all three components (reading, writing and mathematics) of the Basic Skills Test of the Alabama Prospective Teacher Testing Program.
   g. Early Childhood, Elementary, Collaborative (K-6) and Early Childhood Special Education majors must take the Praxis II examination.
   h. Each candidate must clear a fingerprint/background check. The candidate shall be fingerprinted by a service provider approved by the Alabama State Department of Education.
   i. The teacher candidate must be interviewed by a panel of faculty members and professional P-12 school personnel. Prior to the interview, the candidate must have attended a pre-interview session.
   j. The teacher candidate must purchase a subscription to Live Text prior to enrolling in the courses listed below (#2).
2. The teacher candidate who transfers from another institution to Alabama A&M University, and who officially declares teacher education as a major, shall follow the guidelines for admission as indicated above. Transfer candidates shall take and pass at least 12 credit hours as outlined below to be eligible for formal admission into the teacher education program. In the Professional Studies block of the undergraduate program candidates may only transfer in from other colleges/universities a Human Growth and Development course. In the Teaching Field or Content block of the undergraduate programs, candidates may not transfer in any

courses. (This policy does not include the area of Secondary Education, where courses in the Teaching Field block can be accepted as transferred courses with advisor approval.)

FED 200	Introduction to Teacher Education
HDF 211	Child Growth and Development (Early Childhood, Elementary, Collaborative K-6, Early Childhood Special Education)
FED 212	Human Growth and Development (Secondary Education, Collaborative Teacher (6-12))
FED 215	Instructional Technology (Career Technical candidates see State-Approved Checklist.)
SPE 201	Introduction to the Study of Exceptional Children
EDU 306	Word Attack (Elementary and Early Childhood Education only)

A candidate may not enroll in more than the four professional studies courses listed above before meeting all criteria for unconditional admission to the Teacher Education Program.

College Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements. Requirements for each program can be found in the departmental sections of the Bulletin.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Students in the College of Education, Humanities and Behavioral Sciences must undergo a fingerprinting/background check for the teaching programs. A check of national and state criminal databases will be utilized.

Alabama Teachers Certificate

This section includes the general minimum requirements of the state for certification. A student who files an application must complete the curriculum approved by the State of Alabama. The completion of the curriculum approved for certification and all other requirements for graduation with a Bachelor of Science degree will qualify a person for a Class B Professional Educator's Certificate. The area of certification offered by the State is determined by a program pursued to completion.

1. The teacher candidate must have completed all course requirements that are on the applicable State-Approved Checklist for his or her particular major area or areas.
2. The teacher candidate must pass the Senior Exit Examination required by the College of Education, Humanities and Behavioral Sciences with a score of 80% or better. Candidates in Early Childhood Education, Elementary Education, Collaborative Teacher, Early Childhood Special Education, and Technical Education must take and pass both portions of the Senior Exit Examination (Basic Professional and Teaching Field). Secondary Education, Physical Education, Art Education, and Music must only take and pass the Professional Basic portion of the Senior Exit Examination.
3. Candidates MUST apply for certification in the State of Alabama BEFORE clearing for graduation.
4. A $30 nonrefundable application fee in the form of a U.S. postal money order made payable to the State Department of Education must accompany each application for a teacher's certificate and a $15.00 processing fee in the form of a U.S. Postal money order made payable to Alabama A&M University.
5. If the candidate is interested in teaching in another state, they must contact the State Department in the applicable state for certification requirements in that state.

Department of Educational Leadership and Secondary Education

Dr. Derrick Davis, Interim Chair
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Introduction

The Department of Educational Leadership and Secondary Education seeks to provide instruction for undergraduate and graduate teacher candidates and other school personnel in the areas of educational history, theories, philosophies, and research; methods and materials for teaching in secondary schools; and policies and procedures of administering schools and educational agencies. In addition to teaching subject matter content, the faculty places emphasis on candidate mastery of techniques and strategies of integrating technology into teaching subject matter to a diverse population of students. The department faculty also conducts research and provides professional services to schools, community agencies, and to professional organizations and associations.

Mission Statement/Objectives

The Secondary Education curriculum provides the opportunity for teacher education candidates to develop an integrated personality, a background of general cultural knowledge, and special proficiency in selected fields of subject matter. The program is organized so the student is given frequent opportunities to observe and to apply educational practices and principles in real school-community situations. The goals of the teacher education program in Secondary Education are as follows:

1. To provide candidates with fundamental knowledge and understanding in the general field of education and the processes of education in American society and the broader community.
2. To provide candidates with competencies in the use of basic tools of education.
3. To provide candidates with the fundamental knowledge for performing in classroom situations in accordance with current professional thinking and research.
4. To provide candidates with opportunities to apply theory to practice in real classroom situations under the direction of a practicing educator.
5. To provide curricula which will enable candidates in secondary education to develop the skills in human relations necessary for working effectively in multi-cultural global settings.
6. To provide curricula experiences for the development of knowledge, understanding, and skills for resolving problems of teaching and learning in inner city and rural schools.
7. To provide candidates with competence in instructional technology and their subject areas (English language arts, general social science, mathematics, etc.)
8. To provide candidates with opportunities to develop professional competence in teaching subject area disciplines.
9. To provide candidates with opportunities to participate in interdisciplinary learning experiences.

Programs Offered

The teacher certification programs are offered through the department that houses the major. For example – The Biology Teacher Certification program is offered through the Biology Department in the College of Agricultural, Life and Natural Sciences.

Financial Aid/Scholarships

Information on available financial assistance is provided through the Office of Financial Aid, and jobs or further education information is available through the program area and the Office of Career Development Services and Placement.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Students in the College of Education, Humanities and Behavioral Sciences must undergo a fingerprinting/background check for the teaching programs. A check of national and state criminal databases will be utilized.

Department of English and Foreign Languages

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Introduction

The Department of English and Foreign Languages offers two Bachelor of Arts degrees: Cultural Studies and English. At this time, the regional concentration available for Cultural Studies is Middle Eastern Literature and Culture. In English, students may pursue a program in British and American Literature with opportunity to take, in consultation with their advisors, 24 hours of elective courses within or outside the department. Alternatively, they may complete the requirements for certification in teaching English Language Arts at the secondary (6-12) level. The department is also responsible for providing General Education courses for the university in composition, literature, and speech.

Mission Statement/Objectives

The Department of English and Foreign Languages helps students develop an appreciation for language and literature, become more competent in language usage, and refine their critical and analytical skills. Instruction in the major and minor curricula provides training that will enable students to advance their knowledge of the disciplines and engage in research, as well as creative and practical experiences.

Programs Offered

Bachelor of Arts Degrees		
MAJOR	CONCENTRATION	MINOR
Cultural Studies	Middle East	
English	English Language Arts Teacher Cert. (6-12)	English

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. A grade of “C” or above must be earned in each major course.
9. Complete six hours of a foreign language.
10. All students must take the departmental Exit Exam in their senior year as part of the requirement to obtain a BA degree in English.

Cultural Studies
123 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3	ART 101	Art Appreciation	3
HIS 101	World History I	3	GEO 214	World Regional Geography	3
	PED 102, MSC 101, HED 101	2	CS 101	Fund of Comp & Info Systems	3
	Elem Foreign Language Sequence[2,3]	3		Elem Foreign Language Sequence[2,3]	3
		15			16

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 203	World Literature I Sequence[2]	3	ENG 204	World Literature II Sequence[2]	3
PSY 201	General Psychology	3	ENG 205	General Speech	3
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
GEO 215	Global Profile[2]	3	ECO	Economics Elective[1]	3
	Concentration Course[4]	3		Concentration Course[4]	3
		16			16

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 400	Discourse Analysis[2]	3	SOC 334	Cultural Anthropology[2]	3
HUM 301	Film and Culture[2]	3		Concentration Course[4]	3
	Concentration Course[4]	3		Concentration Course[4]	3
	3xx-4xx Elective	3		Concentration Course[4]	3
	3xx-4xx Elective	3		Concentration Course[4]	3
		15			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HUM 407	Senior Seminar[2] [CS]	3	ENG 404	Survey of African Amer. Literature[2]	3
MGT 458	International Business[2]	3	ENG 420	Post-Colonial Theory & Literature[2]	3
	Free Elective	3		Free Elective	3
	3xx-4xx Elective	3		Free Elective	3
	3xx-4xx Elective	3		Free Elective	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]French or Spanish.
[4]Although concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

English
125-126 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3	CS 101	Fund of Comp & Info Systems	3
	Elem Foreign Language Sequence[2,3]	3		Elem Foreign Language Sequence[2,3]	3
	ART 101, MUS 101	3	HIS 101	World History I	3
	PED/MSC/HED Elective[1]	2		Soc/Behav Sci Elective[1]	3
		15			16

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 203	World Literature I Sequence	3	ENG 204	World Literature II Sequence	3
BIO 101	General Biology I	3	PHY 101	Physical Science I	3
BIO 101L	General Biology I Lab	1	PHY 101L	Physical Science I Lab	1
ENG 201	Survey of English Literature I[2]	3	ENG 202	Survey of English Literature II[2]	3
HIS 102	World History II	3	ECO	200, 231	3
ENG 205	General Speech[2]	3	ENG	305[2], 306[2], 408[2]	3
		16			16

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 307	Shakespeare[2]	3	ENG 308	Literary Criticism[2]	3
ENG 405	Advanced Grammar[2]	3	PHL 201	Intro to Philosophy	3
ENG 304	Advanced Composition[2]	3	ENG	401[2], 402[2], 420[2]	3
ENG 207	Survey of American Lit I[2]	3	ENG 208	Survey of American Lit II[2]	3
	HUM 301[2], ENG 400[2], 412[2]	3	ENG	303[2], 310[2], 311[2]	2-3
		15		Free Elective	3
					17-18

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 404	Survey of African Amer. Literature[2]	3	ENG 407	Senior Seminar[2] [CS]	3
	Free Elective	3	ENG 309	History of the English Language[2]	3
	Free Elective	3		3xx-4xx Elective	3
	Free Elective	3		3xx-4xx Elective	3
	3xx-4xx Elective	3		3xx-4xx Elective	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]French or Spanish.

Concentrations, Minors & Electives

(ENG) SECONDARY EDUCATION - ENGLISH LANGUAGE ARTS TEACHER (6-12) CONCENTRATION (SELA)

Total Hours – 129. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	TEL 101	3	
Literature	Sequence – ENG 201& 202	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1,3]	4	
Lec/Lab	See GenEd Listing[1,3]	4	
Math	See GenEd Listing[1]	3	
			11

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
Foreign Lang Sequence – FRE 101/102 OR SPA 101/102		6	
			13
			54

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8
		62

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
SED 424 Teaching Science in Sec Schools	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 494 Clinical Experiences in Sec Schls	6	
SED 495 Internship[4] (also Prof Study course)	12	
		35

TEACHING FIELD

MinGPA 2.5. MinGrade C.

ENG 203 World Literature I	3	
ENG 204 World Literature II	3	
ENG 207 Survey of American Lit	3	
ENG 208 Survey of American Lit	3	
ENG 304 Advanced Composition	3	
ENG 307 Shakespeare	3	
ENG 309 History of English Language	3	
ENG 310 Journalism Workshop	2	
ENG 405 Advanced Grammar	3	
ENG 407 Senior Seminar	3	
HUM 301 Film & Culture	3	
		32
		67

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3]The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

NOTE: One EPP General Study math course requires a grade of ≥ C.

(CUL) MIDDLE EAST CONCENTRATION

MinGPA 2.5. MinGrade C.

FRS 101 Basic Farsi I	3
FRS 102 Basic Farsi II	3
FRS 201 Intermediate Farsi I	3
FRS 202 Intermediate Farsi II	3
HUM 310 Middle Eastern Lit in Translation	3
HUM 311 Islamic Mysticism	3
PSC 312 Revolutions in the Third World	3
PSC 313 US Foreign Policy OR	3
PSC 314 Politics of the Middle East	
	24

(ENG) ENGLISH MINOR

MinGPA 2.0. MinGrade C.

ENG 201 Survey of English Literature I	3
ENG 202 Survey of English Literature II	3
ENG 207 Survey of American Literature I	3
ENG 208 Survey of American Literature II	3
ENG 307 Shakespeare	3
ENG 308 Literary Criticism **OR**	3
ENG 309 History of the English Language	
	18

FREE ELECTIVES

Any course except developmental courses.

Department of Health Sciences, Human Performance and Communicative Disorders

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Introduction

In alignment with the mission of Alabama A&M University, the Department of Health Sciences, Human Performance, and Communicative Disorders is committed to offering quality academic training and professional experience in its undergraduate degree program offerings. The Health and Physical Education Program prepares future professionals in Physical Education (P-12) and Sport Management. Students in the teaching program may seek an Alabama Class "B" Teacher's Certificate. A practicum and internship (teaching majors) or externship (non-teaching majors) is required. The Bachelor of Science degree in the Communicative Sciences and Disorders Program is a pre-professional program that prepares students for graduate study. Students with this degree qualify to apply for the speech-language pathology assistant teaching certificate through ALSDE and qualify to apply for a clinical speech pathology assistant license through ABESPA.

Mission Statement/Objectives

Communicative Sciences and Disorders (CSD) Program:

The purpose of the Communicative Sciences and Disorders (CSD) Program is to provide an education and scholarly environment in which undergraduate and graduate students receive quality academic training and professional experience in the field of Speech-Language Pathology. The program functions within a student-centered environment devoted to learning, research, scholarship, creativity, professional expertise and personal development designed to ensure that students are ethical, knowledgeable, skillful and capable of working independently and in collaboration with clients, families and other professionals. The commitment of the CSD Program to the University's mission is reflected in the undergraduate and graduate academic course work in normal and abnormal development and behavior across the human life span; in course work that engenders awareness of issues in culturally diverse populations, in human communication disorders, in diagnostic and treatment methodologies, in clinical practica requirements and in technology-integrated course work teaching independent research skills that support lifelong learning.

The field of speech-language pathology involves the identification, assessment and treatment of a wide variety of communication disorders (congenital, developmental and acquired) in both children and adults. Such disorders may include phonological (articulation), language, voice, fluency (stuttering) and hearing problems. Speech-language pathologists also participate in the assessment and management of clients with swallowing and other related disorders. Speech-language pathologists work in a variety of locations including hospital, community health centers, schools, universities, other special institutions, and in private practice.

Health and Physical Education (HPE) Program:

The mission of the Health and Physical Education (HPE) Program is to provide programs which prepare future professionals in the following areas: Physical Education (P-12), and Sport Management. In addition to teaching concepts, theories, methods and materials, the faculty places emphasis on strategies and techniques of integrating technology into the teaching of physical education. The faculty also engages in research, provides service to the university and the community, and participates in professional organizations and associations.

The objectives of the physical education program are to prepare professionals who:

1. Demonstrate knowledge of the historical, philosophical, psychological and sociological perspectives of physical education.
2. Demonstrate knowledge of the biological and other sciences required to understand the human body and principles of human movement.
3. Demonstrate knowledge and show appreciation for wellness and related aspects of physical fitness.
4. Demonstrate possession of the skills needed for the assessment, development and maintenance of cardiovascular and physical fitness for a lifetime.
5. Possess the competencies needed to plan and teach activities for motor skill development designed for multicultural and least restrictive educational settings.
6. Possess the skills needed to teach a variety of motor skill activities.
7. Demonstrate the ability to organize, implement, administer and evaluate the physical education program at all grade levels.
8. Demonstrate master of knowledge and skills needed for the prevention and treatment of injuries.
9. Demonstrate knowledge of and the ability to apply techniques of coaching and officiating.
10. Demonstrate knowledge of current trends in physical education and an awareness of the need to be informed.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR

Communicative Sciences and Disorders		
Sport Management		
Physical Education –Teacher Certification (P-12)		

Student/Professional Organizations

The Communicative Sciences and Disorders Program houses the AAMU Chapter of the National Student Speech-Language-Hearing Association (NSSLHA) for CSD majors and the Health and Physical Education Program houses the Physical Education Major Club (PEM) for HPE majors.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Students in Physical Education (P-12) and Communicative Sciences and Disorders must undergo a fingerprinting/background check. A check of national and state criminal databases will be utilized.
8. Communicative Sciences and Disorders majors must undergo a speech-language and hearing screening.
   - The purpose of this screening is to identify any speech, language or hearing problem that may interfere with a student's academic or clinical progression in the program.
   - Students must demonstrate the ability to speak Standard American English intelligibly including modeling of all English phonemes.
   - Students will be enrolled in the AAMU Speech and Hearing Clinic free of charge if test results deem intervention necessary.
9. Any assigned remedial courses (e.g., reading, mathematics, or English) are in addition to the required curriculum. Credit hours earned in these courses cannot be applied toward the total hours needed to fulfill degree requirements.
10. Grades lower than "C" in the major field of the student will not be counted toward the major/minor requirements.
11. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.

Communicative Sciences And Disorders
131 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
ART 101	Art Appreciation	3	MUS 101	Music Appreciation	3
	Science Elective[3]	3	BIO 103	Princ of Biology I	3
	Science Elective Lab[3]	1	BIO 103L	Princ of Biology I Lab	1
HIS	1st half of: (101/102) or (201/202)	3	PHY 101	Physical Science[2]	3
SPA 101	Elementary Spanish I[2]	3	PHY 101L	Physical Science & Lab[2]	1
		17	MTH 112	Pre-Calculus Algebra	3
					18

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
MIS 213	Comp Applications in Business	3	HIS	2nd half of: (101/102) or (201/202)	3
	HED 101, PED[1], MSC 101	2	CSD 205	Language Development for SLP[2]	3
CSD 202	Survey of Comm Disorders[2]	3	CSD 207	Speech & Hearing Science[2]	2
CSD 203	Phonetics[2]	3	HDF 211	Child Growth & Development	3
CSD 204	A/P of Speech Mechanism[2]	3	CSD 215	Artic/Phonological Disorders[2]	3
		17			17

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 205	General Speech	3	PSY 201	General Psychology	3
SOC 201	Intro to Sociology	3	CSD 310	Clinical Procedures[2]	3
CSD 307	Princ of Diagnostics[2]	3	CSD 312	Language Intervention[2]	2
CSD 308	Basic Audiology[2]	3	CSD 323	Comm for the Hearing Impaired[2]	3
CSD 324	Language, Literacy & Learning[2]	3	CSD 332	Augment & Alternative Comm[2]	3
		15	CSD 414	Advanced Speech Pathology[2]	3
					17

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
PSY 301	Elementary Behavioral Statistics[2]	3	ECO	Economics Elective[1]	3
ENG 405	Advanced Grammar[2]	3	CSD 406	Supervised Clinical Practicum II[2]	3
CSD 321	Supervised Clinical Practicum I[2]	3	CSD 421	Multicult Issues in Comm Disorder[2]	3
CSD 415	Foundations of Counseling in CSD[2]	3	CSD 423	Speech/Lang Problems in the Aged[2]	3
CSD 417	M/M in Comm Disorders[2]	3	CSD 425	Senior Seminar[2]	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]See General Education Requirements section of this Bulletin for eligible courses. BIO 101 and BIO 101L are not eligible.

Physical Education – Teacher Certification (P-12)

129 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra[2]	3		HED 101, MSC 101	2
BIO 101	General Biology I[3]	3		Soc/Behav Sci Elective[1]	3
BIO 101L	General Biology I Lab[3]	1	ECO	Elective[1]	3
HIS	See GenEd Listing[1]	3	PED 137	Golf[2]	1
	Fine Arts Elective except TEL 101[1]	3		2nd Soc/Behav Sci Elective[1]	3
		17	PED 111	Tennis[2]	1
					17

Must Apply to Teacher Education

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elc Seq except 207, 208[1]	3	ENG	Literature Elc Seq except 207, 208[1]	3
BIO 102	General Biology II[3]	3	ENG 205	General Speech	3
BIO 102L	General Biology II Lab[3]	1	FED 215	Instructional Technology[2]	3
FED 200	Intro to Education[2]	2	FED 212	Human Growth/Development[2]	3
PED 202	Officiating[2]	2	PED 250	Foundations of HPE[2]	2
SPE 201	Intro to Study of Excep Child[2]	3	PED 226	Team Sports Skills[2]	3
PED 225	Individual Sports Skills[2]	3			17
		17			

Must be admitted to Teacher Education before taking junior-level classes

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
PED 315	Teaching Activity Sports[2]	2	PSY 403	Educational Psychology[2,5]	3
HPE 301	Administration of Health & Phys Ed[2]	3	HPE 304	Kinesiology[2]	3
PED 427	Adaptive Physical Education[2]	3	SPE 326	Mgt of Classroom Behavior[2,5]	3
PED 409	Exercise Physiology[2]	3	PED 412	Motor Behavior[2]	3
FED 300	Foundations of Education[2,5]	2	PED 422	Princ of Coaching/Intramurals[2]	3
PED 133	Intermediate Swimming[2]	1	PED 207	First Aid/CPR[2]	3
PED 107	Gymnastics/Rhythms[2]	1			18
		15			

Apply for Internship

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
PED 305	M/M in Elementary Phys Ed[2,6]	3	PED 495	Internship[4,6] [CS]	12
PED 306	M/M in Secondary Phys Ed[2,6]	3			
HPE 312	Tests & Measurements in HPER[2,5]	3			
SED 409	Reading in the Content Area[2,6]	3			
BIO 221	Human Anat & Physiology I	3			
BIO 221L	Human Anat & Physiology I & Lab	1			
		16			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.
[3]The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.
[5]Must be admitted to EPP to take. [6]Must complete FED 300, 404, PSY 403, SPE 326 to take.
NOTE: MinGPA 2.5 required for Cumulative, GenEd, Prof Studies and Major courses.

Sport Management
122 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3		ART 101, MUS 101	3
BIO 101	General Biology I	3	BIO 102	General Biology II	3
BIO 101L	General Biology I Lab	1	BIO 102L	General Biology II Lab	1
HIS	101, 102	3	PSY 201	General Psychology	3
	PED/MSC/HED Elective[1]	2	CS 101	Fund of Comp & Info Systems	3
		16			17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
TEL 201	Intro to Broadcasting[2]	3	ENG 205	General Speech	3
PED 427	Adaptive PE[2]	3	MKT 315	Princ of Marketing[2]	3
MGT 315	Princ of Management[2]	3	ECO 200	Basic Economics	3
SPM 200	Intro to Sport Management[2]	3	PED 137	Golf[2]	1
		15	PED 111	Tennis[2]	1
			SPM 300	Sport Ethics[2]	3
					17

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HPE 301	Admin in HPER & Sport[2]	3	SPM 403	Legal Aspects of PE & Sport[2]	3
SOC 201	Intro to Sociology	3	PED 207	First Aid/CPR[2]	3
SPM 326	Soc of Sport in Modern Society[2]	3		Track Course	3
	Track Course	3	SPM 314	Sport Facilities & Event Mgt[2]	3
FIN 315	Princ of Finance[2]	3		Track Course	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
SPM 440	Advanced Sport Mgt[2]	3	SPM 445	Externship[2] [CS]	12
	Track Course	3			
SPM 423	Sport Psychology[2]	3			
SPM 425	Contemporary Issues in Sport Mgt[2]	3			
	Track Course	3			
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
NOTE: A cumulative 2.5 GPA is required to graduate from this program.

Concentrations, Minors & Electives

(SPMG) MANAGEMENT TRACK
MinGPA 2.0, MinGrade C

MGT 207 Legal Env & Ethics	3
MGT 332 Organ. Behavior & Theory	3
MGT 350 Managerial Communication	3
MGT 433 Human Resource Management	3
MGT Elective	3
	15

(SPMG) MARKETING TRACK
MinGPA 2.0, MinGrade C

MIS 213 Computer Appl in Business	3
MKT 323 Promotions Management	3
MKT 423 Public Relations	3
MKT 477 Marketing Management	3
MKT Elective	3
	15

Department of Reading, Elementary, Early Childhood and Special Education

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Introduction

The Elementary and Early Childhood Education programs provide instruction for undergraduate and graduate teacher candidates in the theories, methods, and materials relating to learning by young children. In addition to teaching subject matter content, the faculty places emphasis on candidate mastery of techniques and strategies for integrating technology into the teaching of language arts, reading, social studies, mathematics, science, movement and artistic expressions to a diverse population of students. The faculty also conducts research and provides professional services to schools, community agencies, and to professional organizations and associations.

Throughout the United States there is a demand for teachers trained as professionals in providing for the academic and social needs of children identified with mild learning behavioral disabilities. The Special Education Program, described as collaborative in nature, provides a comprehensive teacher training program. The program seeks to provide an education and scholarly environment in which both undergraduate and graduate students receive quality academic training and professional experiences that emphasize areas of exceptional children. The Special Education Program is designed to prepare future teachers of exceptional children. These teacher preparation programs provide opportunity for development of:

- an understanding of the conditions which make children exceptional, and the associated behavioral problems,
- basic knowledge of methods of organization, curriculum development, and instructional procedures for exceptional children, and
- experience with exceptional children through a variety of practicum activities.

The Reading/Literacy Program trains highly qualified educators who can provide high quality research and instruction in the area of reading and literacy. As the only program of its kind in Alabama, our rigorous course of study, and mentorship experiences with top-rated faculty train our students to become future leaders in reading and literacy education.

Mission Statement/Objectives

The objectives of the elementary and early childhood education curricula are designed to develop efficient teachers, principals and supervisors who will have ...

- The professional knowledge skills and dispositions necessary to provide high-quality instructional programs to pre-kindergarten through sixth grade students who are preparing for life in the 21st century;
- A sincere commitment to the teaching profession as a career of service to students, families and the larger community;
- A thorough understanding of children;
- An interest in guiding youth to higher ideals and standards of living;
- A motivation and life-long commitment to grow professionally;
- A philosophy of life that will help them to enrich their own lives and influence others in achieving optimum growth and development.

The objectives of the special education curricula are:

- To provide training in the skills, attitudes, and technologies necessary for professional competence in a variety of educational and clinical settings
- To provide students with opportunities to acquire an understanding of the conditions which make students exceptional
- To provide the associated behavioral characteristics of exceptional children, basic knowledge and methods of assessment, curriculum development and instructional procedures for exceptional children.
- To develop a knowledge of curriculum evaluation procedures for exceptional children and youth.

The overall objective of the Ph.D. degree in Reading/Literacy is to train Reading/Literacy professionals to teach in the field. These educators will serve to improve reading and literacy for individuals of varying abilities and achievement levels at the P-12 and adult levels by teaching, conducting research, performing and monitoring strategy applications, and providing professional development.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Pre-Elementary Education – Teacher Certification (P-3)		

Elementary Education – Teacher Certification (K-6)		
Special Education – Pre-Elementary Teacher Cert. (P-3)		
Special Education – Collaborative Teacher Cert. (K-6)		
Special Education – Collaborative Teacher Cert. (6-12)		

Financial Aid/Scholarships

Information on available financial assistance is provided through the Office of Financial Aid, and jobs or further education information is available through both the program area and the Office of Career Development Services and Placement.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Students in the College of Education, Humanities and Behavioral Sciences must undergo a fingerprinting/background check for the teaching programs. A check of national and state criminal databases will be utilized.
9. Complete FED 200, 215, 300, 404, PSY 403, HDF 211 before enrolling in any materials and methods course.
10. Complete a practicum in area schools for the following materials and methods courses: ECE 301, 302, 303, 304, 305, 407.
11. Follow the plan of study in recommended sequence.

Advisors are assigned through the program area. Students are requested to check with advisors at least twice each semester for program updates.

Courses offered in the program toward the candidate's major are considered professional education courses.

Pre-Elementary Education (P-3) – Teacher Certification

128 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 110	Finite Mathematics[2]	3		Fine Arts Elective[1] except TEL 101	3
BIO 101	General Biology I[2,3]	3	BIO 102	General Biology II[2,3]	3
BIO 101L	General Biology I Lab[2,3]	1	BIO 102L	General Biology I Lab[2,3]	1
ENG	Literature Elc[1,2] except 207, 208	3	MTH 112	Pre-Calculus Algebra[2]	3
	HED 101, PED[1], MS,C 101	2	FED 215	Instructional Technology[2]	3
		16			17

Must Apply to Teacher Education

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 201	American History I Sequence[2]	3	HIS 202	American History II Sequence[2]	3
ECO	Economics Elective[1,2]	3	MTH	Elective[2,5]	3
FED 200	Introduction to Education[2]	2	ENG 205	General Speech[2]	3
PHY 101	Physical Science[2]	3		Humanities Elective[1,2]	3
PHY 101L	Physical Science Lab[2]	1	MTH	Elective[2,5]	3
GEO 214	World Regional Geography[2]	3	SPE 201	Intro to Study of Excep Children[2]	3
		15			18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FED 212	Human Growth/Development[2]	3	ECH 300	Programs in Early Childhood[2]	3
FED 300	Foundations of Education[2,6]	2	ECE 300	Art Exps thru Art, Mus, Movement[2]	3
FED 404	Tests & Measurements[2,6]	3	ECE 301	M/M of Teaching Language Arts[2,7]	3
PSY 403	Educational Psychology[2,6]	3	ECE 302	M/M of Teaching Social Studies[2,7]	3
MTH 304	Math for Elementary Teachers[2]	3	ECE 303	M/M of Teaching Science/Health[2,7]	3
SPE 326	Mgt of Classroom Behavior[2, 6]	3	SPE 304	Parent & Family[2]	3
		17			18

Apply for Internship

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ECE 304	Teaching Reading to Young Child[2,7]	3	ECH 495	Internship[4,7]	12
ECE 305	M/M of Teaching Mathematics[2,7]	3			
ECE 405	Seminar: Issues/Probs in Teaching[2]	3			
ECE 412	Children's Literature[2]	3			
ECH 405	Organization/Admin of ECH[2]	3			
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st Sem, Sr year.

[3] The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

[5]MTH 112, 113, 115, 120, 125, 126, 227, 231, 232, 237, 238.

MTH 231/232 is Math for Elem Tchrs I & II in ACCS and will be accepted here as a MTH Elective.

[6]Must be admitted to EPP to take. [7]Must complete FED 300, 404, PSY 403, SPE 326 to take.

NOTE: MinGPA 2.5 required for Cumulative, GenEd, Prof Studies and Major courses.

Elementary Education (K-6) – Teacher Certification

130 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 110	Finite Mathematics[2]	3		Fine Arts Elective[1] except TEL 101	3
BIO 101	General Biology I[2,3]	3	BIO 102	General Biology II[2,3]	3
BIO 101L	General Biology I Lab[2,3]	1	BIO 102L	General Biology I Lab[2,3]	1
ENG 203	World Literature I[2]	3	MTH 112	Pre-Calculus Algebra[2]	3
	HED 101, PED[1], MSC 101	2	FED 215	Instructional Technology[2]	3
		16			17

Must Apply to Teacher Education

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 201	American History I Sequence[2]	3	HIS 202	American History II Sequence[2]	3
ECO	Economics Elective[1,2]	3	MTH	Elective[2]	3
FED 200	Introduction to Education[2]	2	ENG 205	General Speech[2]	3
PHY 101	Physical Science[2]	3		Humanities Elective[1,2]	3
PHY 101L	Physical Science Lab[2]	1	MTH	Elective[2]	3
FED 212	Human Growth/Development[2]	3	SPE 201	Intro to Study of Excep Children[2]	3
GEO 214	World Regional Geography[2]	3			18
		18			

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MTH 304	Math for Elementary Teachers[2]	3	ECE 300	Art Exps thru Art, Mus, Movement[2]	3
FED 300	Foundations of Education[2,6]	2	ECE 301	M/M of Teaching Language Arts[2,7]	3
FED 404	Tests & Measurements[2,6]	3	ECE 302	M/M of Teaching Social Studies[2,7]	3
PSY 403	Educational Psychology[2,6]	3	ECE 303	M/M of Teaching Science/Health[2,7]	3
ART 300	M/M of Teaching Art[2]	2	ELE 300	Elementary School Organization[2]	3
SPE 326	Mgt of Classroom Behavior[2,6]	3	SPE 304	Parent & Family[2]	3
		16			18

Apply for Internship

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ECE 304	Teaching Reading to Young Child[2,7]	3	ELE 495	Internship[4,7]	12
ECE 305	M/M of Teaching Mathematics[2,7]	3			
ECE 407	Intermediate Readers[2,7]	3			
ECE 412	Children's Literature[2]	3			
PHL 303	Advanced Applied Reasoning	3			
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st Sem, Sr year.

[3] The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

[5]MTH 112, 113, 115, 120, 125, 126, 227, 231, 232, 237, 238.

MTH 231/232 is Math for Elem Tchrs I & II in ACCS and will be accepted here as a MTH Elective.

[6]Must be admitted to EPP to take. [7]Must complete FED 300, 404, PSY 403, SPE 326 to take.

NOTE: MinGPA 2.5 required for Cumulative, GenEd, Prof Studies and Major courses.

Special Education – Pre-Elementary (P-3) Teacher Certification

128 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 110	Finite Mathematics[2]	3		Fine Arts Elective[1] except TEL 101	3
BIO 101	General Biology I[2,3]	3	BIO 102	General Biology II[2,3]	3
BIO 101L	General Biology I Lab[2,3]	1	BIO 102L	General Biology I Lab[2,3]	1
ENG	Literature Elc[1,2] except 207, 208	3	MTH 112	Pre-Calculus Algebra[2]	3
	HED 101, PED[1], MSC 101	2	FED 215	Instructional Technology[2]	3
		16			17

Must Apply to Teacher Education

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 201	American History I Sequence[2]	3	HIS 202	American History II Sequence[2]	3
ECO	Economics Elective[1,2]	3	MTH	Elective[2,5]	3
FED 200	Introduction to Education[2]	2	ENG 205	General Speech[2]	3
PHY 101	Physical Science[2]	3		Humanities Elective[1,2]	3
PHY 101L	Physical Science Lab[2]	1	MTH	Elective[2,5]	3
MTH 304	Math for Elementary Teachers[2]	3	SPE 201	Intro to Study of Excep Children[2]	3
GEO 214	World Regional Geography[2]	3			18
		18			

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FED 212	Human Growth/Development[2]	3	SPE 205	Language Development[2]	3
FED 300	Foundations of Education[2,6]	2	SPE 209	Introduction to ECSE[2]	3
FED 404	Tests & Measurements[2,6]	3	ECE 301	M/M of Teaching Language Arts[2,7]	3
PSY 403	Educational Psychology[2,6]	3	ECE 302	M/M of Teaching Social Studies[2,7]	3
SPE 304	Parent and Family Assessment[2]	3	ECE 303	M/M of Teaching Science/Health[2,7]	3
SPE 326	Mgt of Classroom Behavior[2,6]	3	ECE 304	Teaching Reading to Young Child[2,7]	3
		17			18

Apply for Internship

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ECE 305	M/M of Teaching Mathematics[2,7]	3	SPE 495	Internship[2,6]	12
SPE 309	Adaptive Techniques in ECSE[2]	3			
SPE 327	Assessment in ECSE	3			
SPE 403	IEP/IFSP Writing[2]	3			
		12			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3] The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

[5]MTH 112, 113, 115, 120, 125, 126, 227, 231, 232, 237, 238.

MTH 231/232 is Math for Elem Tchrs I & II in ACCS and will be accepted here as a MTH Elective.

[6]Must be admitted to EPP to take. [7]Must complete FED 300, 404, PSY 403, SPE 326 to take.

NOTE: MinGPA 2.5 required for Cumulative, GenEd, Prof Studies and Major courses.

Special Education – Collaborative (K-6) Teaching Certification

131 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 110	Finite Mathematics[2]	3		Fine Arts Elective[1] except TEL 101	3
BIO 101	General Biology I[2,3]	3	BIO 102	General Biology II[2,3]	3
BIO 101L	General Biology I Lab[2,3]	1	BIO 102L	General Biology I Lab[2,3]	1
ENG	Literature Elc[1,2] except 207, 208	3	MTH 112	Pre-Calculus Algebra[2]	3
	HED 101, PED[1], MSC 101	2	FED 215	Instructional Technology[2]	3
		16			17

Must Apply to Teacher Education

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 201	American History I Sequence[2]	3	HIS 202	American History II Sequence[2]	3
ECO	Economics Elective[1,2]	3	MTH	Elective[2,5]	3
FED 200	Introduction to Education[2]	2	ENG 205	General Speech[2]	3
PHY 101	Physical Science[2]	3		Humanities Elective[1,2]	3
PHY 101L	Physical Science Lab[2]	1	MTH	Elective[2,5]	3
MTH 304	Math for Elementary Teachers[2]	3	SPE 201	Intro to Study of Excep Children[2]	3
GEO 214	World Regional Geography[2]	3			18
		18			

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
FED 212	Human Growth/Development[2]	3	ECE 301	M/M of Teaching Language Arts[2,7]	3
FED 300	Foundations of Education[2,6]	2	ECE 302	M/M of Teaching Social Studies[2,7]	3
FED 404	Tests & Measurements[2,6]	3	ECE 303	M/M of Teaching Science/Health[2,7]	3
PSY 403	Educational Psychology[2,6]	3	SPE 205	Language Development[2]	3
SPE 303	Assessment of Children K-6[2]	3	SPE 328	Learning Strategies[2]	3
SPE 326	Mgt of Classroom Behavior[2,6]	3	SPE 403	IEP/IFSP Writing[2]	3
		17			18

Apply for Internship

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ECE 304	Teaching Reading to Young Child[2,7]	3	SPE 495	Internship[2,6]	12
ECE 305	M/M of Teaching Mathematics[2,7]	3			
ECE 407	Intermediate Readers[2,7]	3			
ECE 412	Children's Literature	3			
SPE 426	Collaborative Consultation[2]	3			
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3] The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

[5]MTH 112, 113, 115, 120, 125, 126, 227, 231, 232, 237, 238.

MTH 231/232 is Math for Elem Tchrs I & II in ACCS and will be accepted here as a MTH Elective.

[6]Must be admitted to EPP to take. [7]Must complete FED 300, 404, PSY 403, SPE 326 to take.

NOTE: MinGPA 2.5 required for Cumulative, GenEd, Prof Studies and Major courses.

Special Education – Collaborative (6-12) Teaching Certification

131 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 110	Finite Mathematics[2]	3		Fine Arts Elective[1] except TEL 101	3
BIO 101	General Biology I[2,3]	3	BIO 102	General Biology II[2,3]	3
BIO 101L	General Biology I Lab[2,3]	1	BIO 102L	General Biology I Lab[2,3]	1
ENG	Literature Elc[1,2] except 207, 208	3	MTH 112	Pre-Calculus Algebra[2]	3
	HED 101, PED[1], MSC 101	2	FED 215	Instructional Technology[2]	3
		16			17

Must Apply to Teacher Education

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 201	American History I Sequence[2]	3	HIS 202	American History II Sequence[2]	3
ECO	Economics Elective[1,2]	3	MTH	Elective[2,5]	3
	Humanities Elective[1,2]	3	ENG 205	General Speech[2]	3
PHY 101	Physical Science[2]	3	FED 212	Human Growth/Development[2]	3
PHY 101L	Physical Science Lab[2]	1	MTH	Elective[2,5]	3
	Soc/Behav Sci Elective[1]	3	SPE 201	Intro to Study of Excep Children[2]	3
FED 200	Introduction to Education[2]	2			18
		18			

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
SPE 205	Language Development[2]	3	MTH 304	Math for Elementary Teachers[2]	3
FED 300	Foundations of Education[2,6]	2	SPE 328	Learning Strategies[2]	3
FED 404	Tests & Measurements[2,6]	3	SPE 319	Transitioning Planning[2]	3
PSY 403	Educational Psychology[2,6]	3	SPE 403	IEP/IFSP Writing[2]	3
SPE 303	Assessment of Children K-6[2]	3	SPE 426	Collaborative Consultation[2]	3
SPE 326	Mgt of Classroom Behavior[2,6]	3	SPE 432	M/M of Functional Curriculum[2, 3]	3
		17			18

Apply for Internship

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
SED 409	Reading in the Content Area	3	SPE 495	Internship[2,6]	12
SED 421	Teaching English in Sec Schools[2, 3]	3			
SED 422	Teaching Math in Sec Schools[2, 3]	3			
SED 423	Teaching Soc Sci in Sec Schools[2, 3]	3			
SED 424	Teaching Science in Sec Schools[2, 3]	3			
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3] The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

[5]MTH 112, 113, 115, 120, 125, 126, 227, 231, 232, 237, 238.

MTH 231/232 is Math for Elem Tchrs I & II in ACCS and will be accepted here as a MTH Elective.

[6]Must be admitted to EPP to take. [7]Must complete FED 300, 404, PSY 403, SPE 326 to take.

NOTE: MinGPA 2.5 required for Cumulative, GenEd, Prof Studies and Major courses.

Department of Social Work, Psychology and Counseling

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Introduction

The Department of Social Work, Psychology and Counseling is committed to providing instruction to undergraduate and graduate social work, psychology and counseling majors who will develop the knowledge, values and skills to competently serve diverse populations. Students will gain the theoretical knowledge, develop entry level skills to intervene with multiple systems such as individuals, groups, families and communities. In addition to teaching theories, concepts, principles and skills the faculty is committed to integrating technology into the learning experience. The faculty is also committed to research, service to the community and the institution.

Mission Statement/Objectives

The department is committed to the total development of students in their quest to learn to serve diverse populations in an ethical, competent and professional manner reflecting the core values of the department including Social Justice, evidence based research and practice, integrity, and empowerment of vulnerable and oppressed populations. Students who complete the programs in this Department will possess the knowledge, values and skills to serve nationally and internationally as global practitioners and citizens who embrace diversity and lifelong learning.

The Mission of the Social Work Program at Alabama A & M is to prepare students to become ethical, competent beginning and advanced level professionals capable of assuming a wide range of roles and functions in working with vulnerable individuals, families, groups, public and private organizations and institutions, and rural and urban communities.
Upon completion of the BSW program Graduates will be able to:

1. Apply critical thinking skills in analyzing ethical dilemmas and ethical decision making
2. Apply strategies of advocacy and social change that advance social and economic justice in generalist social work practices with vulnerable and oppressed populations
3. Apply the knowledge and skills of generalist social work practice with individuals, groups, families, organizations and communities
4. . Demonstrate knowledge of global social welfare issues and their impact on client systems
5. Demonstrate an ability to function within the structure of organizations and service delivery systems, use supervision and where appropriate seek necessary organizational change

Upon completion of the BA in Psychology Graduates will be able to:

1 Demonstrate the use of appropriate statistical tools for data collection and analysis
2. Demonstrate knowledge of major perspectives of psychology including behavioral, biological, cognitive, psychodynamic, and socio-cultural
3. Demonstrate an understanding of the importance of lifelong learning as part of professional development
4. Acquire skills applicable to employment
5. Demonstrate overall knowledge of research and its application to psychology and related fields

Objectives:

1. Increase the number of competent social work/psychology graduates for both undergraduate and graduate programs.
2. Increase the number of social work graduates who successfully complete the licensure exam
3. Insure students have knowledge, values, and skill to practice in a competent professional manner with diverse populations.
4. Provide opportunities for continuing education and lifelong learning for social work alumni consistently through workshops and seminars.
5. Enhance teaching and learning for both undergraduate and graduate programs
6. Develop an understanding of human behavior in a multicultural global society.

Programs Offered

Bachelor of Arts Degree		
MAJOR	CONCENTRATION	MINOR
Psychology		Psychology
Social Work		

The Social Work Program was initially accredited by the Council on Social Work Education in April, 1979 and continued receiving reaffirmation through 2010.

Note: no academic credit for life and/or work experience. The BSW degree program does not award academic credit for life and/or work experience, in whole or in part.

Financial Aid/Scholarships

Information on available financial assistance is provided through the Office of Financial Aid, and jobs or further education information is available through both the program area and the Office of Career Development Services and Placement.

Student/Professional Organizations

A departmentally sponsored and student-governed Psychology Club for interested students exists. Psychology majors and minors are encouraged to participate. The Program also has charter membership in the National Honor Society in Psychology (PSI-CHI).

Student organizations specific to the discipline are available for students in the Social Work Department. Social Work majors, with a 3.0 cumulative grade point average can be considered for membership in Chi Iota Chapter of Phi Alpha National Social Work Honor Society.

Phi Alpha is a national honor society established for the purpose of providing a closer bond among social work students and to promote humanitarian goals and ideals. Phi Alpha fosters high standards of education for social work students and invites into memberships, those who have attained excellence in scholarship and achievement in social work.

The Social Work organization was established in 1975, for the purpose of helping students to develop meaningful relationships with community organizations through service projects and activities. It was also formed to promote academic excellence and professional development of students by encouraging participation in professional meetings, conferences, workshops, and leadership roles.

Admission Policy

There are several steps involved in the admission of a student to the Undergraduate Social Work Program at Alabama A&M University.

- Admission to the University.
- Completion of prerequisite paraprofessional liberal arts courses of 31 hours.
- Overall grade point average of 2.5.
- No less than a grade of “C” in SWK 200, Introduction to Social Welfare.
- Completion of an undergraduate Social Work Program application.
- Completion of a personal autobiography.
- Completion of a criminal background check.
- Successful completion of an assessment interview with full-time Social Work Program faculty and/or the Resource Specialist.

Following the interview the team will consult and make a determination for admissions. Student will receive a formal notification of acceptance to the program.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Any assigned remedial courses (e.g., reading, mathematics, or English) are in addition to the required psychology curriculum. Credit hours earned in these courses cannot be applied toward the total hours needed to fulfill degree requirements.
9. Grades lower than “C” will not be counted toward the major or minor requirements.
10. All Psychology majors must have a minor area of concentration.
11. Upon completion of the sophomore year, students will be evaluated for permission to take upper division courses.
12. All Psychology major students must take the departmental Exit Exam in their senior year as part of the requirement to obtain a BA degree in Psychology.

Psychology
128 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3	MUS 101	Music Appreciation	3
BIO 101	General Biology I	3	BIO 102	General Biology II	3
BIO 101L	General Biology I Lab	1	BIO 102L	General Biology II Lab	1
HIS 101	World History I	3	SOC 201	Intro to Sociology	3
	PED 102, HED 101	2	ART 101	Art Appreciation[2]	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO 200	Basic Economics	3	HIS 102	World History II	3
CS 101	Fund of Comp & Info Systems	3	ENG 205	General Speech	3
PSY 201	General Psychology	3		PSY 301[2], SOC 301[2]	3
	Elem Foreign Language Sequence[2]	3		Elem Foreign Language Sequence[2]	3
PHL 201	Intro to Philosophy[2]	3			15
		18			

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Intermed Foreign Lang Sequence[2]	3		Intermed Foreign Lang Sequence[2]	3
PSY 202	History& Systems of Psychology[2]	3	PSY 416	Experimental Psychology[2]	3
PSY 307	Intro to Research[2]	3	PSY 416L	Experimental Psychology Lab[2]	1
PSY	Elective[2]	3	PSY	Elective[2]	3
	Minor Course[3]	3		Minor Course[3]	3
		15		Minor Course[3]	3
					16

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
PSY 415	Physiological Psychology[2]	3	PSY 404	Seminar in Psychology[2]	3
PSY 415L	Physiological Psychology Lab[2]	1	PSY 471	Abnormal Psychology[2]	3
PSY	Elective[2]	3	PSY	Elective[2]	3
PSY	Elective[2]	3		Minor Course[3]	3
	Minor Course[3]	3		Free Elective	3
	Minor Course[3]	3			15
		16			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]Although minors are a minimum 18 hours, some may require an additional 1-2 hours. Please check the Bulletin.

Social Work
121 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
HIS 101	World History I Sequence	3	HIS 102	World History II Sequence	3
BIO 101	General Biology I	3	BIO 102	General Biology II	3
BIO 101L	General Biology I Lab	1	BIO 102L	General Biology II Lab	1
	ART 101, MUS 101	3	SWK 202	Intro Social Welfare & Social Work[3]	3
HED 101	Personal & Community Health	2	SWK	205[2], 303[2], 308[2], 311[2], 315[2]	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
CS 101	Fund of Comp & Info Systems	3	ECO 231	Princ of Macroeconomics	3
ENG 203	World Literature I	3	ENG 204	World Literature II	3
PHL 201	Intro to Philosophy[2]	3	SWK 301	Human Behavior I[2]	3
SOC 201	Intro to Sociology	3	PSY 201	General Psychology	3
	Elem Foreign Language Sequence[1, 2]	3		Elem Foreign Language Sequence[1, 2]	3
MTH 110	Finite Mathematics	3			15
		18			

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 205	General Speech	3	ENG 304	Advanced Composition[2]	3
SWK 302	Human Behavior II[2]	3	PSY 301	Elementary Behavioral Statistics	3
SWK 304	Diverse Populations[2]	3	SWK 313	Social Work Methods II[2]	3
SWK 312	Social Work Methods I[2]	3	SOC 210	Social Problems[2]	3
PSC	201[2], 205[2], 206[2]	3	SWK 305	Rural Human Services[2]	3
		15			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
SWK 314	Social Work Methods III[2]	3	SWK 414	Field Instruction[2]	8
SWK 403	Social Welfare Policies[2]	3	SWK 414L	Field Instruction Seminar[2]	3
SWK 410	Social Work Research Methods[2]	3	SWK 415	Senior Seminar Research[2]	2
SWK	205[2], 303[2], 308[2], 311[2], 315[2]	3			13
		12			

[1]101/102 French or Spanish. [2]MinGrade of C required.
[3]Prerequisite to SWK 202 → Have successfully completed 31 hours of General Education and 2.5 cumulative GPA.
NOTE: All social work majors must take classes in sequential order.

Concentrations, Minors & Electives

PSYCHOLOGY MINOR MinGPA 2.0, MinGrade C	
PSY 202 History and Systems in Psychology	3
PSY 301 Elementary Behavioral Statistics	3
PSY 307 Introduction to Research	3
PSY 471 Abnormal Psychology	3
PSY Elective	6
	18

PSYCHOLOGY ELECTIVES	
PSY 303 Applied Psychology	3
PSY 304 Developmental Psychology	3
PSY 320 Cognitive Psychology	3
PSY 325 Behavior Disorders in Children	3
PSY 330 (Social Psychology) or SOC 330 (Social Psychology)	3
PSY 340 Principles of Learning	3
PSY 350 Conditioning of Behavior	3
PSY 360 Personality Theories	3
PSY 365 Psychology and the Law	3
PSY 402 Psychology of Adjustment	3
PSY 403 Educational Psychology	3
[1]PSY 405 Individual Study in Psychology	3
PSY 406 Industrial Psychology	3
PSY 410 Helping Skills and Techniques	3
[2]PSY 421 Psychology Internship I	3
[2]PSY 422 Psychology Internship II	3
PSY 423 Adolescent Psychology	3
PSY 482 Human Sexuality	3
PSY 485 Psychological Testing	3

[1]With consent of instructor. [2]Open only to senior psychology majors with consent of instructor.

FREE ELECTIVES
Any course except developmental courses.

SOCIAL WORK ELECTIVES	
SWK 200 Introduction to Social Welfare	3
SWK 201 Introduction to Social Work	3
SWK 205 Gerontology: Study of Older Adults	3
SWK 301 Human Behav & Social Env I	3
SWK 302 Human Behav & Social Env II	3
SWK 303 Poverty & Deprivation	3
SWK 304 Diverse Populations	3
SWK 305 Rural Human Services	3
SWK 308 Black Experiences Through Films	3
SWK 311 Introduction to Child Welfare	3
SWK 315 Substance Abuse: The Impact of Fetal Alcohol Spectrum Disorder	3
SWK 403 Social Welfare Policies and Services	3
SWK 410 Research Methods in Social Work	3

Psychology majors can select one of the approved minors listed below through consultation with their academic advisor, but other minors are available. Student should refer to the Bulletin for the appropriate courses to take for each minor.

Apparel, Merch & Design	Human Dev & Family Study	Nutrition & Hospitality Mgt	Telecommunications
Criminal Justice	Management	Philosophy	
Economics	Marketing	Political Science	
Finance	Military Science	Sociology	

Department of Visual, Performing and Communication Arts

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Introduction

The Department of Visual, Performing and Communication Arts is under the College of Education, Humanities and Behavioral Sciences and is comprised of academic disciplines in art, music and media communication.

Mission Statement/Objectives

The mission of the Department is consistent with that of the University. Programs of the Visual, Performing, and Communications operate in the three fold function of teaching, creative research and service to the public. Objectives focus on the development and implementation of comprehensive programs. These objectives include the preparation of musical and visual artists, art and music teachers, media and performance professionals as well as graphic designers, who are knowledgeable about the music and communications industry. Further, the department offers unique and challenging opportunities for creative research, exhibits and performances to an assembly of faculty, students, and the general public.

The Art Program offers the Bachelor of Science with a choice of three concentrations: teaching art, graphic design, and studio art. The Art Education concentration serves those students who desire a P-12 teaching career. The Graphic Design concentration serves those students who desire professional careers in graphic design, advertising art, and/or communication graphics. The studio art concentration serves those students pursuing a professional career within the visual arts.

The Music Program prepares teacher candidates with competencies and skills to challenge students and themselves in the elementary and secondary classroom environment. The curriculum covers courses in education, music methods, performance, analysis, a teaching internship and a senior recital in the major applied area. Music Teacher's Certificate is divided into two categories – vocal/choral and instrumental. Piano majors in music may follow the vocal/choral curriculum or the instrumental curriculum.

The Music Program at Alabama A&M University provides opportunities, which assist individuals in meeting aesthetic, social, intellectual and professional needs and interests, in line with the general objectives of the University. The Bachelor of Music degree is awarded to Music majors in teaching and non-teaching concentrations. The program will:

1. Provide a course of study whereby a student may receive a major in music with a concentration in business, performance, piano pedagogy, teaching-choral, or teaching-instrumental with the necessary subject matter competencies and skills to teach music subjects, direct choral and/or instrumental groups, perform, become knowledgeable about music business practices and generally become an effective musician.
2. Provide training in music theory, applied music, music history and literature. It will also provide music teaching techniques for the preparation of regular classroom teachers who can guide music activities in a self-contained elementary and/or secondary level classroom as well as in a private studio setting.
3. Foster growth in musical understanding through intelligent and expressive performances, musical creativity, discriminative listening, increased knowledge of musical structure, and music reading.
4. Develop an interest and growing appreciation for the best in music through active participation in choral and instrumental ensembles.
5. Act as a service agency to other departments and colleges within the University and to adjacent communities.
6. Increase the musical interest and capability of teachers, students and individuals in the community through the offering of special lectures, workshops, clinics, and similar endeavors.

The Communication Arts program produces skilled media and performance professionals who are well prepared for careers, emerging technologies or admission to graduate programs. The program's mission is in harmony with the University's mission. Moreover, the Communication Arts program includes collaborative efforts with businesses and agencies to allow students to put learned theory into practice. With its emphasis on preparing students for careers or graduate school, the Communication's program is consistent with the mission of the College of Education, Humanities and Behavioral sciences as well as the university.

Programs Offered

Bachelor of Arts Degrees		
MAJOR	CONCENTRATION	MINOR
Communications Media	Operations Performance Production	Communications Media

Bachelor of Music Degree		
MAJOR	CONCENTRATION	MINOR
Music	Business Choral Teacher Certification (P-12) Instrumental Teacher Certification (P-12) Performance Piano Pedagogy	Music-Choral Music-Instrumental

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
General Art	Graphic Design Studio Art Visual Arts Teacher Certification (P-12)	Art History Graphic Design Studio Art

Financial Aid/Scholarships

Information on available financial assistance is provided through the Office of Financial Aid, and jobs or further education information is available through both the program area and the Office of Career Development Services and Placement.

Student/Professional Organizations

Students in all colleges at the University are invited to enroll in any musical organization. Unless otherwise indicated, auditioning for the director of a specific group is the basic requirement. Merely enrolling as a member of an ensemble does not constitute complete acceptance nor guarantee continuous participation. If rehearsals, engagements, and other responsibilities are not approached with an attitude of loyalty, promptness and commitment, membership could be terminated. The size of the group might be a determining factor. The director of a specific group makes the final decision in all matters related to the functioning of each ensemble, not the group officers, wherever these may exist.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. All art majors must earn a grade of "C" or better in all art courses.
9. All art majors should be aware that art courses are usually offered only once a year and some once every other year with the exception of ART 101 (Art Appreciation) and ART 300 (Teaching Art in the Elementary School).
10. ART 101, 220, 221, 403, 404, 405, 408, 409, 412, 414 are lecture courses that meet three hours per week. All other courses are studio courses that meet six hours per week.
11. All music majors are required to take an entrance exam and complete an audition to assess the extent of their musical proficiency. No student can declare a major in music without having a successful audition with a music faculty member in at least one performing medium.
12. All music majors are required to take individual applied instruction in one area of musical performance throughout their undergraduate years unless granted special permission by the program lead. Therefore, each music major must possess performing skills that can be nurtured to the highest possible quality and standard.
13. All music – non-piano majors must study piano for two or three consecutive years as a minor performing area in addition to continual study in the major performing area. At the end of the minimum required study period, the music major will be given a proficiency test in piano.
14. All music–piano majors must take a minimum of six consecutive semesters of applied voice. A vocal proficiency test is given after the three years of study in voice.
15. All music majors are required to perform in public during student recitals. They may perform at other times on and off campus, with the approval of their applied music instructor.

16. All music – applied music majors should sign up for jury performance on a prepared form at the end of each semester. At the scheduled time, the student will play before the music faculty. Exceptions are given to those who meet the standard of the referenced policy. (See Music Handbook.)
17. All music majors are required to perform in a senior recital. A hearing of proposed selections will be held before the recital according to approved recital guidelines. (See Music Handbook.)
18. All music majors are required to perform in an ensemble each semester with the exception of the final semester of the music-teaching major. Students enrolled in MUS 495 (Internship) will have completed all ensemble, recital, and teacher education program requirements prior to registering for this course. (See your advisor and the Music Handbook.)
19. All music majors should take courses in the sequence listed on the curriculum tracking patterns each semester. Music-teaching majors are also required to follow the checklist approved by the Alabama State Department of Education.

Course Fees:
Music Lab: MUS 101, 208, 210, 212, 301, 312, 318 327 – $10.00. Applied Music: $25.00.

Communications Media
126 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH	110, 112	3		ART 101, MUS 101	3
BIO 101	General Biology I	3	PHY 101	Physical Science I	3
BIO 101L	General Biology I Lab	1	PHY 101L	Physical Science I Lab	1
HIS 101	World History I	3	PSY 201	General Psychology	3
	HED 101, PED[1], MSC 101	2	CS 101	Fund of Comp & Info Systems	3
		16			17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	200, 231	3	HIS 102	World History II	3
PHL 201	Intro to Philosophy[2]	3	ENG 205	General Speech	3
TEL 201	Intro to Broadcasting[2]	3	SOC 201	Intro to Sociology[2]	3
TEL 202	Fundamentals of TV Production[2]	3	TEL 205	Public Speaking for Com Arts Pro[2]	3
	Elem Foreign Language Sequence[2, 4]	3		Elem Foreign Language Sequence[2, 4]	3
		18			18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Intermed Foreign Lang Sequence[2, 4]	3		Intermed Foreign Lang Sequence[2, 4]	3
ENG 304	Advanced Composition[2]	3	TEL	Elective	3
TEL 211	Broadcast Law & Regulations[2]	3	TEL	Elective	3
TEL 212	Writing for Broadcasting[2]	3		Concentration Course[3]	3
TEL 214	Careers in Media Arts[2]	3		Concentration Course[3]	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
TEL	Elective	3		Concentration Course[3]	3
TEL	Elective	3		Concentration Course[3]	3
	Concentration Course[3]	3		Concentration Course[3]	3
	Concentration Course[3]	3		Concentration Course[3]	3
	Concentration Course[3]	3			12
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although Concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

[4]French or Spanish.

General Art
121 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3	MUS 101	Music Appreciation	3
	BIO[3] 101, 102, PHY[3] 101, 102	3		BIO[3] 101, 102, PHY[3] 101, 102	3
	BIO[3] 101L, 102L, PHY[3] 101L, 102L	1		BIO[3] 101L, 102L, PHY[3] 101L, 102L	1
HIS 101	World History I Sequence	3	PSY 201	General Psychology	3
	HED 101, PED[1], MSC 101	2	ART 110	Fundamentals of Drawing[2]	3
		16			17

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 203	World Literature I	3	HIS 102	World History II Sequence	3
ECO 200	Basic Economics	3	ART 121	Three-Dimensional Design[2]	3
CS 101	Fund of Comp & Info Systems	3	PHL 201	Intro to Philosophy	3
ART 111	Two-Dimensional Design & Color[2]	3	ENG 205	General Speech	3
ART 209	Composition with Drawing[2]	3	ENG 204	World Literature II	3
		15			15

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Free Elective	4	ART 221	History of Art II[2]	3
ART 211	Color and Design[2]	3	ART 309	Figure Drawing[2]	3
ART 220	History of Art I[2]	3		Minor Course[5]	3
	Minor Course[5]	3		Minor Course[5]	3
	Minor Course[5]	3		Concentration Course[4]	3
		16			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Minor Course[5]	3		Minor Course[5]	3
	Concentration Course[4]	3		Concentration Course[4]	3
	Concentration Course[4]	3		Concentration Course[4]	3
	Concentration Course[4]	3		Concentration Course[4]	3
	Free Elective	3			12
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [3]Lec/lab must match.

[4]Although concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

[5]Although minors are a minimum 18 hours, some may require an additional 1-2 hours. Please check the Bulletin.

Music

120 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH	Elective[1]	3		Concentration Course(s)[3]	2
	Science Elective[1]	3		Science Elective[1]	3
	Science Elective Lab[1]	1		Science Elective Lab[1]	1
MUS 001	Recital Attendance I[2]	0	MUS 002	Recital Attendance II[2]	0
*MUS 102	Fundamentals of Music[2]	3		Music Ensemble[2, 4]	1
	Music Ensemble[2, 4]	1		Applied Music – Major Instr/Voice[2, 4]	1
	Applied Music – Major Instr/Voice[2, 4]	1	MUS 103	Music Theory I[2]	3
	Fine Arts Elective[1]	3		HED 101, PED[1]	2
		19			17

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
ECO	Economics Elective[1]	3		2nd Soc/Behav Sci Elective[1]	3
	Computer Literacy[1]	3		2nd Fine Arts or Humanities[1]	3
	Soc/Behav Sci Elective[1]	3		Music Ensemble[2, 4]	1
MUS 104	Music Theory II[2]	3		Applied Music – Major Instr/Voice[2, 4]	1
MUS 003	Recital Attendance III[2]	0	MUS 004	Recital Attendance IV[2]	0
	Applied Music – Major Instr/Voice[2, 4]	1	MUS 205	Music Theory III[2]	3
	Music Ensemble[2, 4]	1	HIS	Elective[1]	3
		17			17

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MUS 303	Music History & Literature I[2]	2		Concentration Course(s)[3]	2
MUS 309	Basic Conducting[2]	1		Concentration Course(s)[3]	3
	Applied Music – Major Instr/Voice[2, 4]	1		Concentration Course(s)[3]	3
	Concentration Course(s)[3]	3	MUS 304	Music History & Literature II[2]	2
	Concentration Course(s)[3]	3	MUS 320	Form and Analysis[2]	3
MUS 005	Recital Attendance V[2]	0			13
MUS 206	Music Theory IV[2]	3			
		13			

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Concentration Course(s)[3]	3		Concentration Course(s)[3]	2
	Advisor-Approved Elective(s)	3		Advisor-Approved Elective(s)	1
	Advisor-Approved Elective(s)	3		Advisor-Approved Elective(s)	3
	Advisor-Approved Elective(s)	3		Advisor-Approved Elective(s)	3
		12		Advisor-Approved Elective(s)	3
					12

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although Concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

[4]Please check the chosen concentration for the list of eligible courses.

NOTE: All first year music majors and minors must take the Entrance Examination for theory course placement regardless of the concentration. A grade of 70% or better is required for placement in MUS 103, Theory I. Majors and minors scoring below 70% must take MUS 102, Fundamentals of Music.

*Any student who tests out of MUS 102 must take an appropriate elective approved by advisor.

Concentrations, Minors & Electives

(MUS) MUSIC CHORAL TEACHER (P-12) CONCENTRATION (PMUC)

Total Hours – 132. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – See GenEd Listing[1] except 207, 208	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1,3]	4	
Lec/Lab	See GenEd Listing[1,3]	4	
Math	See GenEd Listing[1]	3	
			11

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
			7
			48

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8
		56

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
MUS 495 Internship[4] (also Prof Study course)	12	
		26

TEACHING FIELD

MinGPA 2.5. MinGrade C.

MUS 103 Music Theory I[5]	3	
MUS 104 Music Theory II	3	
MUS 205 Music Theory III	3	
MUS 206 Music Theory IV	3	
MUS 219 Vocal Diction	1	
MUS 301 Music for Elementary Schools	2	
MUS 303 Music History & Literature I	2	
MUS 304 Music History & Literature II	2	
MUS 309 Basic Conducting	1	
MUS 316 Choral Conducting	1	
MUS 318 Survey of Band Instruments	2	
MUS 319 Vocal Pedagogy & Literature	1	
MUS 320 Form and Analysis	3	
MUS 400 Senior Recital	1	
MUS 402 Tching Chor Mus Secondary Schls	2	
Recital Attendance – MUS 001, 002, 003, 004, 005	5x0	
Applied Music – Major Instr/Voice	7	
Piano – MUS 141, 142, 241, 242, 341, 342, 441		
Voice – MUS 151, 152, 251, 252, 351, 352, 451		
Applied Music – Minor Instr/Voice	6	
Piano major takes Voice. Voice major takes Piano.		
Piano – MUS 141, 142, 241, 242, 341, 342		
Voice – MUS 151, 152, 251, 252, 351, 352		
Music Ensemble	7	
Choir – MUS 122, 123, 222, 223, 322, 323, 422		
		50
		76

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3]The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

[5]Students who have had a previous formal Music Theory Course (Such as an AP Music Theory course) may opt to take the Entrance Exam for theory placement. All others must take MUS 102, Fundamentals of Music, as a required pre-requisite for MUS 103.

NOTE: One EPP General Study math course requires a grade of ≥ C.

(MUS) MUSIC INSTRUMENTAL TEACHER (P-12) CONCENTRATION (PMUI)

Total Hours – 137. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – See GenEd Listing[1] except 207, 208	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1,3]	4	
Lec/Lab	See GenEd Listing[1,3]	4	
Math	See GenEd Listing[1]	3	
			11

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
			7
			48

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8
		56

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
MUS 495 Internship[4] (also Prof Study course)	12	
		26

TEACHING FIELD

MinGPA 2.5. MinGrade C.

MUS 103 Music Theory I[5]	3	
MUS 104 Music Theory II	3	
MUS 118 Voice Class	1	
MUS 205 Music Theory III	3	
MUS 206 Music Theory IV	3	
MUS 301 Music for Elementary Schools	2	
MUS 303 Music History & Literature I	2	
MUS 304 Music History & Literature II	2	
MUS 309 Basic Conducting	1	
MUS 317 Conducting II	1	
MUS 320 Form and Analysis	3	
MUS 400 Senior Recital	1	
MUS 401 Tching Instr Music for Sec Schools	2	
Recital Attendance – MUS 001, 002, 003, 004, 005	5x0	
**Music Ensemble ([4 sch march & 4 sch symph bands] OR 8 sch string [string majors])	8	
*Applied Music – Major Instr	7	
*Applied Music – Minor Instr/Voice Piano – MUS 141, 142, 241, 242, 341, 342, 441, 442	4	
**Secondary Instrument MUS 208, 210, 212, 312, 313, 314	4	
		55
		81

*See applied music page.

**See music ensemble/secondary instrument page.

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3]The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

[5]Students who have had a previous formal Music Theory Course (Such as an AP Music Theory course) may opt to take the Entrance Exam for theory placement. All others must take MUS 102, Fundamentals of Music, as a required pre-requisite for MUS 103.

NOTE: One EPP General Study math course requires a grade of ≥ C.

(GAR) VISUAL ARTS TEACHER (P-12) CONCENTRATION (VIS)

Total Hours – 127-129. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	See GenEd Listing[1] except 207, 208	3	
Hum a/o FA	ENG 205	3	
	Humanities a/o FA Elective[1]	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1,3]	4	
Lec/Lab	See GenEd Listing[1,3]	4	
Math	See GenEd Listing[1]	3	
			11

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	HED 101, MSC 101, PED[1]	2	
Comp Lit	FED 215[2]	3	
			7
			48

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
EDU 101 Lab Approach/Concept Dev	0-2	
		8-10
		56-58

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
ART 495 Internship[4] (also Prof Study course)	12	
		26

TEACHING FIELD

MinGPA 2.5. MinGrade C.

ART 110 Fundamentals of Drawing	3	
ART 111 Two-Dim. Design & Color	3	
ART 121 Three-Dimensional Design	3	
ART 209 Composition with Drawing	3	
ART 220 History of Art I	3	
ART 221 History of Art II	3	
ART 298 Intro to Photography	3	
ART 305 Ceramics I	3	
ART 307 Jewelry I	3	
ART 310 Teaching Art in Elementary Schls	3	
ART 312 Painting I	3	
ART 315 Sculpture I	3	
ART 320 Fund of Printmaking: Relief/Intaglio	3	
ART 410 Teaching Art in Secondary Schls	3	
Advisor- approved Art Elective(s)	3	
		45
		71

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3]The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

NOTE: One EPP General Study math course requires a grade of ≥ C.

(MUS) BUSINESS CONCENTRATION
MinGPA 2.0. MinGrade C.

ACC 203 Intro to Accounting I	3
ACC 204 Intro to Accounting II	3
FIN 315 Princ of Finance	3
MGT 207 Legal Environment & Ethics	3
MIS 213 Comp Applications in Business	3
MKT 315 Princ of Marketing	3
MUS 316 or 317 Choral or Instr Conducting	1
MUS 470 Music Business Internship	3
*Applied Music – Major Instr/Voice	(5)
*Applied Music – Major Instr/Voice	2
*Applied Music – Minor Instrument/Voice	4
**Music Ensemble	(4)
**Music Ensemble	4
	32
	+ (9)

*See applied music page.
**See music ensemble/secondary instrument page.
NOTE: There are 17 advisor-approved electives. Please check with your advisor regarding credit hour placement.

(MUS) PERFORMANCE CONCENTRATION
MinGPA 2.0. MinGrade C.

*Applied Music – Major Instr/Voice	(5)
*Applied Music – Major Instr/Voice	3
*Applied Music – Minor Instrument/Voice	6
**Music Ensemble	(4)
**Music Ensemble	4
MUS 300 Junior Recital	1
^MUS 310 Literature & Pedagogy	3
MUS 316 or 317 Choral or Instr Conducting	1
MUS 400 Senior Recital	1
	19
	+ (9)

*See applied music page.
**See music ensemble/secondary instrument page.
^Students with an emphasis in Piano performance must take MUS 357, 358, 363, 364. One class will count as the 3 hrs for MUS 310 and the other 9 hrs will count as electives.
NOTE: There are 30 advisor-approved electives. Please check with your advisor regarding credit hour placement.

(MUS) PIANO PEDAGOGY CONCENTRATION
MinGPA 2.0. MinGrade C.

Applied Music – Piano MUS 141, 142, 241, 242, 341, 342, 441	(5)
Applied Music – Piano MUS 141, 142, 241, 242, 341, 342, 441	2
Piano Ensemble MUS 120, 121, 220, 221 Piano Ensemble I-IV	(4)
MUS 263 and 264 Piano Skills I & II	4
MUS 316 or 317 Choral or Instr Conducting	1
MUS 347 and 348 Collaborative Piano I &II	2
MUS 357 and 358 Piano Literature I & II	6
MUS 363 and 364 Piano Pedagogy I & II	6
MUS 400 Senior Recital	1
MUS 463 and 464 Intern Piano Ped I & II	4
	26
	+ (9)

NOTE: There are 23 advisor-approved electives. Please check with your advisor regarding credit hour placement.

(GAR) GRAPHIC DESIGN CONCENTRATION
MinGPA 2.0. MinGrade C.

ART 298 Introduction to Photography	3
ART 230 Graphic Design I	3
ART 312 Painting I	3
ART 320 or 321	3
ART 331 Graphic Design II	3
ART 332 Graphic Design III	3
ART 408 Internship	3
ART 412 Origins of Modern Art	3
ART 420 Advertising Thesis	3
ART 430 Advanced Graphic Design I	3
ART 431 Advanced Graphic Design II	3
ART Elective	6
	39

(GAR) STUDIO ART CONCENTRATION
MinGPA 2.0. MinGrade C.

ART 2xx-3xx 2-D Studio Foundation	3
ART 2xx-3xx 3-D Studio Foundation	6
ART 3xx Studio Elective	9
ART History Elective	3
ART 400 Independent Study in Studio	3
ART 401 Advanced Technical Problems	3
ART 402 Senior Exhibition	3
	30

(TEL) OPERATIONS CONCENTRATION
MinGPA 2.0. MinGrade C.

TEL 213 Digital Broadcasting	3
TEL 217 Discussions for Television	3
TEL 218 Non-Linear Editing	3
TEL 301 Film Production I	3
TEL 302 Film Production II	3
TEL 304 Advanced TV Production	3
TEL 401 Practicum I	3
TEL 402 Practicum II	3
TEL-Operations Elective	3
	27

(TEL) PERFORMANCE CONCENTRATION
MinGPA 2.0. MinGrade C.

TEL 215 Voice and Diction	3
TEL 216 Oral Interpretation	3
TEL 301 Film Production I	3
TEL 305 Introduction to Directing	3
TEL 306 Advanced Directing	3
TEL 401 Practicum I	3
TEL 402 Practicum II	3
TEL 403 Acting for TV/Film I	3
TEL 404 Acting for TV/Film II	3
	27

(TEL) PRODUCTION CONCENTRATION
MinGPA 2.0. MinGrade C.

TEL 218 Non-Linear Editing	3
TEL 301 Film Production I	3
TEL 302 Film Production II	3
TEL 304 Advanced TV Production	3
TEL 305 Introduction to Directing	3
TEL 401 Practicum I	3
TEL 402 Practicum II	3
TEL 403 Acting for TV and Film I	3
TEL-Production Elective	3
	27

[4](GAR) GRAPHIC DESIGN MINOR
MinGPA 2.0. MinGrade C.

[3]ART 101 Art Appreciation	3
ART 110 Fundamentals of Drawing	3
ART 211 Color and Design or 298 Intro to Photo	3
ART 230 Graphic Design I	3
ART 331 Graphic Design II	3
ART 332 Graphic Design III	3
	18

(GAR) [1]ART HISTORY MINOR
MinGPA 2.0. MinGrade C.

ART 220 History of Art I	3
ART 221 History of Art II	3
ART 412 Origins of Modern Art	3
And Any **NINE HOURS** of the following:	
[2]ART 400 Independent Study in Studio	3
ART 403 Classical Art	3
ART 404 Medieval Art	3
ART 405 Renaissance Art	3
ART 409 Primitive Art	3
ART 414 African American Art	3
	18

[1]General Art-Graphic Design majors who choose an Art History minor will choose Art History electives as a substitute for ART 220, 221, and 412.
[1]General Art-Studio Art majors who choose an Art History minor will choose Art History electives as a substitute for ART 220 and 221.
[2]ART 400 (Independent Art Investigation) may be used for purposes of individual research in Art History by art history minors.
[3]General Art-Studio Art majors are exempt. General Art-Studio Art majors may minor in Graphic Design by completing eighteen (18) hours of 3xx-4xx Studio Art Electives other than those required to complete their concentration.
[4]No major/minor overlap.

(GAR) STUDIO ART MINOR (111 and 121)
MinGPA 2.0. MinGrade C.

[1]ART 101 Art Appreciation	3
ART 110 Fundamentals of Drawing	3
ART 111 Two Dimensional Design & Color	3
ART 121 Three Dimensional Design	3
Studio Art Elective	6
	18

(GAR) STUDIO ART MINOR (111 or 121)
MinGPA 2.0. MinGrade C.

[1]ART 101 Art Appreciation (see Bulletin)	3
ART 110 Fundamentals of Drawing	3
ART 111 or 121 Two or Three Dim. Design	3
Studio Art Elective	9
	18

[1]General Art-Graphic Design majors are exempt. General Art-Graphic Design majors may minor in Studio Art by completing eighteen (18) hours of 3xx-4xx Studio Art Electives other than those required to complete their concentration.
No major/minor overlap for either minor.

In addition to courses currently included in the course inventory all students may elect ART 400 (Independent Art Investigation) for further work in their chosen area.

MUSIC INSTRUMENTAL MINOR
MinGPA 2.0. MinGrade C.

MUS 103 Music Theory I	3
MUS 104 Music Theory II	3
MUS 303 Music History I	2
MUS 304 Music History II	2
MUS 1xx-2xx Applied Instrument Elective	2
MUS 1xx-2xx Ensemble	4
MUS Instrumental Elective	2
	18

MUSIC CHORAL MINOR
MinGPA 2.0. MinGrade C.

MUS 103 Music Theory I	3
MUS 104 Music Theory II	3
MUS 303 Music History I	2
MUS 304 Music History II	2
MUS 1xx-2xx Applied Choral Elective	2
MUS 1xx-2xx Ensemble	4
MUS Choral Elective	2
	18

(TEL) COMMUNICATIONS MEDIA MINOR (nonTEL mjr)
MinGPA 2.0. MinGrade C.

TEL 201 Introduction to Broadcasting	3
TEL 202 Fundamentals of TV Production	3
TEL 211 Broadcast Law and Regulation	3
TEL 212 Writing for Broadcasting	3
TEL 1xx-4xx	6
	18

(GAR) VISUAL ARTS (P-12) ELECTIVES

ART 202 Beginning Fibers	3
ART 204 Advanced Fibers	3
ART 299 Photography II	3
ART 306 Ceramics II	3
ART 308 Jewelry II	3
ART 309 Figure Drawing	3
ART 313 Watercolor Painting	3
ART 314 Painting II	3
ART 316 Sculpture II	3
ART 320 Printmaking: Relief/Intaglio **OR**	3
ART 321 Printmaking: Lithography/Serigraphy	
ART 400 Independent Art Investigation	3
ART 412 Origins of Modern Art	3
ART 414 African American Art	3

(GAR) ART HISTORY ELECTIVES

ART 403 Classical Art	3
ART 404 Medieval Art	3
ART 405 Renaissance Art	3
ART 409 Primitive Art	3
ART 412 Origins of Modern Art	3
ART 414 African American Art	3

(GAR) GRAPHIC DESIGN ELECTIVES	
ART 202 Beginning Fibers	3
ART 204 Advanced Fibers	3
ART 299 Photography II	3
ART 305 Ceramics I	3
ART 306 Ceramics II	3
ART 307 Jewelry I	3
ART 308 Jewelry II	3
ART 313 Watercolor Painting	3
ART 314 Painting II	3
ART 315 Sculpture I	3
ART 316 Sculpture II	3
ART 317 Beginning Glassblowing	3
ART 318 Advanced Glass Working	3
ART 320 Printmaking: Relief/Intaglio	3
ART 321 Printmaking: Lithography/Serigraphy	3
ART 400 Independent Art Investigation	3
ART 401 Advanced Technical Problems	3
ART 403 Classical Art	3
ART 404 Medieval Art	3
ART 405 Renaissance Art	3
ART 406 Fashion Illustration	3
ART 407 Advertising Illustration	3
ART 414 African American Art	3

(GAR) STUDIO ART 3XX ELECTIVES	
ART 305 Ceramics I	3
ART 306 Ceramics II	3
ART 307 Jewelry I	3
ART 308 Jewelry II	3
ART 312 Painting I	3
ART 313 Watercolor Painting	3
ART 314 Painting II	3
ART 315 Sculpture I	3
ART 316 Sculpture II	3
ART 317 Beginning Glassblowing	3
ART 318 Advanced Glassblowing	3
ART 320 Printmaking: Relief/Intaglio	3
ART 321 Printmaking: Lithography/Serigraphy	3
ART 331 Graphic Design II	3
ART 332 Graphic Design III	3
ART 340 Introduction to Digital Imaging	3
ART 341 Digital Imaging II	3

(GAR) STUDIO ART 2-D ELECTIVES	
ART 298 Introduction to Photography	3
ART 299 Photography II	3
ART 312 Painting I	3
ART 313 Watercolor Painting	3
ART 314 Painting II	3
ART 320 Printmaking: Relief/Intaglio	3
ART 321 Printmaking: Lithography/Serigraphy	3
ART 340 Introduction to Digital Imaging	3
ART 341 Digital Imaging II	3

(GAR) STUDIO ART 3-D ELECTIVES	
ART 202Beginning Fibers	3
ART 204 Advanced Fibers	3
ART 305 Ceramics I	3
ART 306 Ceramics II	3
ART 307 Jewelry I	3
ART 308 Jewelry II	3
ART 315 Sculpture I	3
ART 316 Sculpture II	3
ART 317 Beginning Glassblowing	3
ART 318 Advanced Glassblowing	3

(TEL) OPERATIONS ELECTIVES	
TEL 215 Voice and Diction	3
TEL 216 Oral Interpretation	3
TEL 217 Discussion for Television	3
TEL 304 Advanced Television Production	3
TEL 311 Advertising for Radio and Television	3
TEL 321 News and Documentary Techniques	3
TEL 403 Acting for Television and Film I	3
TEL 404 Acting for Television and Film I	3
TEL 411 Special Topics in Broadcasting	3
TEL 431 Special Topics in Film	3
TEL 441 Special Topics in Speech and Drama	3

(TEL) PRODUCTION ELECTIVES	
TEL 213 Digital Broadcasting	3
TEL 215 Voice and Diction	3
TEL 216 Oral Interpretation	3
TEL 217 Discussion for Television	3
TEL 311 Advertising for Radio and Television	3
TEL 321 News and Documentary Techniques	3
TEL 404 Acting for Television and Film I	3
TEL 411 Special Topics in Broadcasting	3
TEL 431 Special Topics in Film	3
TEL 441 Special Topics in Speech and Drama	3

FREE ELECTIVES
Any course except developmental courses.

APPLIED MUSIC

Applied music provides private instruction for music majors preparing for recital requirements. Courses must be taken in sequential order. A laboratory fee for each applied instrument is required.

Music (Applied Minor Area) – 4 hrs. All students with Applied Music Area other than Piano must use Piano as their Applied Music Instrument. All students with Piano as their Applied Music Area may take any instrument below except piano.

Students with a concentration in Choral Music Education must take 6 hours in the applied minor area.

APPLIED MUSIC Areas – All courses are one hour, 7 hours minimum in the major area required.

VOICE (choral)		VIOLIN (string)		VIOLA (string)	
MUS 151	Applied Music I	MUS 133	Applied Music I	MUS 135	Applied Music I
MUS 152	Applied Music II	MUS 134	Applied Music II	MUS 136	Applied Music II
MUS 251	Applied Music III	MUS 233	Applied Music III	MUS 235	Applied Music III
MUS 252	Applied Music IV	MUS 234	Applied Music IV	MUS 236	Applied Music IV
MUS 351	Applied Music V	MUS 333	Applied Music V	MUS 335	Applied Music V
MUS 352	Applied Music VI	MUS 334	Applied Music VI	MUS 336	Applied Music VI
MUS 451	Applied Music VII	MUS 433	Applied Music VII	MUS 435	Applied Music VII
MUS 452	Applied Music VIII	MUS 434	Applied Music VIII	MUS 436	Applied Music VIII
CELLO (string)		**DOUBLE BASS (string)**		**PIANO**	
MUS 137	Applied Music I	MUS 139	Applied Music I	MUS 141	Applied Music I
MUS 138	Applied Music II	MUS 140	Applied Music II	MUS 142	Applied Music II
MUS 237	Applied Music III	MUS 239	Applied Music III	MUS 241	Applied Music III
MUS 238	Applied Music IV	MUS 240	Applied Music IV	MUS 242	Applied Music IV
MUS 337	Applied Music V	MUS 339	Applied Music V	MUS 341	Applied Music V
MUS 338	Applied Music VI	MUS 340	Applied Music VI	MUS 342	Applied Music VI
MUS 437	Applied Music VII	MUS 439	Applied Music VII	MUS 441	Applied Music VII
MUS 438	Applied Music VIII	MUS 440	Applied Music VIII	MUS 442	Applied Music VIII
GUITAR (string)		**FRENCH HORN (brass)**		**TRUMPET (brass)**	
MUS 191	Applied Music I	MUS 159	Applied Music I	MUS 161	Applied Music I
MUS 192	Applied Music II	MUS 160	Applied Music II	MUS 162	Applied Music II
MUS 291	Applied Music III	MUS 259	Applied Music III	MUS 261	Applied Music III
MUS 292	Applied Music IV	MUS 260	Applied Music IV	MUS 262	Applied Music IV
MUS 391	Applied Music V	MUS 359	Applied Music V	MUS 361	Applied Music V
MUS 392	Applied Music VI	MUS 360	Applied Music VI	MUS 362	Applied Music VI
MUS 491	Applied Music VII	MUS 459	Applied Music VII	MUS 461	Applied Music VII
MUS 492	Applied Music VIII	MUS 460	Applied Music VIII	MUS 462	Applied Music VIII
TUBA (brass)		**EUPHONIUM (brass)**		**TROMBONE (brass)**	
MUS 183	Applied Music I	MUS 143	Applied Music I	MUS 189	Applied Music I
MUS 184	Applied Music II	MUS 144	Applied Music II	MUS 190	Applied Music II
MUS 283	Applied Music III	MUS 243	Applied Music III	MUS 289	Applied Music III
MUS 284	Applied Music IV	MUS 244	Applied Music IV	MUS 290	Applied Music IV
MUS 383	Applied Music V	MUS 343	Applied Music V	MUS 389	Applied Music V
MUS 384	Applied Music VI	MUS 344	Applied Music VI	MUS 390	Applied Music VI
MUS 483	Applied Music VII	MUS 443	Applied Music VII	MUS 489	Applied Music VII
MUS 484	Applied Music VIII	MUS 444	Applied Music VIII	MUS 490	Applied Music VIII
CLARINET (woodwind)		**BASSOON (woodwind)**		**SAXOPHONE (woodwind)**	
MUS 171	Applied Music I	MUS 187	Applied Music I	MUS 155	Applied Music I
MUS 172	Applied Music II	MUS 188	Applied Music II	MUS 156	Applied Music II
MUS 271	Applied Music III	MUS 287	Applied Music III	MUS 255	Applied Music III
MUS 272	Applied Music IV	MUS 288	Applied Music IV	MUS 256	Applied Music IV
MUS 371	Applied Music V	MUS 387	Applied Music V	MUS 355	Applied Music V
MUS 372	Applied Music VI	MUS 388	Applied Music VI	MUS 356	Applied Music VI
MUS 471	Applied Music VII	MUS 487	Applied Music VII	MUS 455	Applied Music VII
MUS 472	Applied Music VIII	MUS 488	Applied Music VIII	MUS 456	Applied Music VIII
OBOE (woodwind)		**FLUTE (woodwind)**		**PERCUSSION**	
MUS 147	Applied Music I	MUS 145	Applied Music I	MUS 181	Applied Music I
MUS 148	Applied Music II	MUS 146	Applied Music II	MUS 182	Applied Music II
MUS 247	Applied Music III	MUS 245	Applied Music III	MUS 281	Applied Music III
MUS 248	Applied Music IV	MUS 246	Applied Music IV	MUS 282	Applied Music IV
MUS 347	Applied Music V	MUS 345	Applied Music V	MUS 381	Applied Music V
MUS 348	Applied Music VI	MUS 346	Applied Music VI	MUS 382	Applied Music VI
MUS 447	Applied Music VII	MUS 445	Applied Music VII	MUS 481	Applied Music VII
MUS 448	Applied Music VIII	MUS 446	Applied Music VIII	MUS 482	Applied Music VIII

MUSIC ENSEMBLE

MUSIC ENSEMBLE Areas – All courses are one hour.					
PIANO		MARCHING BAND		SYMPHONIC BAND	
MUS 120	Piano Ensemble I	MUS 153	Marching Band	MUS 154	Symphonic Band
MUS 121	Piano Ensemble II	MUS 253	Marching Band	MUS 254	Symphonic Band
MUS 220	Piano Ensemble III	MUS 353	Marching Band	MUS 354	Symphonic Band
MUS 221	Piano Ensemble IV	MUS 453	Marching Band	MUS 454	Symphonic Band
STRING		UNIVERSITY CHOIR			
MUS 149	String Ensemble	MUS 122	University Choir		
MUS 150	String Ensemble	MUS 123	University Choir		
MUS 249	String Ensemble	MUS 222	University Choir		
MUS 250	String Ensemble	MUS 223	University Choir		
MUS 349	String Ensemble	MUS 322	University Choir		
MUS 350	String Ensemble	MUS 323	University Choir		
MUS 449	String Ensemble	MUS 422	University Choir		
MUS 450	String Ensemble	MUS 423	University Choir		

SECONDARY INSTRUMENT Area – All courses are one hour.	
MUS 208	Upper Brasswinds Class
MUS 210	Lower Brasswinds Class
MUS 212	Percussion Class
MUS 312	Woodwinds Class (Single Reeds)
MUS 313	Woodwinds Class (Double Reeds)
MUS 314	Strings Class I

College of Engineering, Technology and Physical Sciences

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Introduction

The College of Engineering, Technology, and Physical Sciences provides students with technological skills and opportunities that stimulate professional, educational, and personal growth. The college provides this growth through a diverse faculty and staff who are committed to teaching, research, and service. Students are encouraged to participate in technical competitions, STEM projects, technical society projects, senior design projects, research, internships and cooperative education programs all of which inspire confidence and develop careers. They also are encouraged to participate in ongoing research with faculty members that contribute to technical innovations. The college maintains an atmosphere that enhances the student's ability to achieve the optimum learning experience.

In addition to program offerings, the College is the home of the National Nuclear Safety Administration's (NNSA) Samuel P. Massie Chair of Excellence Program. This program provides research in nuclear detection materials, simulation, outreach programs and education. The College is home to the Center of Excellence in Integrated Sensor Systems sponsored by the Aviation and Missile Research, Development, and Engineering Center (AMRDEC), and the Historically Black College University-Undergraduate Program (HBCU-UP) funded by the National Science Foundation (NSF). These programs have contributed to improving the college's infrastructure by providing funds to establish state-of-the-art laboratories, educational enhancements, and outreach activities.

The civil, electrical, and mechanical engineering programs are accredited by the Engineering Accreditation Commission (EAC) of the ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone: (410) 347-7700.

The computer science program is accredited by the Computing Accrediting Commission (CAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone: (410) 374-7700.

Mission Statement/Objectives

The mission of the College of Engineering, Technology and Physical Sciences is integrated within and fully supports the mission of Alabama A&M University. The mission of the College of Engineering, Technology and Physical Sciences is to provide the educational settings that allow well-prepared and dedicated students the opportunity to become educated in the sciences, engineering disciplines, and related competencies so that they may become professional practitioners of engineering and engineering technologies in those fields offered by Alabama A&M University. Upon completion of the program chosen, students will be sufficiently prepared to become productive professionals in the industrial, governmental or military sector, or, if they so desire, they will be eminently prepared to enter graduate school.

College Organization

The College of Engineering, Technology and Physical Sciences is organized into four (4) departments, each headed by a department chair. The departments are (1) Civil & Mechanical Engineering, (2) Electrical Engineering and Computer Science, (3) Engineering, Construction Management and Industrial Technology, and (4) Physics, Chemistry, and Mathematics.

Programs Offered

Bachelor of Science in Civil Engineering Degree		
MAJOR	CONCENTRATION	MINOR
Civil Engineering		

Bachelor of Science in Electrical Engineering Degree		
MAJOR	CONCENTRATION	MINOR
Electrical Engineering	Computer Engineering General Microelectronic-VLSI	

Bachelor of Science in Mechanical Engineering Degree		
MAJOR	CONCENTRATION	MINOR
Mechanical Engineering	Manufacturing Systems Nuclear Systems Propulsion Systems	

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Chemistry	Forensic Chemistry Pre-Professional Health Teacher Certification (6-12)	Chemistry Forensic Chemistry
Computer Science	Cyber Security	Computer Science
Construction Management		
Mathematics	Teacher Certification (6-12)	Applied Statistics Mathematics
Physics	Teacher Certification (6-12)	Physics Space Science

Financial Aid/Scholarships

Scholarships in the College of Engineering, Technology and Physical Sciences are supported by state funding, foundations, industries, governmental agencies, and private contributions. Award amounts vary depending on student performance. A minimum cumulative grade point average of 3.0 is required to obtain and retain all scholarships.

Cooperative Education/Internships

Academic credit up to six (6) semester hours may be given for cooperative education work experience. The average will be three semester hours of credit toward graduation for each of two work periods that a co-op student may complete in business or industry and with proper evaluation.

College Graduation Requirements

Every student enrolled in College of Engineering, Technology and Physical Sciences will be assigned an advisor. All students are assigned advisors who are instructors in their perspective program.

It is important that students, enrolled in the College of Engineering, Technology and Physical Sciences, are aware of the fact that not all courses listed in their curriculum will be offered every semester or year. As some courses will be offered only in alternate years, students will do well to consult with their advisors, as printed outlines in the respective curricula may not carry this information.

Undergraduate degree candidates in the College of Engineering, Technology and Physical Sciences must satisfy each of the following requirements:

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements. Requirements for each program can be found in the departmental sections of the Bulletin.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. A grade of “C” or better is required in all CS courses.
9. Satisfactory completion of entrance examinations.
10. Demonstrated maturity in the physical sciences and mathematics.

Any student pursuing a minor in the College of Engineering, Technology and Physical Sciences must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.

All students enrolled in the College of Engineering, Technology and Physical Sciences (CETPS) are expected to purchase books promptly at the beginning of the term.

In addition to purchasing the required books for courses, students will be expected to purchase such tools, aprons, or coveralls as may be required of those enrolled in specified areas. In some areas, the students will be expected also to purchase instruments and special supplies. Students will also pay special course fees each semester in varying amounts, depending upon the curriculum in which they are

enrolled. A list of fees is published in this Bulletin. While it is not a requirement, students in the College of Engineering, Technology and Physical Sciences are encouraged to either have their own computer or access to a computer for work after hours.

Department of Civil and Mechanical Engineering

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Introduction

The Department of Civil and Mechanical Engineering (CME) offers programs of study at both undergraduate and graduate levels. For undergraduate students, we offer ABET accredited programs leading to degrees of bachelor of science in civil engineering (BSCE) and bachelor of science in mechanical engineering (BSME). The department also offers graduate instruction and research leading to Master of Engineering in Materiel Engineering with emphasis on Mechanical Engineering (ME) or Civil Engineering (CE). Students in the CME Department have access to the most modern instructional and laboratory infrastructure. Among CME faculty are internationally recognized authorities in their respective fields of expertise. Mechanical Engineering and Civil Engineering are extremely versatile technical fields with the most promising career prospects.

The degree program in Mechanical Engineering (BSME) curriculum is offered in three concentrations, General ME Concentration, Manufacturing Systems Concentration, and Propulsion Systems Concentration. Graduates of the BSME program are well prepared to pursue careers in research and development, design, manufacturing and management in a diverse array of industries including power engineering and energy systems, aerospace, automotive, robotics, etc. They are also well prepared to pursue graduate and professional degrees.

The degree program in Civil Engineering (BSCE) provides a course of study deigned to give students a through grounding in both theoretical and practical areas of Civil Engineering. The civil engineer plans, designs, construct and maintains physical works and facilities that are deemed essential to modern life. Civil Engineering includes the broad categories of construction, structural engineering, soil mechanics and foundations, transportation systems, water resources, hydraulic engineering, environmental engineering, surveying and mapping, city planning and municipal engineering.

Mission Statement/Objectives

The program educational objectives of the Civil Engineering Program are to produce graduates who, after the first few years of their graduation, have:

1. Successfully practiced civil engineering in industry and/or government
2. Continued to pursue lifelong learning through professional development or completion of advanced studies (graduate degree, short courses, etc.)
3. Recognized the need for scholarship, leadership, and services to society.

The mission of the Mechanical Engineering program is that of providing an environment conducive for students to build their self-confidence, develop engineering and professional competencies, and elevate the quality of their scholarly and professional endeavors. The educational goal is to provide students with the necessary preparation in mechanical engineering to compete effectively for professional careers in this field and with the motivation for personal and professional growth through lifelong learning. The vision is to develop engineering core competencies in areas of manufacturing and propulsion systems, to better support industry, governmental organizations and corporations with relevant engineering activities in aerospace, automotive, power generation, industrial manufacturing and related emerging technologies.

The objectives of the Mechanical Engineering program at Alabama A&M University are to produce graduates who, within the first few years of their graduation:

1. Are successfully employed in ME-related fields or have transitioned into nontraditional career paths.
2. Advance professionally as a result of his/her ability to solve complex technical problems and demonstrate professional engineering competence via promotions and/or positions of increasing responsibility.
3. Continue life-long learning via progress toward, or successful completion of an advanced degree, professional development and/or industrial training course(s), and/or engineering certification.
4. Demonstrate service and sovereignty through involvement with community and/or professional organizations and/or make contributions towards society's greater good and prosperity

Programs Offered

Bachelor of Science in Civil Engineering Degree		
MAJOR	CONCENTRATION	MINOR
Civil Engineering		

Bachelor of Science in Mechanical Engineering Degree		
MAJOR	CONCENTRATION	MINOR
Mechanical Engineering	Manufacturing Systems Nuclear Systems Propulsion Systems	

Financial Assistance/Scholarships

Financial assistance is available through the Office of Student Financial Aid in three major types of aid: Federal Aid, State Aid and Institutional Aid. The College of Engineering, Technology and Physical Sciences has offered the following scholarships to eligible engineering students in the recent past and anticipates continuation of the same in the future:

- The Boeing Scholarship
- The American Society of Civil Engineers, Alabama Section. Awarded to a senior in Civil Engineering/AAMU
- The Birmingham Construction Industry Authority Scholarship. Awarded to an eligible Engineering major interested in construction
- Alabama Space Grant Consortium Scholarship
- Undergraduate/graduate research assistantships through various grants and research contracts

Additional scholarships are available to Civil Engineering majors only, through an annual grant funded by the Alabama Licensing Board for General Contractors. In addition, a variety of scholarships are offered through national competitions by organizations such as the American Institute of Steel Construction, American Concrete Institute, National Society of Professional Engineers, and American Society of Civil Engineers, etc. Announcements are posted on the department bulletin board as they are available.

Financial assistance and scholarships are addressed by the University Admissions Office.

Cooperative Education/Internships

All Civil Engineering majors are encouraged to obtain professional work experience prior to graduation through Cooperative Education programs administered by the Career Development Services. In the past Civil Engineering students have participated in Cooperative Education assignments at such locations as the US Corp of Engineers, Huntsville and Mobile, AL; Alabama Department of Transportation, Huntsville, Gadsden and Montgomery, AL; US Bureau of Reclamation, Denver, CO; and many other Government and private organizations. Interested students should contact the Chairperson of Department of Civil Engineering and the Director of Cooperative Education.

Cooperative education and internships are encouraged. Students are advised to work with the University Placement Office.

Student/Professional Organizations

All civil engineering majors are strongly encouraged to join the Student Chapter of the American Society of Civil Engineers (ASCE). This professional organization is concerned about the professional, social, and financial security of its members throughout their lives. The ASCE Student Chapter is the most important and active student organization in the program. The Chapter members participate in the local branch meetings and other activities, such as Habitat for Humanity projects and tutoring underclassmen. The Chapter also attends the yearly Southeastern Regional ASCE Student Conference and competes with other civil engineering students around the region.

The Mechanical Engineering program encourages students to participate in various professional societies like the American Society for Mechanical Engineering (ASME), the Society for manufacturing engineering (SME) the American Institute for Aeronautics and Astronautics (AIAA) and others.

Special Programs/Awards/Recognitions

The Huntsville Branch of the American Society of Civil Engineers (ASCE) recognizes A&M Student Civil Engineer of the year at the annual Engineers Week Banquet. Only active members of the A&M ASCE Student Chapter are considered for nomination by the Civil Engineering program. The ASCE Alabama Section awards a scholarship to a senior in Civil Engineering/AAMU.

The college participates in nominating candidates for the honors day. Students are required to provide documentation for consideration early in February each year.

Admission Policy

Students must meet all admission requirements established by the University and the College of Engineering, Technology and Physical Sciences and must satisfy the following requirements:

- Adequate mathematics and sciences background, such as algebra, geometry, trigonometry, physics, and chemistry, preferably in high school
- Meet requirements to exit University College
- Complete EGC 101, Engineering Drawing and Graphics; MTH 125, Calculus I; PHY 105, General Physics I; and CHE 101/101L, General Chemistry I/Lab.

Prospective students must qualify for admission to the University and must satisfy the following requirements prior to transfer from University College to the Mechanical Engineering program:

- Demonstrate competence in the basic areas of reading, writing, logical reasoning, and mathematics as measured by standardized assessment instruments;
- Complete a minimum of 23 credit hours from the freshman core curriculum and university requirements; and
- Meet all requirements for admission to the mechanical engineering program.
- The University requires that all students take a one credit hour course in university orientation and two credit hours in an approved health course.
- Mechanical engineering majors are required to report to the department office and schedule an interview with the chairperson as soon as possible. The interview provides an opportunity for appropriate documentation to be placed in the student's file.
- Transfer credits from other institutions are accepted conditionally, subject to departmental approval and approval by the Vice President for Academic Affairs. The department may require the completion of class projects through independent study. Transfer students must complete at least one-half of the ME courses and earn the final 25% of required credit hours of work towards their degree at AAMU.

Department Graduation Requirements

Entering Civil Engineering majors are required to report to the department office and interview with the department chairperson as soon as possible. Each student admitted to the Civil Engineering program is assigned an advisor for the duration of the program. The advisor will advise the student with proper course sequencing, course planning, and other academic matters. Each student should have an active file in the department office, which includes the student's enrollment information and a copy of his or her Student Scholastic Record (SSR) Form. The SSR should be updated each semester either during the period of academic advisement or pre-registration by the advisor. The advisor works with the students to keep track of their progress toward the degree. Prerequisites are required for approval of any advanced courses. Students are advised to earn a grade of C or better in all prerequisites before proceeding to any advanced courses. Undergraduate degree candidates must satisfy each of the following requirements:

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Complete each course in major attempted at AAMU with a grade of "C" or better.
9. CE:
    - Complete each EGC course attempted at AAMU with a grade of "C" or better.
    - Take the Fundamentals of Engineering (FE) Examination prior to graduation.
10. ME:
    - Earn a grade of "C" or better in each ME course.
    - Students are required to earn a grade of "C" or better in all prerequisites before proceeding to any advanced courses.

Civil Engineering
130 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 125	Calculus I	4	EGC 104	Computer Programming[2]	3
CHE 101	General Chemistry I	3	CHE 102	General Chemistry II	3
CHE 101L	General Chemistry I Lab	1	CHE 102L	General Chemistry II Lab	1
EGC 101	Engg Drawing/Graphics[2]	3	PHY 105	Physics I	4
CE 101	Intro to Civil Engg[2]	1	MTH 126	Calculus II	4
	PED/MSC/HED Elective[1]	2			19
		18			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS	Elective Sequence[1]	3	HIS	Elective Sequence[1]	3
MTH 227	Calculus III	4	MTH 238	Applied Differential Equations	3
PHY 106	Physics II	4	EE 201	Linear Circuit Analysis I[2]	3
EGC 205	Statics[2]	3	EE 201L	Linear Circuit Analysis I Lab[2]	1
CE 201	Surveying[2]	3	EGC 206	Dynamics[2]	3
		17	EGC 207	Strength of Materials[2]	3
			EGC 207L	Strength of Materials Lab[2]	1
					17

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 205	General Speech	3	CE 304	Environmental Engineering[2]	3
ECO	Economics Elective[1]	3	CE 305	Hydrogeology[2]	3
EGC 204	Engineering Analysis[2]	3	CE 308	Soil Mechanics[2]	3
EGC 305	Fluid Mechanics[2]	3	CE 308L	Soil Mechanics Lab	1
EGC 305L	Fluid Mechanics Lab[2]	1	CE 310	Transportation Systems[2]	3
CE 306	Structural Analysis I[2]	3	CE 401	Structural Steel Design[2]	3
		16			16

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	201, 202, 203, 204	3		Fine Arts Elective[1]	3
CE 402	Reinforced Concrete Design[2]	3	CE 404	Hydraulic Engg & Design[2]	3
CE 408	Foundation Design[2]	3	CE 470	Civil Engg Design Project[2] [CS]	3
CE 410	Transportation Engg & Design[2]	3		[2]CE 4xx, [2]NRE 494, 495	3
CE 424	Civil Engineering Practice[2]	3			12
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

Mechanical Engineering
130 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 125	Calculus I	4	MTH 126	Calculus II	4
CHE 101	General Chemistry I	3	PHY 105	Physics I	4
CHE 101L	General Chemistry I Lab	1	ME 103	Computer-Aided Design I[2]	2
ME 101	Intro to Mechanical Engineering[2]	1	ME 104	Engineering Programming I	3
	PED/MSC/HED Elective[1]	2			17
		15			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 101	World History I Sequence	3	HIS 102	World History II Sequence	3
MTH 227	Calculus III	4	MTH 238	Applied Differential Equations	3
PHY 106	Physics II	4	ME 204	Engineering Analysis	3
ME 205	Statics[2]	3	ME 206	Dynamics[2]	3
CHE 102	General Chemistry II	3	ME 210	Material Science[2]	3
CHE 102L	General Chemistry II Lab	1	EE 201	Linear Circuit Analysis I[2]	3
		18			18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ECO	231, 232	3	ME 320	Kinematics/Dynamics of Machines[2]	3
ME 231	Strength of Materials[2]	3	ME 313L	Experimental Mechanics Lab[2]	1
ME 300	Math Methods in Mechanical Engg[2]	3	ME 301	Anal/Instr of Physical Systems[2]	2
ME 310	Themodynamics[2]	3	ME 301L	Anal/Instr of Physical Systems Lab[2]	1
ME 360	Fluid Mechanics I[2]	3	ME 380	Computer-Aided Design II[2]	3
ME 360L	Fluid Mechanics I Lab[2]	1	ME 312	Heat and Mass Transfer[2]	3
		16	ME 312L	Heat and Mass Transfer Lab[2]	1
			ME 425	Design of Machine Element[2]	3
					17

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 203	World Literature I	3	ENG 204	World Literature II	3
ME 4xx	Elective	3		Fine Arts Elective[1]	3
ME 451	Automatic Control Systems[2]	3	ME 4xx	Elective	3
ME 470	Mech Engg Design Project I[2] [CS]	2	ME 475	Mech Engg Design Project II[2] [CS]	2
ME 4xx	Elective[3]	3	ME 4xx	Elective	3
ME 4xxL	Elective[3]	1			14
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]If the student chooses to only pursue the baseline ME program, ME 432 and 432L must be taken as part of the ME 4xx Electives to fulfill the program's requirements.

Concentrations, Minors & Electives

(ME) MANUFACTURING SYSTEMS CONCENTRATION
MinGPA 2.0. MinGrade C.

ME 301/L Anal/Instr of Physical Sys & Lab	(3)
ME 380 Computer-Aided Design II	(3)
ME 425 Design of Machine Element	(3)
ME 432/L Design Mfg & Reliability & Lab	4
ME 472 Economic Eval of Design Project	3
ME 481 Quality Reliability Assurance	3
ME 482 Operations Planning & Scheduling	3
	13
	+ (9)

(ME) PROPULSION SYSTEMS CONCENTRATION
MinGPA 2.0. MinGrade C.

ME 360/L Fluid Mechanics I & Lab	(4)
ME 312/L Heat and Mass Transfer & Lab	(4)
ME 417 Power System Integ & Perf	3
ME 412/L A/S Gas Turbines/Comp	4
ME 413 Rocket Propulsion	3
ME 416 Gas Dynamics	3
ME 451 Auto Control Systems	(3)
	13
	+ (11)

(ME) NUCLEAR SYSTEMS CONCENTRATION
MinGPA 2.0. MinGrade C.

ME 231 Strength of Materials	(3)
ME 307 Fund of Nuclear Engineering	3
ME 310 Thermodynamics	(3)
ME 320 Kinematics/Dynamics of Machines	(3)
ME 441 Renewable Energy	3
ME 460 Nuclear Reactor Engineering I	3
ME 461 Nuclear Reactor Engineering II	3
ME 4xx Elective Lab	(1)
	12
	+ (10)

Department of Electrical Engineering and Computer Science

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Introduction

The Department of Electrical Engineering and Computer Science (EECS) offers programs of study at both undergraduate and graduate levels. For undergraduate students, we offer ABET accredited programs leading to degrees of bachelor of science in electrical engineering (BSEE) and bachelor of science in computer science (BSCS). The department also offers graduate instruction and research leading to Master of Eng. in Materiel Engineering (EE emphasis) and MS in Computer Science. Students in the EECS Department have access to the most modern instructional and laboratory infrastructure. Among EECS faculty are internationally recognized authorities in their respective fields of expertise. Electrical engineering and computer science are extremely versatile technical fields with the most promising career prospects.

The degree program in Electrical Engineering (BSEE) curriculum is offered in three options, General EE Option, Computer Engineering Option, and Microelectronics (VLSI) Option. Graduates of the BSEE program are well prepared to pursue careers in research and development, design, manufacturing and management in a diverse array of industries including power engineering and energy systems, electronics, computer and information, communication, aerospace, automotive, robotics, etc. They are also well prepared to pursue graduate and professional degrees.

The degree program in Computer Science provides a course of study designed to give students a thorough grounding in both theoretical and practical areas of computer science. Computer Science continues to be a rapidly growing and changing field with a wide variety of occupational opportunities. Virtually every Computer Science course requires some practice in programming skills, so that students will, upon graduation, be prepared for either graduate school or entry into the computer applications job market.

Mission Statement/Objectives

The mission of the BSEE degree program at Alabama A&M University, consistent with that of the University and the College of Engineering, Technology and Physical Sciences is to provide quality education, research, and service to its constituents. The Department commits to provide qualified graduates in the growing field of electrical engineering by fostering:

1. Excellence in electrical engineering education
2. Physical facilities and learning resources that are conducive to learning, research, extension and development
3. A sense of scholarship, leadership and service
4. A search for new knowledge through research and its application
5. Programs necessary to address the needs of capable students

The mission of the BSCS degree program at Alabama A&M University is consistent with that of the University and the College of Engineering, Technology and Physical Sciences and is to provide quality education, research, and service to its constituents. The Computer Science curriculum at Alabama A & M University provides students with an in-depth background in both the hardware and software aspects of Computer Science. The program area of computer science also offers individual courses and minors to students in other disciplines.

Objectives (BSEE):

1. Graduates will be equipped with the technical, communication and teamwork skills that will enable them to be competitive in the marketplace and build productive careers in electrical engineering or related fields.
2. Graduates will contribute to the economic vitality and security of our State and Nation by having acquired the technical knowledge, skill sets, social awareness and ethical traits necessary for successful careers in the global commercial sector, as well as the security, defense, and space oriented industries of North Alabama and throughout the Nation.
3. Graduates will have the knowledge, skill sets and lifelong learning habits that prepare them for pursuit of career development and advanced degrees, and will enhance our Nation's productivity and economic competitiveness by increasing the diversity of the US technical workforce.

Objectives (BSCS)

1. Graduates will work in careers in computing and associated technology fields.
2. Graduates will practice their professional endeavors, communicating effectively, as team members, in leadership positions to the highest legal and ethical standards.
3. Graduates will realize, mentor, and pursue a program of continuous educational improvement for the benefit of themselves and others in our dynamic and rapidly changing field.

The program focuses on the students acquiring the following learning outcomes as they progress through the program which help realize the above objectives 1-3.

1. Students will demonstrate critical knowledge, techniques, and tools of the discipline
2. Students will apply appropriate and emerging mathematics, computer science, and engineering technologies to solve problems
3. Students will work as team members and with team leaders
4. Students will have documented abilities for writing and presentation skills
5. Students will apply one or more modern computer languages to problem solving
6. Students will clearly express the basis for responsible and ethical behavior in their profession and recognize the need for it
7. Students will be able to implement concepts in software engineering, operating systems, computer architecture, and algorithm analysis

Programs Offered

Bachelor of Science in Electrical Engineering Degree		
MAJOR	CONCENTRATION	MINOR
Electrical Engineering	Computer Engineering General Microelectronic-VLSI	

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Computer Science	Cyber Security	Computer Science

Financial Aid/Scholarships

All students should check with Department of Financial Aid each semester to avail themselves of any available scholarships, grants, or on campus part-time jobs.

Student/Professional Organizations

The Department and the College supports the following computer related organizations: National Society of Black Engineers, Institute of Electrical and Electronics Engineers, Eta Kappa Tau Engineering and Technology Fraternity, and the Computer Science Club.

Admission Policy

I. Admission Directly from High School – Students must meet all the requirements established by the University, that is, high school students entering Alabama A&M University must have maintained a grade point average of at least "C" in English, mathematics, science, and history and political science. In addition, the entrance requirements in mathematics are three and one-half units; algebra, two units; plane geometry, one unit; and trigonometry and/or advanced mathematics, one-half unit. Students must have at least two units in science; chemistry, one unit; and physics, one unit.

II. Admission through the University College – Prior to entering the engineering program, a student must complete all the requirements of the University College. In addition, students must have maintained a minimum overall grade point average of 2.5 and completed at least the first course of calculus with a grade of "C" or better.

III. Transfers from Other Institutions – Students desiring to transfer to the program must be in good academic standing at the College or University from which they are transferring. In addition, they must have maintained a grade point average of 2.5 or better, completed at least the first course of calculus with a grade of "C" or better, and completed the requirements of the University College at Alabama A&M University, if they transfer in fewer than 30 semester hours.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. A grade of "C" or better is required in all CS and EE courses.

9. A grade of “C” or better is required in any course used as a substitute for an electrical engineering course.
10. Prerequisites must be carefully followed.

Computer Science
129 Credit hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 125	Calculus I	4		ART 101, MUS 101	3
	PED/MSC/HED Elective[3]	2	HIS	Elective[1]	3
CS 104	Intro to Computers & Ethics	3	MTH 126	Calculus II	4
	General Science Elective[2,4]	3	CS 102	Intro to Programming I[2]	3
	General Science Elective Lab[2,4]	1			17
		17			

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	Literature Elective Sequence[1]	3	ENG	Literature Elective Sequence[1]	3
PHY 105	Physics I	4	PHY 106	Physics II	4
HIS	Elective[1]	3	ECO	231, 232	3
CS 109	Intro to Programming II[2]	3	CS 206	Visual Programming I[2]	3
CS 203	Discrete Structures[2]	3	CS 209	Intro to Digital Logic Design[2]	3
		16	CS 215	Data Structures[2]	3
					19

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MTH 237	Linear Algebra[2]	3	CS 328	Object Oriented Design with UML[2]	3
CS 314	Advanced Programming[2]	3	CS 384	Operating Systems[2]	3
CS 381	Computer Organization[2]	3	CS 3xx	Elective[2]	3
CS 3xx	Elective[2]	3		SOC 201, GEO 214, PSY 201	3
ENG 205	General Speech	3		Free Elective	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MTH 453	Probability & Statistics[2]	3	CS 403	Senior Problems[2] [CS]	3
CS 401	Software Engineering[2]	3	CS 405	Linux w/ Appl Programming[2]	3
CS 425	Theory of Algorithms[2]	3	CS 410	Seminar[2]	3
CS 488	Database Systems[2]	3	CS 4xx	Elective[2]	3
CS 4xx	Elective[2]	3		Free Elective	3
		15			15

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]HED 101, FAS 101, MSC 101, NHM 103, PED 102, 107
[4]Lec/lab must match.

Electrical Engineering
130 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 125	Calculus I	4	MTH 126	Calculus II	4
CHE 101	General Chemistry I	3	PHY 105	Physics I	4
CHE 101L	General Chemistry I Lab	1	EE 109	Engineering Computing[2]	3
EE 101	Intro to Electrical Engineering[2]	3	HIS 101	World History I Sequence	3
	PED/MSC/HED Elective[1]	2			18
		17			

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
HIS 102	World History II Sequence	3	ENG 203	World Literature I	3
MTH 227	Calculus III	4	MTH 238	Applied Differential Equations	3
PHY 106	Physics II	4	EE 202	Linear Circuit Analysis II[2]	3
EE 201	Linear Circuit Analysis I[2]	3	EE 203	Analog Circuit Design/Analysis I[2]	3
EE 201L	Linear Circuit Analysis I Lab[2]	1	EE 203L	Analog Circuit Design/Anal I Lab[2]	1
	Fine Arts Elective[1]	3	EE 204	Digital Circuit Design/Analysis[2]	3
		18			16

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
EE 301	Signals & Systems I[2]	3		Concentration Course[3]	3
EE 305	Semiconductor Engineering I[2]	3	EE 303	Electromagnetic Field Theory[2]	3
EE 320	Computer Architecture[2]	3	EE 304	Numerical Methods/Digital Comp[2]	3
EE 320L	Digital Systems Lab[2]	1	EE 330	Microprocessors[2]	3
EE 333	Analog Circuit Design/Analysis II[2]	3		Concentration Course[3]	3
ECO	231, 232	3	≥ 2xx	ME, CE courses	3
		16			18

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
	Concentration Course[3]	3		Concentration Course[3]	3
EE 403	Feedback System Analysis/Design[2]	3	EE 404	Communication Theory[2]	3
	Concentration Course[3]	3		Concentration Course[3]	3
	Humanities Elective[1]	3		MTH 237, 303, 452, 453, PHY 303	3
	Concentration Course[3]	3			12
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although concentrations are a minimum 21 hours, some may require additional hours. Please check the Bulletin. The attached concentration within the baseline program is limited to only those concentrations listed on the back of the Program Checklist and in the "Concentrations, Minors, Electives" Section of the Bulletin for this Department unless otherwise specified here.

Concentrations, Minors & Electives

(EE) MICROELECTRONIC-VLSI CONCENTRATION
MinGPA 2.0. MinGrade C.

EE 340L or 360L	1
EE 350 VLSI Design & Testing	3
EE 431 Semiconductor Engineering II	3
EE 451 Integrated Circuit Fabrication	3
EE 451L Integrated Circuit Fab Lab	1
EE 470 Engg Analysis & Design I [CS]	2
EE 471 Engg Analysis & Design II [CS]	2
ME 481 Quality & Reliability Assurance	3
EE 4xx	3
	21

(EE) COMPUTER ENGINEERING CONCENTRATION
MinGPA 2.0. MinGrade C.

CS 215 Data Structures	3
CS 384 Operating Systems	3
CS 4xx	3
EE 340L or 360L	1
EE 405L Simulation Techniques	1
EE 470 Engg Analysis & Design I [CS]	2
EE 471 Engg Analysis & Design II [CS]	2
ME 481 Quality & Reliability Assurance	3
EE 4xx or 350	3
	21

(EE) GENERAL CONCENTRATION
MinGPA 2.0. MinGrade C.

EE 340L or 360L	1
EE 405L Simulation Techniques	1
EE 410 Microwave Engineering	3
EE 470 Engg Analysis & Design I [CS]	2
EE 471 Engg Analysis & Design II [CS]	2
ME 481 Quality & Reliability Assurance	3
EE 4xx	3
EE 4xx	3
EE 4xx or 350	3
	21

(CS) COMPUTER SCIENCE MINOR (nonCS mjr)
MinGPA 2.0. MinGrade C.

CS 102 Intro to Programming I	3
CS 104 Intro to Computers & Ethics	3
CS 109 Intro to Programming II	3
CS 203 Discrete Structures	3
CS 206 Visual Programming I	3
CS 3xx-4xx Elective	3
	18

(CS) COMPUTER SCIENCE ELECTIVES

CS 304 Intro to Web Programming	3
CS 309 Computer Graphics	3
CS 311 Intro to Simulation	3
CS 315 Intro to Game Programming	3
CS 320 Intro to Multimedia Authoring	3
CS 321 Principles of Information Security	3
CS 330 Computers in Society	3
CS 408 Wireless Computing	3
CS 409 Intro to Digital Image Processing	3

(CS) COMPUTER SCIENCE ELECTIVES

CS 414 Forensic Computing	3
CS 421 Computer Security	3
CS 435 Intro to Bioinformatics	3
CS 440 Programming Languages	3
CS 450 Artificial Intelligence	3
CS 483 Compilers	3
CS 484 Internship*	3
CS 485 Intro to Data Comm. & Networks	3
CS 490 High Performance Computing	3

*The student may not earn more than six hours credit from the combination of cooperative education and CS 484. The cooperative education elective provides for junior and senior level students to earn six credit hours for approved work experience. The internship elective permits senior level students to earn three credit hours through University cooperation with employers.

Department of Engineering, Construction Management and Industrial Technology

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Mission Statement/Objectives

The mission of the technology programs is to educate students in the application of current engineering knowledge, methods, and established design procedures necessary to be effective members of the engineering team as related to applied design, testing, and manufacturing – coupled with a sound understanding of the professional, ethical, and social responsibilities associated with the field of engineering. The program strives to adequately address the major needs and problems of capable students who have experienced limited access to education.

The mission of the Construction Management Program is to educate our students for professional construction leadership positions with a sense of ethical and environmental responsibility and also for advanced degree programs. Our focus is on the fundamental concepts and technical skills required to create a wide range of career paths in the construction profession. We balance practical knowledge with theory. Through excellence in teaching, research and community service, the program promotes opportunities for scholarly, personal, and professional growth. We value and will continue our long tradition of educating non-traditional students of diverse backgrounds for successful entry into the workforce. The program is committed to maintaining scholarly activities to keep the program at the state of the art of application and seeks to provide service and outreach activities to the construction profession.

The Construction Management Program educational objectives are:

1. Organize and manage construction projects including scheduling, maintaining field records, team building and leadership concepts/skills.
2. Ability to apply technical knowledge and prepare a complete construction project schedule to perform proficiently in construction industry.
3. Conduct, analyze and interpret experiment related to construction and apply results to improve construction methods and technique.
4. Communicate with multi-disciplinary teams.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Construction Management		

Financial Aid/Scholarships

Financial assistance is available through the Office of Student Financial Aid. Several full-tuition Construction Management major scholarships are available to incoming freshmen and transferred students on a competitive basis through the College of Engineering, Technology and Physical Sciences. Other scholarships are available through endowments and industrial donations to students majoring in Construction Management.

Cooperative Education/Internships

All construction management majors are encouraged to obtain professional work experience prior to graduation through Cooperative Education programs administered by the Career Development Services (CDS). In addition, all construction management undergraduate students are required to complete 12-weeks of internship in the construction industry, and will register and receive three (3) credit hours for satisfactory completion. The Construction Management Program will assist in placing students on internship via the Career Fair or during a week of on-campus interviews each semester, or the student may contact the CDS with a requested placement site. Compensation and possible travel expenses will be negotiated between the student and sponsor. CDS will match students and companies based upon the student's interests and amount of experience and the requests of the company. During the scheduled interview week, industry representatives will interview students and, subsequently, make job offers.

Student/Professional Organizations

The Construction Management Professional Organization is a student activity dedicated to learn more about the construction industry through scheduled meetings, guest speakers, field experiences, and networking with local construction related companies. All construction management majors are strongly encouraged to join the following student chapters:

Associated General Contractors
Associated Builders and Contractors
Design Build Institute of America
Emerging Green Builders

National Association of Home Builders Sigma Lambda Chi
American Society of Civil Engineers

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.

Construction Management

128 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 112	Pre-Calculus Algebra	3		ART 101, MUS 101	3
CHE 101	General Chemistry I	3		BIO 101[2], PHY 101[2], CHE 102[2]	3
CHE 101L	General Chemistry I Lab	1		BIO 101L[2], PHY 101L[2]. CHE 102L[2]	1
HIS 101	World History I Sequence	3		PED/MSC/HED Elective[1]	2
CMG 101	Intro to Construction Mgt[2]	2	MTH 113	Pre-Calculus Trigonometry[2]	3
		16	CMG 105	Intro to Construction Materials[2]	2
					18

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	201 or 203	3	HIS 102	World History II Sequence	3
CMG 225	Computer Appls for Construction[2]	3		Soc/Behav Sci Elective[1]	3
CMG 110	Blue Print Reading/Constr Plans[2]	3	ENG 205	General Speech	3
TGC 217	Statics & Structural Analysis[2]	3		2nd Fine Arts or Humanities[1]	3
TGC 218	Strength of Materials[2]	3	CMG 250	Construction Estimating[2]	3
ECO	Economics Elective[1]	3	CE 201	Surveying[2]	3
		18			18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
CMG 300	Construction Methods[2]	3	CMG 315	Heavy Construction[2]	3
CMG 301	Construction Materials & Testing[2]	3	CMG 318	Mechanical & Electrical Systems[2]	3
CMG 306	Construction Planning/Scheduling[2]	3	CMG 320	Leadership in Construction[2]	3
CMG 308	Soil Mechanics & Foundations[2]	3	CMG 310	Construction Contract & Law[2]	3
MGT 207	Legal Environment & Ethics[2]	3	MGT 315	Principles of Management[2]	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
CMG 400	Construction Accounting[2]	3	CMG 450	Constr Codes & Quality Control[2]	3
CMG 350	Construction Safety[2]	3	CMG 461	Capstone Project Phase II[2] [CS]	2
CMG 420	Internship[2]	3	MGT 352	Entrepreneurship[2]	3
CMG 430	Advanced Constr Cost Estimation[2]	3		MGT 433[2], 450[2], FIN 315[2]	3
CMG 460	Capstone Project Phase I[2] [CS]	2	CMG 410	Concrete/Steel/Wood Des & Cons[2]	3
		14			14

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]Lec/Lab must match.

Department of Physics, Chemistry and Mathematics

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Introduction

The Department of Physics, Chemistry and Mathematics (DPCM) was organized in the Fall Semester of 2011 and is a single department in The College of Engineering, Technology and Physical Sciences. The primary objectives of the undergraduate programs of DPCM are to (1) provide sound training in physics, chemistry and mathematics leading to the B.S. degree and (2) provide service courses which are required by other disciplines. The Physics Program also has a graduate program which offers the M.S. and Ph.D. degrees in applied physics with specializations in Space Science, Materials Science and Optics/Lasers.

The Chemistry program offers a professional curriculum for the Bachelor of Science degree in chemistry, as well as a minor in the field of chemistry. In cooperation with the College of Education, Humanities and Behavioral Sciences, the program offers curricula for persons planning to teach chemistry in high school. Curricula for the secondary education major, with a teaching emphasis in chemistry, are found under the Secondary Education sections of this Bulletin. The program offers two tracks for persons majoring in chemistry: a regular major program, and an honors major program. In addition, the major sequences include concentrations in Forensic Science and a Pre-Professional Health Trade.

Mission Statement/Objectives

The mission of the department is to provide our graduates with a solid academic foundation in physics, chemistry, and mathematics with skills for further educational opportunities, and with knowledge and training for their chosen profession. We expect that our students will become productive and informed citizens, who are well prepared for positions in public and private institutions, and for graduate and professional studies in their chosen discipline. In cooperation with The College of Education, Humanities and Behavioral Sciences, each program offers curricula for persons planning to teach physics, chemistry or mathematics at the high school level. Listed below are the unique missions and objectives of the three program areas.

Physics: The mission of the Physics Program is to give students a good understanding of physics as the foundation of modern technologies, to train students to enter graduate programs and/or enter the research oriented world, and to provide students with the skills of today's high-tech-related job market. The physics program offers a challenging curriculum for undergraduate students seeking the knowledge of basic physics and real exposure to the state-of-the-art applications and research. This program provides a solid foundation in the fundamentals of classical physics, modern physics, quantum mechanics and electromagnetic theory while providing curriculum flexibility by way of a spectrum of technical electives to pursue individual interests. Faculty members are able to provide individual guidance and mentoring due to the relatively small student-to-faculty ratio. An important element of the physics program is the many research opportunities to pursue undergraduate research by working with a faculty mentor.

Chemistry: One of the primary objectives of the Chemistry Program is the development of its majors to their highest potential through an innovative and quality program of instruction and challenging undergraduate research activity. The unit designed the program to help students understand that chemistry is a way of thinking about how matter is constructed, organized and functions. We build this chemical foundation in a context that helps students become scientifically responsible citizens, with the knowledge, skills, attitudes and values that will allow them to be successful in scientific or non-scientific professions. We accomplish this by providing students with a variety of learning opportunities such as formal courses with integrated laboratories, hands-on experiences with modem instrumentation and computers, research projects and seminar programs. We carry out our mission in an atmosphere of support and encouragement for students, staff and faculty.

Mathematics: The Mathematics Program provides basic and advanced training in the principles and methods of mathematics. The courses offered prepare students to pursue the careers of their choice and satisfy the requirements for a B.S. degree in mathematics or a minor in mathematics for students majoring in other academic areas. Courses are also offered to (1) satisfy the requirements for a minor in applied statistics, (2) satisfy the mathematics requirements for prospective secondary school mathematics teachers, (3) satisfy individual needs of other academic disciplines, (4) satisfy the General Education Curriculum mathematics requirement, and (5) satisfy the Alabama State Articulation Agreement.

Programs Offered

Bachelor of Science Degrees		
MAJOR	CONCENTRATION	MINOR
Chemistry	Forensic Chemistry Pre-Professional Health Teacher Certification (6-12)	Chemistry Forensic Science

Mathematics	Teacher Certification (6-12)	Applied Statistics Mathematics
Physics	Teacher Certification (6-12)	Physics Space Science

Financial Aid/Scholarships

The program areas of physics, chemistry and mathematics provide financial assistance in the form of bi-weekly and federal work-study programs. In addition, faculty members with research grants may also provide financial assistance to students. A scholarship fund through the Alabama A&M University Foundation is also available to all eligible students.

Financial assistance is available to DPCM students through academic and athletic scholarships, and through work/study and bi-weekly student work programs. Additional student funding may be available for qualified students employed in tutorial programs and in research opportunities.

Students majoring in physics may apply for financial assistance to defray the cost of attendance through the many work-study and other undergraduate research opportunities available with various physics faculty members in the department who are working on research projects funded by NASA, NSF, DOD and other federal agencies.

Cooperative Education/Internships

The University's Cooperative Education Program (Co-op), located in the Career Development Center, offers opportunities which combine professional experience with academic study. This program is strongly recommended for DPCM majors who wish to gain realistic professional experience while earning income to help finance educational expenses. Students normally work full time during alternate semesters. Generally this arrangement is recommended during their junior and senior years.

Students majoring in disciplines of physics, chemistry, or mathematics have participated in cooperative education assignments at such locations as the NASA-MSFC, Huntsville, Alabama: 3-M Corporation, Decatur, Alabama; Environmental Protection Agency (EPA), Athens, Georgia; IBM Corporation, East Fishkill, New York; General Electric Company, Mt. Vernon, Indiana; TVA, Muscle Shoals, Alabama; Crane Naval Facility, Crane, Indiana; and the U.S. Army Depot, Anniston, Alabama. The assignments are challenging, provide job experience for the student, and allow the student to earn needed income to help defray university expenses.

There are many choices of work locations. The schedule of alternate work and school terms will vary and will depend on the needs of the student and employing agencies. This schedule is usually worked out to the satisfaction and mutual benefit of both. Any student who is interested in such a program should contact the Chairperson of DPCM or the Director of Cooperative Education at Alabama A&M University.

Students in the program areas of DPCM are also encouraged to apply for summer or semester internships and research opportunities for undergraduates (REU) experiences. A representative listing of these programs is maintained in the three program area offices.

Student/Professional Organizations

Physics students are eligible for membership in National organizations such as the Society of Physics Students (SPS) and National Society of Black Physicists Students (NSBP). There is also a national chapter of The Optical Society of America (OSA), Materials Research Society (MRS) and The International Society of Optical Engineering (SPIE) that are open to physics majors.

Students in the program area of chemistry may become a member of the following organizations:

- National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCE)
- American Chemical Society (ACS)
- Chemistry Club

Lambda Sigma Pi Mathematics Club sponsors programs, social events, and service projects of special interest to mathematics majors and students interested in mathematics and technology. Membership is open to all interested students. The organization operates under student leadership, with faculty advisors.

Special Programs/Awards/Recognitions

DPCM students who meet the academic requirements receive academic recognition through the University Academic Honor Roll, Dean‘s List, and President‘s Cup awards system. Additional sources of external recognition include Who‘s Who in American Colleges and Universities and the National Dean’s List.

Department Graduation Requirements

1. Complete the University General Education Curriculum requirements.
2. Complete the Department and Major Curriculum requirements.
3. Complete the minimum number of semester credit hours required for graduation.
4. Students pursuing a minor must fulfill the prerequisite requirements for any of the 18 credit hour courses required for the minor.
5. Students pursuing a program must earn at least 25 percent of the credit hours required at Alabama A&M University.
6. Students pursuing a program must earn at least 50 percent of course work in the major area at AAMU.
7. Maintain the grade point averages and course grades noted on each curricula page for programs, majors, concentrations, minors, courses, etc.
8. Maintain a grade of "C" or better in physics, chemistry and mathematics courses.
9. Each lecture course must be taken in conjunction with the corresponding laboratory course.
10. Majors or minors may not combine lecture or laboratory sequences of unrelated courses to complete requirements for graduation.
11. A laboratory fee is required for each course requiring laboratory activity. Safety goggles and laboratory aprons are strict requirements for all students in all laboratory courses. Consistent violations of laboratory safety rules could result in suspension from the laboratory.
12. Successfully complete the program exit assessment.
13. Students majoring in chemistry must begin their work in the major in the freshman year.
14. Chemistry majors or minors may not combine lecture or laboratory sequences of unrelated courses to complete requirements for graduation.
15. Mathematics majors must take a mid-level program examination near the end of the sophomore year or at the beginning of the junior year**.** Further information concerning this examination may be obtained from the program advisors. Mathematics majors who fail to achieve the passing status on the mid-level examination are required to complete MTH 200, Mathematical Computations, with a minimum grade of C.
16. Mathematics majors must successfully complete the Senior Project (MTH 481).
17. Mathematics majors must complete an exit interview with his/her mathematics academic advisor during the process of being cleared for graduation.

Chemistry
120-122 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 125	Calculus I	4	MTH 126	Calculus II	4
CHE 101	General Chemistry I	3	CHE 102	General Chemistry II	3
CHE 101L	General Chemistry I Lab	1	CHE 102L	General Chemistry II Lab	1
HIS 101	World History I Sequence	3	HIS 102	World History II Sequence	3
	HED 101, PED[1], MSC 101	2		ART 101, MUS 101	3
		17			18

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 203	World Literature I	3	PSY 201	General Psychology	3
MTH 227	Calculus III[2]	4	MTH 237	Intro to Linear Algebra[2]	3
CHE 301	Organic Chemistry I[2]	3	CHE 302	Organic Chemistry II[2]	3
CHE 301L	Organic Chemistry I Lab[2]	1	CHE 302L	Organic Chemistry II Lab[2]	1
CS 102	Intro to Programming	3		Elem Foreign Language Sequence[3]	3
	Elem Foreign Language Sequence[3]	3	CS 109	Intro to Programming II[2]	3
		17			16

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ECO 200	Basic Economics	3	CHE 303	Inorganic Chemistry[2]	3
MTH 238	Applied Differential Equations[2]	3	CHE 303L	Inorganic Chemistry Lab[2]	1
CHE 221	Analytical Chemistry[2]	3	CHE 409	Instrumental Methods[2]	3
CHE 221L	Analytical Chemistry Lab[2]	1	CHE 409L	Instrumental Methods Lab[2]	1
PHY 105	Physics I	4	PHY 106	Physics II	4
CHE 308	Special Topics[2]	3			12
		17			

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
CHE	Elective[2]	4	CHE	Elective[2]	3-5
CHE 401	Physical Chemistry I[2]	3	CHE 402	Physical Chemistry II[2]	3
CHE 401L	Physical Chemistry I Lab[2]	1	CHE 402L	Physical Chemistry II Lab[2]	1
CHE 403	Research I[2] [CS]	2	CHE 404	Research II[2] [CS]	2
CHE 407	Biochemistry I[2]	3			9-11
CHE 407L	Biochemistry I Lab[2]	1			
		14			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.
[3]101/102 French or Spanish.
Honors CHE major → (Replace CHE 101 & CHE 101L above with CHE 101H & 101HL) and (Replace CHE 102 & CHE 102L above with CHE 102H & 102HL).

Mathematics
127 Credit Hours

FRESHMAN YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 125	Calculus I	4		ART 101, MUS 101	3
	Science Elective[4]	3		Science Elective[4]	3
	Science Elective Lab[4]	1		Science Elective Lab[4]	1
HIS 101	World History I Sequence	3		Soc/Behav Sci Elective[1]	3
	PED/MSC/HED Elective[1]	2	MTH 126	Calculus II[2]	4
		17			18

SOPHOMORE YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG	201, 203	3		Soc/Behav Sci Elective[1, 2]	3
ECO 200	Basic Economics	3	HIS 102	World History II Sequence	3
CS 102	Intro to Programming	3	MTH 238	Applied Diff Equations[2]	3
	Foreign Language Sequence[2]	3		Foreign Language Sequence	3
MTH 227	Calculus III[2]	4	ENG 205	General Speech	3
MTH 237	Intro to Linear Algebra[2]	3		Minor Course[3]	3
		19			18

JUNIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 304	Advanced Composition[2]	3	MTH	Major Elective[2, 5]	3
MTH 301	Abstract Algebra I[2]	3	MTH	Major Elective[2, 5]	3
MTH 351	Intro to Real Analysis I[2]	3		Minor Course[3]	3
	Minor Course[3]	3		Minor Course[3]	3
MTH	Elective	3	MTH	Elective	3
		15			15

SENIOR YEAR

First Semester			Second Semester		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MTH 453	Probability & Statistics[2]	3	MTH 481	Senior Project[2] [CS]	3
MTH	Major Elective[2, 5]	3		Minor Course[3]	3
	[CWE 420 or 430] or Free Elective	3	MTH	Elective	3
	[CWE 420 or 430] or Free Elective	3	MTH	Elective	1
	Minor Course[3]	3			10
		15			

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

[3]Although minors are a minimum 18 hours, some may require an additional 1-2 hours. Please check the Bulletin. Only the following minors may be chose: Applied Statistics, Computer Science, Physics, Chemistry, Business

[4]Science elective/labs: BIO 101/L, 102/L, PHY 105, 106, CHE 101/L, 102/L.

[5]Math Major Electives: MTH 302, 303, 352, 371, 383, 401, 452, 480, 324, 327, 444, 473.

Physics
121 Credit Hours

FRESHMAN YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ORI 101	First Year Experience	1	ORI 102	First Year Experience	1
ENG 101	Composition I[2]	3	ENG 102	Composition II[2]	3
MTH 125	Calculus I	4	MTH 126	Calculus II[2]	4
HIS 101	World History I Sequence	3		PSY 201 or SOC 201	3
PHY 105	Physics I	4	PHY 106	Physics II	4
		15	HIS 102	World History II Sequence	3
					18

SOPHOMORE YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
ENG 203	World Literature I	3		HED 101, PED[1], MSC 101	2
ECO 200	Basic Economics	3	ENG 204	World Literature II	3
CS 102	Intro to Programming	3	PHY 201	Intro to Modern Physics[2]	3
ART 101	Art Appreciation	3	PHY 252L	Modern Physics Lab[2]	3
MTH 227	Calculus III[2]	4		Free Elective	3
		16	MUS 101	Music Appreciation	3
					17

JUNIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
MTH 238	Applied Diff Equations[2]	3	CS 109	Intro to Programming II[2]	3
PHY 303	Methods of Math Physics[2]	4	PHY 322	Mechanics II[2]	3
PHY 321	Mechanics I[2]	3	PHY 331	Electricity & Magnetism I[2]	3
	Free Elective	3	PHY 341	Heat and Thermodynamics[2]	3
	Free Elective	3	PHY	Elective[2]	3
		16			15

SENIOR YEAR					
First Semester			**Second Semester**		
Course No.	**Course Title**	**Hrs**	**Course No.**	**Course Title**	**Hrs**
PHY 401	Optics[2]	3	PHY 451	Intro to Solid State Physics[2]	3
PHY 421	Intro to Quantum Mechanics[2]	3	PHY	Elective[2]	3
PHY	Elective[2]	3	PHY	Elective[2]	3
PHY	Elective[2]	3	PHY	Elective[2]	3
		12			12

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required.

NOTE: If the MTH minor is chosen by the student, 11 hours of MTH Electives will replace the MTH 126, 227, 238 courses required in the Dept section of the Physics program. See the "Minors, Concentrations, & Electives" section under Physics for the list of eligible MTH Electives.

Concentrations, Minors & Electives

(CHE) SECONDARY EDUCATION - CHEMISTRY TEACHER (6-12) CONCENTRATION (SCHE)

Total Hours – 142. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – See GenEd Listing[1] except 207, 208	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	CHE 101/L	4	
Lec/Lab	CHE 102/L	4	
Math	MTH 125	4	
			12

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
PHY 105 Physics w/ Calculus I		4	
PHY 106 Physics w/ Calculus II		4	
MTH 126 Calculus II		4	
MTH 227 Calculus III		4	
			23
			65

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8-10
		73-75

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
SED 424 Teaching Science in Sec Schools	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 494 Clinical Experiences in Sec Schls	6	
SED 495 Internship[4] (also Prof Study course)	12	
		35

TEACHING FIELD

MinGPA 2.5. MinGrade C.

CHE 221/L Analytical Chem & Lab	4	
CHE 301/L Organic Chem I & Lab	4	
CHE 302/L Organic Chem II & Lab	4	
CHE 308 Special Topics	3	
CHE 401/L Physical Chemistry I & Lab	4	
CHE 402/L Physical Chemistry II & Lab	4	
CHE 403 Research I	2	
CHE 404 Research II	2	
CHE 409/L Instrumental Methods & Lab	4	
CHE Elective	3	
		34
		69

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [3]Apply for Internship 1st sem, senior year.
NOTE: One EPP General Study math course requires a grade of ≥ C.

(MTH) SECONDARY EDUCATION - MATHEMATICS TEACHER (6-12) CONCENTRATION (SMTH)

Total Hours – 133-134. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – See GenEd Listing[1] except 207, 208	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	See GenEd Listing[1,3]	4	
Lec/Lab	See GenEd Listing[1,3]	4	
Math	MTH 125	4	
			12

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
CS 102 Intro to Programming		3	
MTH 113, 115		3-4	
			13-14
			55-56

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8
		63-64

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
SED 422 Teaching Math in Sec Schools	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 494 Clinical Experiences in Sec Schls	6	
SED 495 Internship[4] (also Prof Study course)	12	
		35

TEACHING FIELD

MinGPA 2.5. MinGrade C.

MTH 126 Calculus II	4	
MTH 227 Calculus III	4	
MTH 237 Intro to Linear Algebra	3	
MTH 238 Applied Diff Equations	3	
MTH 301 Abstract Algebra I	3	
MTH 351 Intro to Real Analysis I	3	
MTH 453 Probability & Statistics	3	
MTH 481 Senior Project	3	
3xx-4xx MTH advisor approved electives	9	
		35
		70

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3] The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

NOTE: One EPP General Study math course requires a grade of ≥ C.

(PHY) SECONDARY EDUCATION - PHYSICS TEACHER (6-12) CONCENTRATION (SPHY)

Total Hours – 131. MinGPA 2.5 Cumulative, GenEd, Prof Study, Teaching Field.

GENERAL EDUCATION

MinGPA 2.5.

AREA I – WRITTEN COMPOSITION: MinGrade C.

	ENG 101	3	
	ENG 102	3	
			6

AREA II – HUMANITIES & FINE ARTS:

Fine Arts	See GE Listing[1] except TEL 101	3	
Literature	Sequence – See GenEd Listing[1] except 207, 208	6	
Hum a/o FA	ENG 205	3	
			12

AREA III – SCIENCE & MATH:

Lec/Lab	PHY 105[3]	4	
Lec/Lab	PHY 106[3]	4	
Math	MTH 125	4	
			12

AREA IV – HISTORY, SOCIAL, BEHAVIORAL SCI:

History	See GenEd Listing[1]	3	
Economics	See GenEd Listing[1]	3	
Soc/Beh Sci	See GenEd Listing[1]	6	
			12

AREA V – PRE-PROF, MAJOR, ELCS:

Orientation	ORI 101 & 102	2	
HED/MSC/PED	PED[1], HED 101, MSC 101	2	
Comp Lit	FED 215[2]	3	
			7
			49

ADDITIONAL COURSES –

FED 200 Intro to Education[2]	2	
FED 212 Human Growth/Development[2]	3	
SPE 201 Intro to Study of Excep Child[2]	3	
		8
		57

NOTE: ENG 101, 102, FED 200, 212, 215, SPE 201 must be completed before admission to EPP.

PROFESSIONAL STUDY

Must be admitted to EPP. MinGPA 2.5.

FED 300 Foundations of Education[2]	2	
FED 404 Tests & Measurements[2]	3	
PSY 403 Educational Psychology[2]	3	
SPE 326 Mgt of Classroom Behavior[2]	3	
METHODS COURSES		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 409 Reading in the Content Area	3	
SED 424 Teaching Science in Sec Schools	3	
INTERNSHIP		
(must complete FED 300, 404, PSY 403, SPE 326 to take)		
SED 494 Clinical Experiences in Sec Schls	6	
SED 495 Internship[4] (also Prof Study course)	12	
		35

TEACHING FIELD

MinGPA 2.5. MinGrade C.

MTH 126 Calculus II	4	
MTH 227 Calculus III	4	
MTH 238 Applied Differential Equations	3	
PHY 201 Modern Physics	3	
PHY 252L Modern Physics Lab	3	
PHY 303 Methods of Math Physics	4	
PHY 321 Mechanics I	3	
PHY 322 Mechanics II	3	
PHY 331 Electricity & Magnetism I	3	
PHY 341 Heat and Thermodynamics	3	
PHY 401 Optics	3	
PHY 421 Intro to Quantum Mechanics	3	
		39
		74

[1]See General Education Requirements section of this Bulletin for eligible courses. [2]MinGrade of C required. [4]Apply for Internship 1st sem, senior year.

[3] The following are mutually exclusive – BIO 103 and BIO 101, BIO 104 and BIO 102, CHE 102 and CHE 251, PHY 213 and PHY 201, PHY 214 and PHY 202.

NOTE: One EPP General Study math course requires a grade of ≥ C.

(CHE) FORENSIC CHEMISTRY CONCENTRATION
MinGPA 2.0. MinGrade C.

BIO 103/L Princ of Biology & Lab	4
BIO 330/L Microbiology & Lab	4
CHE 231/L Intro to Forensic Chem & Lab	4
CHE 331 Forensic Toxicology	3
CHE 431 Forensic Chemistry Seminar	1
CRJ 250 Intro to Criminal Justice	3
CRJ 251 Rules of Evidence in Crim Cases	3
	22

(CHE) PRE-PROFESSIONAL HEALTH CONCENTRATION
MinGPA 2.0. MinGrade C.

BIO 100 Careers in Life Science	1
BIO 103/L Princ of Biology & Lab	4
BIO 221/L Human Anat & Phys & Lab	4
BIO 330/L Microbiology & Lab	4
CHE 315 Chemistry Seminar	1
BIO 434/L Principles of Physiology	4
ENG 205 General Speech	3
	21

CHEMISTRY MINOR
MinGPA 2.0. MinGrade C.

CHE 101/L General Chemistry I & Lab	4
CHE 102/L General Chemistry II & Lab	4
CHE 221/L Analytical Chemistry & Lab	4
CHE 301/L Organic Chemistry I & Lab	4
CHE 302/L Organic Chemistry II & Lab	4
	20

(CHE) FORENSIC CHEMISTRY MINOR
MinGPA 2.0. MinGrade C.

CHE 221/L Analytical Chemistry & Lab	4
CHE 231 Intro to Forensic Chemistry & Lab	4
CHE 331 Forensic Toxicology	3
CHE 431 Forensic Chemistry Seminar	1
CHE 441 Forensic Practicum	3
CRJ 250 Introduction to Criminal Justice	3
	18

MATHEMATICS MINOR (nonMTH mjr)
Must complete MTH 125 with ≥ C to declare.
MinGPA 2.0. MinGrade C.

MTH 126 Calculus II	4
MTH 227 Calculus III	4
MTH 237 Introduction to Linear Algebra	3
MTH 238 Applied Differential Equations	3
MTH 453 Probability and Statistics	3
And Any **ONE COURSE** of the following	
MTH 301 Abstract Algebra I	3
MTH 303 Methods of Mathematical Physics	4
MTH 324 Applied Statistical Computing	3
MTH 327 Applied Regression Analysis	3
MTH 351 Introduction to Real Analysis I	3
MTH 371 Number Theory	3
MTH 383 Numerical Analysis	3
MTH 452 Complex Analysis	3
	20-21

(MTH) APPLIED STATISTICS MINOR
MinGPA 2.0. MinGrade C.

ST 324 Applied Statistical Computing	3
ST 327 Applied Regression Analysis	3
ST 344 Design Analysis of Experiments I	3
ST 444 Design Analysis of Experiments II	3
ST 453 Probability and Statistics	3
ST 473 Statistics	3
	18

PHYSICS MINOR
MinGPA 2.0. MinGrade C.

PHY 105 Physics I	4
PHY 106 Physics II	4
PHY 201 Introduction to Modern Physics	3
PHY 303 Methods of Mathematical Physics	4
PHY 321 Mechanics I	3
	18

(PHY) SPACE SCIENCE MINOR
MinGPA 2.0. MinGrade C.

PHY 440	U-grad Research Oppor. Prgm	4
PHY 441	Intro to Atmospheric Physics	3
PHY 442	Intro to Aeronomy	3
PHY 443	Intro to Solar System	4
PHY 444	Intro to Orbital Mechanics	4
		18

CHEMISTRY ELECTIVES

CHE 306 Chemical Synthesis	3
CHE 405 Advanced Organic Chemistry	3
CHE 406 Advanced Inorganic Chemistry	3
CHE 408 Biochemistry II	3
CHE 408L Biochemistry II Lab	1
CHE 411 Organic Quantitative Analysis	3
CHE 412 Organometallic Chemistry	3

(CHE) ELECTIVES FOR CHEMISTRY PRE-PROFESSIONAL HEALTH TRACKS (Choose 1 elective)

ALLOPATHIC MEDICINE [MCAT]		PHARMACY [PCAT]		VETERINARY MEDICINE [VCAT]	
BIO 222/L Hum Anat/Phys II/Lab	4	BIO 222/L Hum Anat/Phys II/Lab	4	BIO 311/L Genetics/Lab	4
BIO 311/L Genetics/Lab	4	BIO 411/L Cell Biology/Lab	4	BIO 411/L Cell Biology/Lab	4
BIO 411/L Cell Biology/Lab	4	BIO 434/L Princ of Physiology/Lab	4	BIO 434/L Princ of Physiology/Lab	4
BIO 434/L Princ of Physiology/Lab	4	MTH 113 Pre-Calc Trigonometry	3		
		MTH 355 Applied Statistics	3		

NOTE: Each Chemistry Pre-Professional Health student will be required to select a track and take one track elective as their required CHE Elective in the baseline program.

(MTH) MATHEMATICS ELECTIVES	
MTH 302 Abstract Algebra II*	3
MTH 303 Methods of Mathematical Physics*	4
MTH 324 Applied Statistical Computing	3
MTH 327 Applied Regression Analysis	3
MTH 352 Introduction to Real Analysis II*	3
MTH 371 Number Theory	3
MTH 383 Numerical Analysis*	3
MTH 401 History of Mathematics	1
MTH 444 Design Analysis of Experiments II	3
MTH 452 Complex Analysis	3
MTH 473 Statistics	3
MTH 480 Selected Topics in Mathematics	3

*Graduate School Track

FREE ELECTIVES
Any course except developmental courses.

(PHY) PHYSICS ELECTIVES	
PHY 332 Electricity and Magnetism II	3
PHY 431 Intro to Statistical Mechanics	3
PHY 453 Nuclear Physics	3
PHY 455 Fundamentals of Nanotechnology	3
PHY 460 Selected Topics in Physics	3

(PHY) SPACE SCIENCE ELECTIVES*	
PHY/AST 371 Introduction to Astrophysics	3
PHY/AST 471 Stellar Atmospheres & Interiors	3
PHY 531 Introduction to Plasma Physics	3

*Extra electives for space science track only from the University of Alabama in Huntsville Bulletin

(PHY) MATHEMATICS ELECTIVES #Choose 11 hours	
MTH 301 Abstract Algebra I	3
MTH 303 Methods of Mathematical Physics	4
MTH 324 Applied Statistical Computing	3
MTH 327 Applied Regression Analysis	3
MTH 351 Introduction to Real Analysis I	3
MTH 371 Number Theory	3
MTH 383 Numerical Analysis	3
MTH 452 Complex Analysis	3

#If the MTH minor is chosen by the student, 11 hours of MTH Electives will replace the MTH 126, 227, 238 courses required in the Dept section of the Physics program.

Course Descriptions

All courses are not offered EVERY semester and session. Please check with the originating department for actual times offered.

Click on a course subject to be linked directly to that section.														
ACC	AGB	AMD	ART	BED	BIO	CDS	CE	CHE	CHN	CMG	CRJ	CS	CSD	CWE
ECE	ECH	ECO	EDU	EE	EET	EGC	ELE	ENG	ETR	FAS	FCS	FED	FIN	FRE
FRS	GEO	HDF	HED	HIS	HPE	HUM	INT	IT	LSM	MDT	ME	MET	MGT	MIS
MKT	MSC	MTH	MUS	NHM	NRE	ORI	PED	PHL	PHY	PSC	PSY	SED	SOC	SPA
SPE	SPM	ST	SWK	TBC	TEL	TGC	TTE	TYE	UPL					

Accounting

ACC 203 Introduction to Accounting I – 3 hrs. Basic concepts with a focus on how accounting events affect financial statements. Emphasizes both preparation and use of external financial reports. Topics include accrual versus cash, receivables, payables, inventory, long-term operational assets, long-term liabilities, stockholder's equity, recording procedures, and financial statement analysis. Prerequisites: None.

ACC 204 Introduction to Accounting II – 3 hrs. Accounting II is a continuation of ACC 203. Basic concepts associated with managerial accounting. Emphasizes the use of relevant information for planning, control and decision-making. Topics include cost behavior, cost allocation, product costing, budgeting, responsibility accounting, and capital budgeting. Prerequisites: ACC 203.

ACC 219 Managerial Accounting – 3 hrs. A study of the uses of accounting information for planning and control in an enterprise area of study including budgeting, financial analysis, basic cost accounting reports, and capital budgeting. Not for accounting majors. Prerequisites: ACC 203, 204.

ACC 301 Intermediate Accounting I – 3 hrs. A study of financial reporting theory and process. Each major asset category is analyzed in balance sheet order. Prerequisites: ACC 203, 204.

ACC 302 Intermediate Accounting II – 3 hrs. A continuation of accounting financial theory through more balance sheet analysis, and study of special-purpose statements. Prerequisites: ACC 301.

ACC 303 Cost Accounting – 3 hrs. Cost accounting is an analysis of the principles of cost accounting for various manufacturing and/or service businesses, especially the use of cost data under job order, process, and standard –cost systems. Prerequisites: ACC 203, 204.

ACC 306 Intermediate Accounting III – 3 hrs. To provide students with a "cutting edge" understanding of financial accounting with respect to the following topics: revenue recognition, income taxes, pensions and post-retirement benefits, leases, accounting changes and error analysis, cash flow statement, financial statement analysis, interim reporting, segment reporting, and disclosures. Prerequisites: ACC 301, 302.

ACC 351 Federal Tax Accounting I – 3 hrs. An analysis of the Federal Income Tax Law as it applies to individuals and a study of the law applicable to new regulations, cases, and tax issues. Prerequisites: ACC 204.

ACC 401 Independent Study – 3 hrs. This course entails the completion of a research project to be accomplished under the supervision of a member of the accounting faculty. The project will involve a detailed study of a topic of particular interest to the accounting profession. The results of the study will be documented by a research report. Prerequisites: senior standing, and consent of the advisor and instructor.

ACC 403 Advanced Cost Accounting – 3 hrs. A study of the application of cost accounting data to managerial planning and control, emphasizing special purpose cost accounting statement and recent developments in the use of quantitative tools in management decision-making. Recommended for accounting majors. Prerequisites: ACC 303.

ACC 421 Advanced Accounting – 3 hrs. A detailed study of the accounting principles and problems related to partnerships and business combinations. A substantial part of the course is devoted to student's reports on other advanced accounting topics. Prerequisites: ACC 302.

ACC 441 Auditing I – 3 hrs. The study of generally accepted auditing standards and procedures underlying the certification of financial statements by certified public accountants. Through problems and cases, the student is introduced to the methodology used by an independent auditor in verifying the books and records of a business entity. Prerequisites: ACC 302.

ACC 450 Accounting for Non-Profit Organizations – 3 hrs. A study of the systems of fund accounting used by government units, charitable organizations, and educational institutions. Special emphasis will be placed on the accountability/stewardship function accomplished by the accounting system of a non-profit organization. Prerequisites: ACC 302.

ACC 451 Federal Tax Accounting II – 3 hrs. This course is an analysis of partnership and corporate tax laws and an introduction to tax research and planning, as a means of gaining an understanding of the role of the tax practitioner. Prerequisites: ACC 351.

ACC 460 Seminar in Accounting Theory – 3 hrs. An analysis of the body of generally accepted accounting principles as interpreted by decisions of the Accounting Principles Board and the Financial Accounting Standards Board. Extensive use will be made of case studies where outcomes have been influenced by recent pronouncement. Prerequisites: ACC 302.

ACC 461 Seminar in International Aspects of Accounting – 3 hrs. This course will emphasize an understanding of a global economy, multinational business activity on accounting. Emphasis will be placed on comparative accounting and reporting activities, as well as regulatory requirements of various countries. Recommended for accounting majors. Prerequisites: ACC 204 and Senior standing.

ACC 472 Accounting Information Systems – 3 hrs. This course covers the subject matter of information systems such as feasibility study, systems design and implementation. Modern accounting information systems are computer-based; hence, more emphasis is placed on computer based systems and processes that impact the organization. It creates a framework for accounting information systems by combining knowledge about business as it relates to information systems, information technology, and accounting. Prerequisites: ACC 302.

ACC 478 Field Experiences in Accounting – 3 hrs. This course is designed for accounting majors to allow them an opportunity to receive academic credit for supervised professional training and experience in an actual work environment. This experience is an on-going seminar between the student, the faculty member and the employment supervisor. It involves periodic meetings with the professor and communication between the professor and the trainer. The course requires professional experience at a level equivalent to other junior and senior-level courses and completion of other requirements as established in the course syllabus.

Agribusiness

AGB 102 Introduction to Careers in Agriculture – 1 hr. This course provides the agribusiness student and introduction to careers in the private sector and government agencies. Guest speakers are invited to the class to discuss job requirements, fringe benefits and employment opportunities. The student is required to prepare a resume and cover letter for each speaker. Prerequisites: None.

AGB 199 Computers in Agriculture – 3 hrs. This course is designed for the freshman students, who are planning to major in the "Agricultural Sciences" at Alabama A&M University. The course provides an introduction to computers, words processing, PowerPoint presentations, spread-sheets, use of Internet for Educational purposes, and simple statistical analysis functions and geospatial analysis that are commonly found in general agriculture and natural resources, agribusiness and marketing, family and consumer sciences, urban planning, and other related careers. Prerequisites: None.

AGB 211 Metal Fabrication – 3 hrs. This course will encompass a combination of three content areas: classification and properties of metals, welding, and machine tool technology. Prerequisites: None.

AGB 211L Basic Metal – 3 hrs. The overall content for basic metals will place emphasis on classifications and properties of metals, various welding processes, acetylene welding equipment, arc welders, mig welders, introduction to various types of measuring devices and machine tool technology.

AGB 212 Wood Technology – 3 hrs. A study of the safe operations and maintenance of woodworking machines. Methods of design, construction and finishing of wood products and an overview of the wood industry. Prerequisites: None.

AGB 221 Introduction to Agricultural Economics – 3 hrs. An introduction to the field of agricultural economics through the application of principles of economics to problems in agriculture and related industries; analysis of supply and demand,

resource allocation and utilization; the role of natural resources, population and capital in economics development; policy issues including resource, price and income policies, and international trade. Prerequisites: None.

AGB 299 Quantitative Applications in Agribusiness – 3 hrs. This course is an introduction to quantitative agricultural methods, tools and problems solving techniques. The course is designed to expand theoretical math concepts and make applications in the agribusiness and agricultural sector. Emphasis will be on data manipulation especially as it applies to graphical analysis of physical and financial functions. The United States Department of Agricultural (USDA) data and graphical set 'World Agricultural Trends and Indicator (WATI)" and US Census of Agriculture databases will be utilized. Prerequisites: None.

AGB 300 Agribusiness Statistics – 3 hrs. An introduction to sources and methods of collection and analysis of prices and other agricultural statistics. Focus is on the basic tools of statistical analysis, such as ratios, frequency distribution, averages and dispersion measures, as well as on time series, correlation, and simple and multiple regression analyses. Prerequisite MTH 112.

AGB 301 Electric Systems and Machines – 3 hrs. Units of study include: basic circuits elements, electric wiring systems, motor operation and maintenance, electrical and electronic controls. Prerequisites: None.

AGB 302 Organization and Administration of Career Technology Education – 3 hrs. A course dealing with identification, exploration and research of current issues in the Agricultural and Environmental Sciences, including inquiry, reading and review; problem identification and selection; data collection and analysis; proposing, selecting and testing of possible solutions; and organization, participation and evaluation. Prerequisites: None.

AGB 311 Small Power Units and Equipment – 3 hrs. A course dealing with unit selection, principles of operations, and maintenance of small air-cooled engines. Emphasis will be placed on operation, adjustment, and maintenance of farm tractors. Prerequisites: None.

AGB 314 Small Structure Construction – 3 hrs. Planning and construction methods for small buildings made of lumber, poles, metals, concrete, blocks and plastics; bill of materials; carpentry of layouts, foundations, framing, floors, covering and finishes. Prerequisites: None.

AGB 322 Farm Management – 3 hrs. Organization and operation of the farm business analyzed to obtain an income consistent with family resources applied to the individual farm. Emphasis on budgeting crop and livestock system, farm record analysis, financial management, farm leases, and risk management. Prerequisites: ECO 232.

AGB 323 Agricultural Marketing – 3 hrs. Provides a critical analysis of methods employed by agencies engaged in marketing farm products including services performed, factors affecting prices and marketing channels, marketing agricultural products through cooperatives, and establishment and operation of cooperatives. Prerequisites: None.

AGB 330 Internship in Agribusiness – 4-6 hrs. Provision of supervised, on-the-job experiences with extension service, agribusiness firms, governmental agencies and farm cooperatives for upper level students. These experiences will be accompanied by regularly scheduled organized discussion periods designed to provide positive evaluation and analysis of the intern experience. Prerequisites: None.

AGB 333 Commodity Marketing – 3 hrs. Focus on using futures markets in managing agricultural price risk. Topics include: hedging, forward contracting and options as risk management tools. Prerequisites: None.

AGB 343 Economics of Grain Marketing – 3 hrs. A course exposes students to the activities, economic concepts and principles of grain marketing. The focus is on the movement of major grains grown in the US—corn, wheat, and soybeans from farm production to final consumption. Prerequisites: None.

AGB 401 Methods of Teaching in Agriscience – 3 hrs. Consideration will be given to approved methods and techniques of teaching Agribusiness at the secondary level. Emphasis will be placed on foundations for methods in Agribusiness Education, method for teaching and learning, application of learning, teaching special populations and evaluation of learning. Prerequisites: EDU 307, 402, 403, 411. Prerequisites: None.

AGB 405 Extension Methods – 3 hrs. Principles and procedures in developing extension programs in agriculture, with emphasis on program determination, teaching methods and relationship with teaching adults in the life-learning process. Prerequisites: None.

AGB 418 Agricultural Leadership – 3 hrs. Development of skills, qualities, and behaviors which enable effective leadership, study of group and organization function, interpersonal relationships, teaming and leadership in various organizational settings. Prerequisites: None.

AGB 420 Agricultural Cooperatives – 3 hrs. This course explores the functioning, management, and role of cooperatives in agriculture. It is designed to provide students with greater appreciation of the economic and legal underpinning of institutional arrangements in agriculture and of the potential role such arrangements may play in solving many of the pressing problems in production and marketing of agricultural products. Prerequisites: None.

AGB 421 Agribusiness Management – 3 hrs. The management of principles applicable to the agribusiness industry. The application of economic principles to the decision-making process of firms supplying input to agriculture, or processing and distribution of agricultural products, demand analysis, budgeting, financing, pricing, inventory control, and merchandising. Prerequisites: ECO 232.

AGB 422 Agricultural Financing – 3 hrs. Study of capital and credit needs of farms and agribusiness firms. Sources and cost of capital and the allocation of capital over time and among alternatives. Risk management strategies and financial performance analysis are covered. Prerequisites: None.

AGB 423 Food Merchandising – 3 hrs. This course will expose students to various merchandising activities that affect the sale of food and nonfood products through the U.S. food marketing system. Special emphasis will be placed on those merchandising activities that occur in the retail store. Prerequisites: None.

AGB 424 International Agricultural Development – 3 hrs. Conceptual analysis of economic development with international focus on the lesser developed areas and countries. Emphasis is placed on financial aid, technical aid and appropriate factor proportions in the transformation of agrarian economics. Prerequisites: None.

AGB 425 Agricultural Policy – 3 hrs. The application of economic analysis to Federal and State government programs and policies affecting resource adjustment in agriculture to determine their effects on products' incomes and consumers' prices. Past programs are critically appraised in light of existing economics and the political climate at the time of their implementation; existing programs and alternate proposals are evaluated using such criteria as resource use and income distribution within agriculture and between agriculture and the rest of the economy, and other economic and social implications of alternative policies and programs are reviewed. Prerequisites: None.

AGB 430 Agricultural Prices – 3 hrs. An analysis of the factors affecting the prices of agricultural products and a study of the behavior of these prices, seasonal and cyclical price movement; government activities relating to agricultural prices, marketing margins and prices paid, and price predication. Prerequisites: None.

AGB 433 Agricultural Sales – 3 hrs. Introduction of sales as a career choice within the agricultural science disciplines. Study of the structure of sales organization as well as activities involved in day-to-day operations. Hands-on training in performing functions of an agribusiness salesperson is covered. Prerequisites: None.

AGB 443 Economics of Food Distribution – 3 hrs. This course is designed to introduce students to the fundamentals of food distribution and logistics. Students are exposed to logistic systems and management in food distribution. These include inventory, warehousing, traffic, materials and handling, packaging, order processing and customer service. Special emphasis will be placed on the sale of food and nonfood products through the US food marketing system, and the merchandising activities occurring in the retail store. Prerequisites: None.

AGB 445 Natural Resource Economics – 3 hrs. Exposure of students to fundamentals of agricultural and natural resource economics, with emphasis on the problems and policies of both developed and less developed worlds. Special focus will be placed on pollution control issues, hazardous wastes, and the vulnerability of minority population and government responses to increasing visibility of these issues. Prerequisites: None.

AGB 453 International Agricultural Marketing – 3 hrs. A course designed to expose students to the fundamentals of global agricultural marketing, the challenges involved, and the political and economic ramifications of marketing abroad. Prerequisites: None.

AGB 490 Special Problems – 3 hrs. Guided independent investigation of problems in Agricultural Sciences, Agribusiness Management and Agricultural Economics. Prerequisites: None.

AGB 495 Internship – 12 hrs. Practice teaching by students in vocational agriculture for twelve weeks in a selected high school in Alabama, offering vocational agriculture, under the supervision of the local teacher of vocational agriculture and the agricultural education teacher trainers of the University. Prerequisites: None.

AGB 499 Research in Agribusiness – 3 hr. Critical review of relevant research and group discussion of current development and problems related to the agricultural sector. Prerequisites: Junior or senior standing and consent of academic advisor. Prerequisites: None.

Apparel, Merchandising & Design

AMD 104L Art and Design – 3 hrs. A study of the art elements and principles and their application to everyday life. Prerequisites: None.

AMD 201L Basic Clothing Construction – 3 hrs. One, 1-hr. lecture and two, 2-hr. lab periods per week. Experience in the development of basic skills in clothing construction. Open to male and female students and other adults with little or no experience in clothing construction. Prerequisites: None.

AMD 203L Consumer Aspects of Clothing – 3 hrs. An introduction to clothing and textiles, including wardrobe planning, maintenance, and coordination; clothing selection criteria; clothing for the world of work; textile classification; and use and care of textile products. Prerequisites: None.

AMD 204L Clothing Throughout the Lifecycle – 3 hrs. One, 1-hr. lecture and two 2-hr. lab periods per week. A study of the economic, social, and psychological aspects of clothing as they relate to the acquisition, use, and care of clothing for family members. Domestic and commercial sewing machines are utilized. Prerequisites: AMD 104L, 201L, 203.

AMD 206L Interior Design – 3 hrs. One, 1-hr. lecture and two, 2-hr. lab periods per week. The application of the elements and principles of art to the planning, selection, and arrangement of household furniture and furnishings. A survey of traditional, contemporary, and modern trends in interior and exterior house planning is provided. Prerequisites: AMD 104L.

AMD 208 Ready-to-Wear Apparel Analysis – 2 hrs. An industry approach to the evaluation of quality in ready-to-wear apparel. Provides an understanding of what constitutes apparel quality, how it is achieved, and the factors that affect cost and quality. Prerequisites: None.

AMD 302 Historic Costume – 3 hrs. A comprehensive study of dress throughout periods of history, including the cultural and economic factors associated with the development, adoption, and abandonment of styles. Prerequisites: None.

AMD 303 Fashion Merchandising I – 3 hrs. A study of the American and European fashion industries from production of raw materials to the distribution of finished goods and their impact on the international economy. An understanding of the language of fashion, fashion designers, and retailers is included. Prerequisites: None.

AMD 304 Cultural Aspects of Clothing – 3 hrs. A study of clothing as a social, psychological, and economic force, including the study of cultural patterns, behavioral reactions, changing needs, and technological developments. Prerequisites: None.

AMD 305 Housing and Interiors – 3 hrs. A study of housing and living environments with emphasis on construction, arrangement, use and care of furniture and equipment. Prerequisites: None.

AMD 306 Fashion Merchandising II – 3 hrs. An examination of basic concepts and practices of retail management and their relationship to the world of fashion. Activities involved in the merchandising of fashion goods, including analyzing and forecasting consumer demand and planning promotional strategies are emphasized. Prerequisites: AMD 303.

AMD 307L Flat Pattern Design – 3 hrs. One 1-hour lecture and two 2-hour lab periods per week. An in-depth study of the basic principles of flat pattern manipulations and their applications to apparel design. Prerequisites: AMD 204L.

AMD 308 Visual Merchandising – 3 hrs. The study of creative techniques in the display of retail merchandise and their effective application to the enhancement of product salability. Prerequisites: AMD 104L.

AMD 314L Decorative Accents – 3 hrs.

AMD 315 Consumer Textiles I – 3 hrs. A study of fibers, yarns, structures, color, and finishing techniques of textiles and textile products with emphasis on the selection of fabrics for specific consumer end uses. Prerequisites: None.

AMD 316L Consumer Textiles II – 3 hrs. One, 1-hr. lecture and two, 2-hr. lab periods per week. Advanced study of textile fibers, fabrics and products utilizing laboratory testing techniques and safety procedures employed in the evaluation of textiles for specific end uses. Prerequisites: AMD 315.

AMD 404L Advanced Clothing and Design – 3 hrs. One 1-hour lecture and two 2-hour lab periods per week. A study of techniques in methods of fitting, designing, and advanced clothing construction. Designing and construction of garments for individual figure types and pattern-making through the flat pattern method are emphasized. Prerequisites: AMD 204L, 307L.

AMD 405L Functional Clothing Design – 3 hrs. One 1-hour lecture and two 2-hour lab periods per week. Development of apparel from a problem-solving perspective to meet aesthetic and functional needs in regard to exceptional proportions, rehabilitation, activity, performing arts, and new technology. Prerequisites: AMD 104L, 201L.

AMD 406L Draping – 3 hrs. One 1-hour lecture and two 2-hour lab periods per week. The principles and techniques of draping and dress designing based on the manipulation of fabric on a form. Prerequisites: AMD 104L, 201L, 307L.

AMD 407 Advanced Interior Design – 3 hrs.

AMD 410L Apparel CAD – 3 hrs. One, 1-hr. lecture and two, 2-hr. lab periods per week. Hands-on experience in the application of AutoCAD principles to apparel design, pattern making, and grading. Prerequisites: (AGB 199 or MDT 252) and AMD 307L.

AMD 413L Lighting and Wiring – 3 hrs.

AMD 414 Interior Space Planning – 3 hrs.

AMD 416 Contemporary Design – 3 hrs.

AMD 417 Professional Practices I – 3 hrs.

AMD 418 Professional Practices II – 3 hrs.

AMD 419 Merchandising and Design Seminar – 2 hrs. A study and discussion of contemporary social, economic, and political trends and issues of significance to the textiles and apparel industries, including an examination of future directions for the profession. Personal and professional entry-level skills and practical experiences are explored, as well. Prerequisites: None.

AMD 421 Problems and Independent Study – 1-3 hrs. Special problem selected and solved by the students. Independent study, research, projects, or special field experience under area supervision and evaluation is required. Prerequisites: None.

AMD 422 Fashion Study Tour – 1-3 hrs. A study of the many facets of the fashion industry, including tours of primary and secondary suppliers, apparel manufacturers, designer showrooms, fashion presses, accessory showrooms, buying offices, testing laboratories, pattern companies, merchandising centers, museums, mansions, and so forth. Pre- and post-tour seminars and written assignments are required. Prerequisites: None.

Art

ART 101 Art Appreciation – 3hrs. A general survey of the visual arts for non-art majors. Prerequisites: None.

ART 110 Fundamentals of Drawing – 3 hrs. A beginning course investigation a variety of media, techniques and subjects as well as the development of visual vocabulary. Prerequisites: None.

ART 111 Two Dimensional Design & Color – 3 hrs. An introduction to developing concise concepts of design with emphasis upon the elements and principles of visual art. Prerequisites: None.

ART 121 Three Dimensional Design – 3 hrs. An introduction to three-dimensional design and the plastic arts, through the use of the elements introduced in ART 111. Exposure to the elements of form and to a variety of approaches used by the contemporary sculptor is included. Various materials are employed. Prerequisites: ART 111 or consent of instructor.

ART 202 Beginning Fibers – 3 hrs. An introduction to basic fiber techniques employing both on-loom and off-loom methods. A functional understanding and developed appreciation of textiles are emphasized. Students are expected to use these techniques in creating contemporary fiber forms. Prerequisites: (ART 110, 111) or consent of instructor.

ART 204 Advanced Fibers – 3 hrs. A continuation of ART 202. Students may select special areas of concentration. This course is designed for persons preparing for junior or senior levels. Prerequisites: (ART 110, 111, 202) or consent of instructor.

ART 209 Composition with Drawing – 3 hrs. Emphasis on controlling the composition of a two dimensional surface. The abilities to both accurately represent and abstract from life are developed. Prerequisites: ART 110 or consent of instructor.

ART 211 Color and Design – 3 hrs. The examination and application of the various systems, theories, and consideration for the uses of color in visual expressions. Prerequisites: (ART 110, 111) or consent of instructor.

ART 220 History of Art I – 3 hrs. A survey of the history of art from prehistoric times to the Renaissance. This course presents a view of ancient, medieval and Renaissance art the world over.

ART 221 History of Art II – 3 hrs. A survey of the history of art from Renaissance times to present. This course presents a view of Renaissance through modern art.

ART 230 Graphic Design I – 3 hrs. An introduction to the concept of graphic design as it evolves from verbal communication. This is a foundation course centered on the manipulation of the elements of art with the use of the computer. Students will explore the theories and principles involved in graphic design and build on this understanding using both traditional and contemporary industry standard digital techniques. Prerequisites: Art majors, art minors or consent of instructor.

ART 298 Introduction to Photography – 3 hrs. An introduction to the basic techniques of black and white photography, including the exposure and processing of film and the making of contact prints and enlargements. Students are required to have their own cameras and exposure meter.

ART 299 Photography II – 3 hrs. Lectures and discussions of the history of still photography forming the basis for problems solved through the use of photographic media. Emphasis is on composition and print quality as well as creative expression. Prerequisites: ART 298 or equivalent.

ART 300 Methods and Materials of Teaching Art in the Elementary School – 2 hrs. A course providing information and instruction which will enable the elementary teacher to plan and teach a meaningful art curriculum. Teacher candidates will study basics of color and design, current art education theory, and teaching strategies for art learning. Students will make art works with materials used in elementary classrooms. Prerequisites: Admission to the Teacher Education Program.

ART 305 Ceramics I – 3 hrs. Introductory study of clay as an artistic medium. Basic processes of building and glazing are explored. Prerequisites: None.

ART 306 Ceramics II – 3 hrs. Advanced study of clay as and artistic medium. Prerequisites: ART 305.

ART 307 Jewelry I – 3 hrs. A study of the methods, materials and processes of designing jewelry. The use of personal symbols, creativity, and techniques of metal fabrication by hand and machine tools is emphasized. Prerequisites: (ART 110, 111) or consent of instructor.

ART 308 Jewelry II – 3 hrs. A continuation of skills and techniques introduced in ART 307. Special emphasis is placed on lost-wax casting and exploration and use of innovative materials in jewelry. Prerequisites: ART 307 or consent of instructor.

ART 309 Figure Drawing – 3 hrs. A continuation of the concepts learned in ART 110 and ART 209 with an emphasis on drawing the human figure. Prerequisites: (ART 110, 209) or consent of instructor.

ART 310 Teaching Art in the Elementary School – 3 hrs. The planning of art education programs to meet the needs of elementary schools. Provided are experiences with design and color, art materials and processes, and inquiry into child growth and

development in art. Lecture, discussion, reading, and individual teaching are considered. Practicum is required. Prerequisites: Admission to the Teacher Education Program.

ART 312 Painting I – 3 hrs. An introduction to the methods and materials used in oil painting. Classical and contemporary techniques will be explored. Prerequisites: ART 110 or consent of instructor.

ART 313 Watercolor Painting – 3 hrs. An introduction to watercolor techniques and studio exercises relating to the treatment of transparent watercolor. Prerequisites: ART 110 or consent of instructor.

ART 314 Painting II – 3 hrs. Continuation of ART 312 and/or 313; the student is expected to develop an individual style in his or her work and to relate it to his or her personal philosophy of art. Prerequisites: (ART 110, 209) or consent of instructor.

ART 315 Sculpture I – 3 hrs. The examination of concepts relating to three-dimensional design beyond the introductory level. Students will be exposed to a variety of sculpture processes and materials. Prerequisites: (ART 110, 121, 209) or consent of instructor.

ART 316 Sculpture II – 3 hrs. Continuation of ART 315; the student will be expected to show an understanding of a variety of materials and processes. A degree of expertise is required in at least one process and related material (example: welding-metal) knowledge of three-dimensional design must be demonstrated. Prerequisites: (ART 110, 121, 315) or consent of instructor.

ART 317 Beginning Glassblowing – 3 hrs. An introductory course in hot glass working, including studio exercises in blowing hollow glass ware; solid glass manipulation and finishing techniques; and exploration of glass colors, textures, form and functions. Prerequisites: (ART 110, 111) or consent of instructor.

ART 318 Advanced Glass Working – 3 hrs. A continuation of ART 317, with emphasis placed on glass as a sculptural medium. This course involves exploration of casting, fusing, and slumping techniques. Cold glasswork is introduced, and a brief survey of glass history with emphasis on American glass is also included. Prerequisites: (ART 317) or consent of instructor.

ART 320 Fundamentals of Printmaking: Relief and Intaglio – 3 hrs. A workshop which focuses on the many graphic techniques of relief and intaglio. Emphasis is on studio or fine arts graphics from a contemporary perspective. Prerequisites: None.

ART 321 Fundamentals of Printmaking: Lithography and Serigraphy – 3 hrs. A workshop in beginning studio training in lithography and silk-screen color printing for fine art use. The emphasis of this course is studio and fine art graphics from a contemporary perspective. Prerequisites: None.

ART 331 Graphic Design II – 3 hrs. A continuation of Art 230 with an emphasis on contemporary graphic design production techniques, problems, and solutions. Students will continue to develop layout skills, learn effective methods in electronic pre-press print production, and effective software utilization. Prerequisites: ART 230.

ART 332 Graphic Design III – 3 hrs. The art of typography and its relationship to all print media. The focus is on creating successful typographic oriented solutions. This is an intermediate level course that teaches how to develop creative graphic design solutions to visual communication challenges. Prerequisites: ART 230.

ART 340 Introduction to Digital Imaging – 3 hrs. In this class, students will learn the basic working methods associated with the se of digital imaging. This includes use of digital cameras, scanners, computers and programs – specifically Adobe Photoshop. The culmination of all the above will be evident in the students' final portfolios. Prerequisites: None.

ART 341 Digital Imaging II – 3 hrs. In this class, students will learn advanced working methods associated with the use of digital imaging. This includes a vigorous study of digital cameras, scanners, computers and programs – specifically Adobe Photoshop. Specific attention will be placed on compositing images and readying them for output for the web and/or publishing. The culmination of all the above will be evident in the students' final portfolios. Prerequisites: ART 340.

ART 400 Independent Art Investigation – 3 hrs. A course shall be available to all advanced art students who desire to continue work in any given area beyond the regular studio course offerings. It fulfills requirements for the Studio Art Option. Prerequisites: (Junior or Senior status) and written consent from major professor required.

ART 401 Advanced Technical Problems – 3 hrs. A culminating studio course in art based on experiences and skills acquired during the first three years of formal study. Prerequisites: Senior status and written consent from major professor required.

ART 402 Senior Exhibition – 3 hrs. A professional presentation of the studio art major's cumulative art production with emphasis placed on the last three semesters of study. Prerequisites: Senior status and written consent from major professor required.

ART 403 Classical Art – 3 hrs. A study of the art and architecture of ancient Greece and its influence on the development of the visual arts of the Roman Empire. Prerequisites: Consult advisor.

ART 404 Medieval Art – 3 hrs. A study of the influence of Christianity on the art of the western world as expressed in early Christian, Romanesque, and Gothic architecture, sculpture, and painting. Prerequisites: Consult advisor.

ART 405 Renaissance Art – 3 hrs. A study of the visual arts of Italy from 1250 to 1550, taking into consideration the rise of the artist as a creative individual and his expanding role in society. Prerequisites: Consult advisor.

ART 406 Fashion Illustration – 3 hrs. A course focusing on developing originality and creative ability in the illustration of clothing with consideration of an individual's personality, figure type, age and occasion for which the clothing is to be worn. Prerequisites: (ART 110, 209, 309) or consent of instructor.

ART 407 Advertising Illustration – 3 hrs. A course developing the conceptual design and drawing skills used by professional illustrators. Prerequisites: ART 110, 209, 309.

ART 408 Internship – 3 hrs. Resume and portfolio preparation, arranged actual work experiences in local businesses, billing procedures, and business etiquette. Prerequisites: Senior status.

ART 409 Primitive Art – 3 hrs. An examination of the art of pre-literate cultures in several parts of the world and the cultural trait, complexes, and institutions associated with them. Prerequisites: Consult advisor.

ART 410 Teaching Art in the Secondary School – 3 hrs. An introduction to the basic selection of art materials and an analysis of methods appropriate to teaching art in the secondary level school program. Prerequisites: ART 110, 111, 209, 202, 305, 312, 320, and Admission to the Teacher Education Program.

ART 412 Origins of Modern Art – 3 hrs. A survey of the history of painting and sculpture in the nineteenth century with their immediate genesis in the late eighteenth and immediate continuations in the first decades of the twentieth. Prerequisites: Consult advisor.

ART 414 African-American Art – 3 hrs. The study of major events, personalities and influences germane to the creation of art by blacks in America, including visual slave themes, Pan-African art, "Black art" and blacks in mainstream art. Prerequisites: Consult advisor.

ART 420 Advertising Thesis – 3 hrs. Independent concepts are produced and developed by the student in conjunction with his or her major professor. Prerequisites: Senior status.

ART 430 Advanced Graphic Design I – 3 hrs. Advanced course of instructions for creating the components necessary for the full development of an advertising campaign. Graphic Design, illustration, and web site development will be taught utilizing the most current industry software. The student will also learn to assemble web graphics through vector path applications. This course will emphasize the development of the student's professional print/web portfolio. Prerequisites: ART 331 or 332.

ART 431 Advanced Graphic Design II – 3 hrs. Advanced web design, web animation, and interactive media. Methods of developing the student's comprehensive interactive portfolio are explored. Prerequisites: ART 331 or 332.

ART 495 Internship – 12 hrs. Fourteen weeks of full-time teaching under the immediate direction of supervising teachers in off-campus public schools. Upon return to the campus, students share their experiences, discuss problems, and develop new techniques in a professional seminar. Prerequisites: Art Program approval; Senior classification; official admission to Teacher Education Program; minimum cumulative average of 2.5; "C" in all coursework completed, with no grade less than a "C" for professional courses; completion of all coursework in the program.

Business Education

BED 425 Materials and Methods of Teaching Business Subjects – 3 hrs. This course includes a study of basic methods, strategies, instructional materials, and media that relate to the effective teaching of business education subjects. This course represents a performance-based approach designed to enable the candidate to become an educational service professional through the development of proficiencies specific to knowledge, skills, and dispositions required by the national, regional, state and institutional stands.

BED 495 Internship in Secondary Education – 12 hrs. This course entails one semester of full-time teaching under the immediate direction of cooperating teachers and university supervisors in off-campus public (or approved private) schools. Upon return to the campus, students share their experiences, discuss problems and develop new techniques in a professional seminar. This course represents a performance-based approach to teacher education designed to enable the candidate to become an educational service professional with knowledge, skills and dispositions required by institutional, state, regional, and national standards. Through a constructivist design, learning will be facilitated by the candidates participation in activities that will involve the intellect as well as dispositions. Creativity in learning will be facilitated by collaboration and feedback that should result in continual reflection and self-assessment. The ultimate outcome of this course is the further development of a skilled, highly proficient educational practitioner.

Biology

BIO 100 Introduction to Careers in Life Sciences – 1 hr. Familiarization with all careers in life sciences. Required of all majors. Prerequisites: None.

BIO 101 General Biology I – 3 hrs. (Three 1 hr. Lectures). The first part of a full year's course in the biological sciences. The first semester is devoted to an investigation of basic biological concepts and their application to the variety of life. Selected examples from the major groups of animals and plants are used. For non-majors. Prerequisites: None. Co-requisites: BIO 101L.

BIO 101L General Biology I Lab – 1 hr. (One 2 hr. Lab) Lab designed to enhance and accommodate BIO 101. For non-majors majors. Prerequisites: None. Co-requisites: BIO 101.

BIO 102 General Biology II – 3 hrs. (Three 1 hr. Lectures). A second semester course is devoted to the biology of humans. The problems of support, movement, supply of materials, distribution, waste removal, regulation and reproduction are described in detail. For non-majors. Prerequisites: None. Co-requisites: BIO 102L.

BIO 102L General Biology II Lab – 1 hr. (One 2 hr. Lab). Lab designed to enhance and accommodate BIO 102. For non-majors. Prerequisites: None. Co-requisites: BIO 102.

BIO 103 Principles of Biology – 3 hrs. (Three 1 hr. Lectures). A study of fundamental biological principles with primary emphasis on molecular basis of life and cellular organization: cellular energetics and metabolism; growth and reproduction, and genetics and evolution. Required of all majors. Prerequisites: None.

BIO 103L Principles of Biology Lab – 1 hr. (One 2 hr. Lab) A customized lab to accommodate BIO 103 for majors. Prerequisites: None. Co-requisites: BIO 103.

BIO 104 Principles of Biology II – 3 hrs. The second half of the Principles of Biology sequence. The course explores the fundamentals of living organisms with emphasis on the ecological and evolutionary relationships of plants and animals. This course provides an introduction to basic biological concepts in the areas of evolution, biological diversity, zoology, botany, and ecology. Lab is required. This course may be taken by Biology majors and non-majors. Prerequisites: BIO 103.

BIO 104L Principles of Biology II Lab – 1 hr. The companion lab for BIO 104.

BIO 200 Environmental Biology – 3 hrs. An introduction to natural biological processes and their impact on man and his environment. Emphasis is on problems caused by man's use of the natural world along with an introduction to the principles of applied and environmental microbiology. Specific topics to be discussed include environmental virology, disinfection of water and wastewater, biogeochemical cycles, biology of waste treatment and biological aerosols. Prerequisites: BIO 103.

BIO 201 Invertebrate Zoology – 3 hrs. A study of the body plans, physiology, taxonomy and development of the major groups of animals lacking backbones. Life histories of animals that affect the welfare of humans are stressed. Prerequisites: BIO 103.

BIO 201L Invertebrate Zoology Lab – 1 hr. A companion lab for BIO 201 covering the lecture topics. Prerequisites: BIO 103L.

BIO 202 Comparative Vertebrate Anatomy – 3 hrs. Morphological study of the vertebrates with a comparative study of the organic systems and their phylogenetic significance. Laboratory techniques in dissection of the frog and cat. Prerequisites: BIO 103.

BIO 202L Comparative Vertebrate Anatomy Lab – 1hr. A companion lab for BIO 201 covering the lecture topics. Prerequisites: BIO 103L.

BIO 203 General Botany I – 3 hrs. A survey of the structure and physiology of seed bearing plants. Prerequisites: BIO 103.

BIO 203L General Botany I Lab – 1 hr. A companion lab for BIO 203 covering the lecture topics. Prerequisites: BIO 103L.

BIO 204 General Botany II – 3 hrs. A survey of the plant kingdom with particular emphasis on nomenclature, systems of classification, reproduction, life cycles, and study of heredity and evolution. Prerequisites: BIO 103.

BIO 204L General Botany II Lab – 1hr. A companion lab for BIO 204 covering the lecture topics. Prerequisites: BIO 103L.

BIO 205 Ecology – 3 hrs. Introduction to trophic relationships and energy transfer in ecosystem; discussion of environmental factors that affect the distribution and abundance of animals and plants as well as the composition of various communities. This course will review major ecological concepts, identify the techniques used by ecologists, provide an overview of local and global environmental issues, and examine individual, group and governmental activities important for protecting natural ecosystems. We will focus on aquatic and forest ecosystems. Student will develop skills in research, writing, statistics, excel and prioritizing along with general science methodology, data collection and analysis. Prerequisites: None.

BIO 221 Human Anatomy & Physiology I – 3 hrs. A study of cell structure, function and organization, body covering and thermal regulation, skeletal and muscular systems, central, peripheral, sensory nervous system, and cardiovascular systems. Prerequisites: BIO 101 or 102 or 103.

BIO 221L Human Anatomy & Physiology I Lab – 1 hr. A companion lab for BIO 221 covering the lecture topics. Prerequisites: BIO 101L or 102L or 103L.

BIO 222 Human Anatomy & Physiology II – 3hrs. Discussion of digestive system, nutrition, metabolism and energy exchange respiratory, urinary, endocrine, reproductive systems prenatal development, aging and death, defenses against disease, aviation, space and deep sea diving physiology. Prerequisites: BIO 101 or 102 or 103.

BIO 222L Human Anatomy & Physiology II Lab – 1 hr. A companion lab for BIO 222 covering the lecture topics. Prerequisites: BIO 101L or 102L or 103L.

BIO 223 Introduction to Environmental Health – 3hrs. The fundamentals of environmental health, covering environmental control agencies, elements of the environment suffering from pollution, environmental pollutants and their sources, effects of environmental pollution, and methods of pollution control. Prerequisites: Instructors' consent.

BIO 311 Principles of Genetics – 3 hrs. A primary emphasis on classical concepts with an integration of microbial and molecular genetics at crucial points. Laboratory exercise includes use of plants, animals and microbes. Prerequisites: CHE 101, 101L, 102, 102L, BIO 103, 103L. Co-requisites: BIO 311L.

BIO 311L Principles of Genetics Lab – 1 hr. A companion lab for BIO 311 covering the lecture topics. Prerequisites: CHE 101, 101L, 102, 102L, BIO 103, 103L. Co-requisites: BIO 3ll.

BIO 321 Introduction to Parasitology – 3hrs. A survey of the parasitic protozoa and helminth found in man and animals. Emphasis is placed on geographical distribution, morphology, habitat, life-cycles and methods of reproduction, transmission, pathogenesis and symptomatology diagnosis, and prevention. Prerequisites: BIO 201, 201L. Co-requisites: BIO 321L.

BIO 321L Introduction to Parasitology Lab – 1hr. A companion lab for BIO 321 covering the lecture topics. Prerequisites: BIO 201, 201L.

BIO 322 General Entomology – 3 hrs. External and internal anatomy, physiology, life cycles, orders and control of insects. Special emphasis will be placed upon species of economic importance in the South. Prerequisites: BIO 201, 201L. Co-requisites: BIO 322L.

BIO 322L General Entomology Lab – 1 hr. A companion lab for BIO 322 covering the lecture topics. Prerequisites: BIO 201, 201L. Co-requisites: BIO 322.

BIO 324 Ecotoxicology I – 3 hrs. Principles of toxicology; introduction to metallic and organic poisons as environmental pollutants; effects of poisons and environmental pollutants on life process. Prerequisites: BIO 205 or consent of instructor.

BIO 325 Ecotoxicology II – 3hrs. Principles of toxicological bioassays will be introduced. Methods of bioassays including microbial, vertebrate and chemical. Prerequisites: BIO 324.

BIO 330 Microbiology – 3hrs. A study of the properties of microorganisms, their influence on hygiene, disease transmission, higher plants, animals, agriculture and industry. Instruction in laboratory techniques in identification, staining and culturing selected microorganisms. Prerequisites: (BIO 101, 101L) or (BIO 102, 102L) or (BIO 103, 103L).

BIO 330L Microbiology Lab – 1hr. A companion lab for BIO 330 covering the lecture topics. Prerequisites: (BIO 101, 101) or (BIO 102, 102L) or (BIO 103, 103L).

BIO 340 Developmental Biology – 3 hrs. The embryology and morphogenesis of the vertebrates; fertilization of the egg, stages of cleavage, and development of organs and systems. Laboratory studies of the development of the chick, pig and human. Prerequisites: (BIO 221, 221L) or (BIO 202, 202L). Co-requisites: BIO 340L.

BIO 340L Developmental Biology Lab – 1 hr. A companion lab for BIO 340 covering the lecture topics. Prerequisites: (BIO 221, 221L) or (BIO 202, 202L). Co-requisites: BIO 340.

BIO 344 Principles of Plant Taxonomy – 3hrs. Classification and identification of vascular plants. A brief discussion of the process of speciation and evolution. Basic practice in the use of manuals and keys in identifying vascular plants. Three two-hour classes per week. Prerequisites: BIO 203, 203L, 204, 204L. Co-requisites: BIO 344L.

BIO 344L Principles of Plant Taxonomy Lab – 1hr. A companion lab for BIO 344 covering the lecture topics. Prerequisites: BIO 203, 203L, 204, 204L. Co-requisites: BIO 344.

BIO 361 (PHY 361) Intro to Astrobiology – 3 hrs. Astrophysics is the scientific study of the origin, evolution, proliferation and search for life in the universe, an interdisciplinary topic at the intersection of astronomy, physics, biology, chemistry, atmospheric science, and other sciences. This course introduces the major fields of current research in astrobiology: the requirements for life as we know it, the origin and evolution of life on Earth, the possibilities of life elsewhere in the universe, and the search for extraterrestrial – microbial or intelligent – life.

BIO 402 Limnology – 3hrs. A study of the physical and chemical factors affecting the biology ponds, lakes, reservoirs, and streams. It includes the use of various instrumentations in biological monitoring. Prerequisites: (BIO 101, 102, CHE 101, 102) or consent of instructor. Co-requisites: BIO 402L.

BIO 402L Limnology Lab – 1 hr. A companion lab for BIO 402 covering the lecture topics. Prerequisites: (BIO 101L, 102L, CHE 101L, 102L) or consent of instructor. Co-requisites: BIO 402.

BIO 411 Cell Biology – 3 hrs. Detailed study of organelles of animal and plant cells and development and structure of various kinds of tissues. Prerequisites: BIO 103, 103L, CHE 101, 101L, 102, 102L. Co-requisites: BIO 411L.

BIO 411L Cell Biology Lab – 1 hr. A companion lab for BIO 411 covering the lecture topics. Prerequisites: BIO 103, 103L, CHE 101, 101L, 102, 102L. Co-requisites: BIO 411.

BIO 412 Molecular Biology – 3hrs. A study of the structure, behavior and function of the larger biological molecules including biological oxidations, metabolism of carbohydrates, lipids, amino acids and the genetic aspects of metabolism. Prerequisites: CHE 102, 102L. Co-requisites: BIO 412L.

BIO 412L Molecular Biology Lab – 1 hr. A companion lab for BIO 412 covering the lecture topics. Prerequisites: CHE 102, 102L. Co-requisite BIO 412.

BIO 421 Histotechniques – 3 hrs. Microscopic study of the various tissues and organs of the animal systems. Prerequisites: 103, 103L.

BIO 422 Pest Management – 3 hrs. Discussions of all practices, such as chemical, cultural, physical, genetic or biological, which bring about the most effective control of pests. Methods which bring about least ecological disruptions will be stressed. Economic injury level and economic thresholds of several southern pests will be mentioned. Prerequisites: BIO 322, 322L.

BIO 430 Medical Microbiology – 3 hrs. A study of the microorganisms producing disease in man and lower animals; their means of transmission; and their protection against disease. Prerequisites: None. Co-requisites: BIO 430L.

BIO 430L Medical Microbiology Lab – 1 hr. A companion lab for BIO 430 covering the lecture topics. Prerequisites: None. Co-requisites: BIO 430.

BIO 431 Principles of Immunology – 3hrs. An introduction to biological and chemical immunology concerned with the nature of immune response and the structure features of antibodies and antigens which determine their qualitative behavior and quantitative reactions; the range of immunological phenomena and their application to the solution of biological and chemical problems. Prerequisites: BIO 330, 330L, CHE 301, 301L. Co-requisites: BIO 431L.

BIO 431L Principles of Immunology Lab – 1 hr. A companion lab for BIO 431 covering the lecture topics. Prerequisites: BIO 330, 330L, CHE 301, 301L. Co-requisites: BIO 431.

BIO 433 Fundamentals of Epidemiology – 3 hrs. Students will learn the fundamentals of epidemiology. Areas of emphasis include epidemiology definitions and practical applications, measures of morbidity and mortality, descriptive epidemiology, observational and experimental study designs, data interpretation issues, infectious disease epidemiology, environmental epidemiology, and chronic disease epidemiology. Prerequisites: BIO 330, Applied Statistics, Instructor's consent needed.

BIO 434 Principles of Physiology – 3 hrs. BIO 434 is the study of the structural and functional organization of cells, and how cellular function relates to body function. Processes such as enzymatic reactions, oxidative metabolism, cellular transport, and bioelectrical mechanisms are discussed. The structure and function of the muscular system, the circulatory system, the respiratory system, the digestive system, the reproductive system, the nervous system, the immune system, and the endocrine system will be covered in this course. Prerequisites: BIO 221, 221L, 202, 202L, CHE 301, 301L. Co- requisite: BIO 434L.

BIO 434L Principles of Physiology Lab – 1hr. A companion lab for BIO 434 covering the lecture topics. Prerequisites: BIO 221, 221L, 202, 202L, CHE 301, 301L. Co-requisites: Bio 434.

BIO 450 Radiation Biology – 3 hrs. An introduction to basic concepts of various forms of radiation and their effects and uses on living systems. Basic tracer techniques using isotopes will be represented in the laboratory. Prerequisites: BIO (101, 101L, 102, 102L) or 103 and 103L.

BIO 451 Plant Anatomy – 3 hrs. Study of plant cells, tissues and organ systems of vascular plants, their ontogeny, differentiation and maturation. Students will learn modern techniques of preparing plant materials for microscopic study. Prerequisites: BIO 203, 203L, 204, BIO 204L. Co-requisites: BIO 451L.

BIO 451L Plant Anatomy Lab – 1 hr. A companion lab for BIO 451 covering the lecture topics. Prerequisites: BIO 203, 203L, 204, 204L. Co-requisites: BIO 451.

BIO 454 Plant Pathology – 3 hrs. History, nonparasitic, and parasitic diseases incited by bacteria fungi, plasmodiophorales, nematodes and viruses will be discussed. Disease control through exclusion, eradication, protection and post resistance will be mentioned. Prerequisites: BIO 344, 344L. Co-requisites: BIO 454L.

BIO 454L Plant Pathology Lab – 1 hr. A companion lab for BIO 454 covering the lecture topics. Prerequisites: BIO 344, 344L. Co-requisites: BIO 454.

BIO 461 Plant Physiology – 3 hrs. The basic physical and chemical organization and metabolism in higher plants with emphasis on various aspects of nutrition and growth. Prerequisites: BIO 203, 203L, 204, 204L. Co-requisites: 461L.

BIO 461L Plant Physiology Lab – 1 hr. A companion lab for BIO 461 covering the lecture topics. Prerequisites: BIO 203, 203L, 204, 204L. Co-requisites: BIO 461.

BIO 471 Biology Seminar – 1 hr. Discussions of biological literature, careers in biology, graduate schools, and specialty schools. Pertinent discussions on current biological topics are held. Prerequisites: BIO 103, 103L.

BIO 481 Research in Biology – 2-4 hrs. Formation and execution of research projects in biology under supervision of an advisor. Open only to junior and senior students. Prerequisites: BIO 471.

BIO 482 Biomedical Research – 1-3 hrs. A course designed for students who plan to pursue graduate work in the area of biomedical research. The course consists of performing research under the supervision of a qualified biomedical research faculty member. The results of such research will be presented at a formal scientific meeting and published in a recognized journal when possible. Prerequisites: Open only to junior and seniors with consent of biomedical research faculty.

BIO 490 Biology Internships – 1-4 hrs. A course designed as a preceptorship to allow students to gain experience in actual job situations in areas of career interest. Prerequisites: Open only to juniors and seniors.

Career Development

CDS 301 Career Development Seminar – 1 hr. This course offers resume writing, interviewing skills, values clarification, job research techniques and other related topics in the area of career development.

Civil Engineering

CE 101 Introduction to Civil Engineering – 1 hr. Introduction to civil engineering profession and societies. Local field trips and guest lectures are also included. Prerequisites: None.

CE 201 Surveying – 3 hrs. (1 hours lecture and 3 hours lab). A study of measurement and error calculation, leveling, traverse and area computation, topographic mapping, triangulation, highway, public land and construction surveying. Computer applications are included. Prerequisite: None. Co-requisites: EGC 101 or consent of instructor.

CE 304 Environmental Engineering – 3 hrs. A survey of environmental pollution and control involving the air, land, and water environments; the management of the environment; and other problems concerning water and sewage treatment, solid waste disposal and treatment. Prerequisites: CHE 102, 102L, and MTH 238 or consent of instructor

CE 305 Hydrogeology – 3 hrs. The study of a hydrologic cycle with emphasis on precipitation and runoff, stream flow and groundwater distribution. Geology of groundwater occurrence, groundwater contamination, development and management are also covered. Prerequisites: EGC 204, 305.

CE 306 Structural Analysis I – 3 hrs. An analysis of stresses and deflections in statically determinate structures caused by fixed and moving loads; study of influence lines and loading criteria for beams and plane trusses; and introduction to classical analysis of indeterminate structures including the slope deflection and moment distribution methods. Application of computer techniques to structural problems is required. Prerequisites: MTH 227, 238, EGC 101, 207.

CE 308 Soil Mechanics – 3 hrs. A study of origin, formation, classification, identification and subsurface exploration of soil. Physical and mechanical properties of soils, shear strength, consolidation, settlement, and bearing capacity are also covered. Prerequisites: EGC 207. Co-requisites: EGC 207L, CE 308L.

CE 308L Soil Mechanics Lab. – 1 hr. The purpose of this course is to present a selection of experiments that will demonstrate the principles of Soil Mechanics. A Laboratory Manual for this course will be used for performing these experiments. Prerequisites: EGC 207. Co-requisites: CE 308.

CE 310 Transportation Systems and Materials – 3 hrs. Transportation systems including land and air transportation for passenger movement; functions of transportation systems; vehicles and controls; transportation system planning, operation, maintenance, safety and transportation material testing are addressed in this course. Prerequisites: EGC 101, 205, CE 201.

CE 401 Structural Steel Design – 3 hrs. Introduction to the design of steel structures to include behavior of members and their connections. Theoretical and practical basis for proportioning members are addressed. Prerequisites: CE 306.

CE 402 Reinforced Concrete Design – 3 hrs. A study of the theory and design of reinforced concrete members. Design considerations for concrete bridges and buildings are included. Prerequisites: CE 306.

CE 404 Hydraulic Engineering and Design – 3 hrs. A study of the similitude, and flow measurement; open channel flow, pipe flow and their applications; and design of various elements of hydraulic structures. Prerequisites: EGC 204, 207, 305.

CE 405 Concrete and Aggregates – 3 hrs . A study of engineering properties of plain concrete; influence of cement, aggregates, water and mixtures on the properties of fresh and hardened concretes; mix design behavior under various types of loading and environments. Prerequisites: EGC 207.

CE 406 Computer Analysis of Structures – 3 hrs. This course focuses on flexibility and stiffness methods of analysis. Development of matrix methods for both trusses and rigid frames and use of the computer in structural analysis, including finite element method are included. Prerequisites: CE 306 and EGC 104.

CE 408 Foundation Design – 3 hrs. The study of shallow and deep foundation elements, determination of bearing capacity of spread footings, mat and pile foundations. This course also includes instruction on drilled caissons and piers as well as lateral earth pressure and the design of retaining structures. Prerequisites: CE 308. Co-requisites: CE 402.

CE 409 Public Health Engineering – 3 hrs. A study of the engineering aspects involved in the control of the environment for the protection of health and the promotion of the comfort of man. Discussion will include communicable disease control, air pollution, refuse disposal, industrial hygiene, and radiological health hazards. Prerequisites: CE 304.

CE 410 Transportation Engineering and Design – 3 hrs. A study of engineering and design basics for highway transportation; elements of highway transportation and their characteristics; drivers; vehicles, volume, density, speed, and travel time; design for safety, service, and economy; highway alignment, cross section and geometric design elements. Prerequisites: CE 310. Co-requisites: EGC 204.

CE 411 Urban Transportation Planning – 3 hrs. A study of functions and elements of urban transportation including modeling trip generation, trip attraction, modal split and network assignment; integrated models, and computer applications. Prerequisites: EGC 204, CE 310 or consent of instructor.

CE 412 Pavement Systems – 3 hrs. A study of the design of highway and airport pavement systems; subgrades, subbases and bases; flexible and rigid pavements; drainage and earthwork; pavement evaluation and maintenance. Prerequisites: EGC 207 and CE 310.

CE 413 Construction Management – 3 hrs. An introduction to construction project planning and scheduling by network diagrams. Estimating and project control fundamentals. Various equipment and productivity are included. Prerequisites: Senior standing.

CE 414 Design of Timber Structures – 3 hrs. A study of wood as an engineering design material. Beams, columns, plywood design, and glued laminated structural members as used in actual design and construction are covered. Prerequisites: CE 306.

CE 415 Transportation Materials: Characterization and Design – 3 hrs. Covers the characterization and design of transportation materials: asphalt binder, aggregates, and hot mix asphalt; properties of aggregates, asphalt binder and hot mix asphalt; AASHTO characterization of aggregates and binder; Superpave mix design; Superpave performance tests; pavement performance and maintenance; practical applications and recent developments; transportation laboratory will be used for this course. Prerequisites: CE 310 or consent of instructor.

CE 424 Civil Engineering Practice – 3 hrs. An introduction to the practical concepts necessary to a practicing engineer, such as engineering ethics, engineering economics, estimating, cost analysis, contract bidding, and specification writing. Prerequisites: Senior standing or consent of instructor.

CE 450 Hydraulics of Open Channel Flow – 3 hrs. A study of the mechanics of fluid flow in open channels, as an extension of basic engineering hydraulics and experimental concepts applied to the theory, design, and shape optimization of open channels. Classification of flow, channel cross section, hydraulic jump, stilling basins, specific energy, culvert hydraulics, and the use of design charts and tables are included. Prerequisites: EGC 305.

CE 455 Wastewater Treatment – 3 hrs. An introduction to wastewater characteristics and treatment processes; biological mechanism, reactors, waste treatment, and kinetics. The engineering design of physical processes such as sedimentation, thickening, and filtration, as well as chemical processes, processing of sludge and advanced wastewater treatment processes are included. A field trip to wastewater treatment plant is required. Prerequisites: (CE 304, EGC 305) or consent of instructor.

CE 456 Solid Waste Disposal – 3 hrs. An introduction to the problem of solid waste management; types and quantities of wastes; collection and transportation of wastes; composting, landfill and incineration; and recycling of wastes and resource recovery. Prerequisites: CE 304 or consent of instructor.

CE 457 Hazardous Waste Management – 3 hrs. An introduction to the transportation, storage, and disposal of hazardous wastes. Legal aspects of hazardous materials, cleanup of hazardous material spills, and the impact of hazardous materials on the environment are all covered. Prerequisites: CE 304 or consent of instructor.

CE 460 Computer-Aided Design in Civil Engineering – 3 hrs (2 hours lecture, 3 hours lab). A course which focuses on the design of Civil Engineering structures/systems using computers. Utilization of graphics and component design programs as design tools is required. Prerequisites: EGC 101 and senior standing.

CE 470 Civil Engineering Design Project – 3 hrs. An individualized or grouped civil engineering design project completed under supervision of instructor. Prerequisites: Must have completed at least two CE design courses or consent of instructor.

CE 480 Special Topics – 3 hrs. A course covering selected topics in Civil Engineering. Prerequisites: Consent of instructor.

Chemistry

CHE 101 General Chemistry I – 3 hrs. A study of the fundamental laws of matter that govern physical and chemical changes. Atomic and molecular theories, atomic structure, periodic functions and classification of the elements are addressed. Required of all majors in chemistry. Prerequisites: None. Co-requisites: CHE 101L.

CHE 101H General Chemistry I Honors – 3 hrs. Recommended for all students in AAMU Honors Program. Topics covered are the same as in CHE 101 but in more depth and with more rigor. A study of the fundamental laws of matter that govern physical and chemical changes. Atomic and molecular theories, atomic structure, periodic functions and classification of the elements are address. Required of all majors in chemistry. Prerequisites: None. Co-requisites: CHE 101HL.

CHE 101L General Chemistry I Lab – 1 hr. (3 clock hrs.) Laboratory to accompany CHE 101. Basic exercises in general chemistry, to include fundamental operations used in making scientific measurements; properties of gases, liquids and solids, chemical elements and compounds. Prerequisites: None. Co-requisites: CHE 101.

CHE 101HL General Chemistry I Lab Honors – 1 hr. (3 clock hours). Laboratory to accompany CHE 101 Honors. Recommended for all students in AAMU Honors Program. Topics covered are the same as in CHE 101L but in more depth and with more rigor. Basic exercises in general chemistry, to include fundamental operations used in making scientific measurements; properties of gases, liquids and solids, chemical elements and compounds. Prerequisites: None. Co-requisites: CHE 101H.

CHE 102 General Chemistry II – 3 hrs. A study of radioactivity, solutions and electrolytes, ionization; properties, and reactions and uses of important metallic and non-metallic elements. The course includes an introduction to qualitative analysis. Prerequisites: CHE 101,101L. Co-requisites: CHE 102L.

CHE 102H General Chemistry II Honors – 3 hrs. Recommended for all students in AAMU Honors Program. Topics covered are the same as in CHE 102 but in more depth and with more rigor. A study of radioactivity, solutions and electrolytes, ionization; properties, and reactions and uses of important metallic and non-metallic elements. The courses includes an introduction to qualitative analysis. Prerequisites: CHE 101H, 101HL. Co-requisites: CHE 102HL.

CHE 102L General Chemistry II Lab – 1 hr. (3 clock hrs.) Laboratory to accompany CHE 102. An introduction to quantitative and qualitative analyses. Acid-base titrations, reaction kinetics, and qualitative analyses of the elements are covered. Prerequisites: CHE 101, 101L. Co-requisites: CHE 102.

CHE 102HL General Chemistry II Lab Honors – 1 hr (3 clock hours). Laboratory to accompany CHE 102 Honors. Recommended for all students in AAMU Honors Program. Topics covered are the same as in CHE 102L but in more depth and with more rigor. An introduction to quantitative and qualitative analysis. Acid-base titrations, reaction kinetics, and qualitative analyses of the elements are covered. Prerequisites: CHE 101H, 101HL. Co-requisites: CHE 102H.

CHE 111 Applied Chemistry I – 3 hrs. A course designed to explore historical and modern day applications of chemical principles to the solution of problems and the contribution of chemistry to modern technological achievements. Some field trips to manufacturing facilities and other appropriate chemically-oriented facilities may be scheduled. Not open to chemistry majors and minors as a substitute for CHE 101 or 121. Prerequisites: None. Co-requisites: CHE 111L.

CHE 111L Applied Chemistry I Lab – 1 hr. A laboratory course to accompany CHE 111. Included are basic exercises in general chemistry, to include fundamental operations used in making scientific measurements; properties of gases, liquids, solids, chemical elements and compounds. Not open to chemistry majors and minors as a substitute for CHE 101 or 121. Prerequisites: None. Co-requisites: CHE 111.

CHE 112 Applied Chemistry II – 3 hrs. A continuation of CHE 111, with continued emphasis on modern technological achievements. Field trips will be scheduled as appropriate. Not open to chemistry majors and minors as a substitute for CHE 102 or 122. Prerequisites: None. Co-requisites: CHE 112L.

CHE 112L Applied Chemistry II Lab – 1 hr. A laboratory course to accompany CHE 112. A continuation of CHE 111L, to include polymer and dye synthesis, recycling of wastes and other selected experiments. Not open to chemistry majors and minors as a substitute for CHE 102 or 122. Prerequisites: None. Co-requisites: CHE 112.

CHE 221 Analytical Chemistry – 3 hrs. Three lectures, one three-hour laboratory per week. A detailed study of the principles of acid-base, complex ions, slightly soluble salt equilibria, electrometric, and spectrophotometric methods and an introduction to special instrumental methods in analytical chemistry. Prerequisites: (CHE 101, 101L, 102, 102L) or (CHE 121, 121L, 122, 122L. Co-requisites: CHE 221L.

CHE 221L Analytical Chemistry Lab – 1 hr. Laboratory to accompany CHE 221. A study of classical wet and dry methods as well as electrometric, spectrometric, and chromatographic methods. Prerequisites: (CHE 101, 101L, 102, 102L) or (CHE 121, 121L, 122, 122L). Co-requisites: CHE 221.

CHE 231 Introduction to Forensic Chemistry – 3 hrs. To introduce students to the major forensic disciplines such as firearms, arson materials, explosive materials, trace evidence, forensic biology, evidence gathering. Evidence includes soils, hair, fibers, paints (surface coating), forensic toxicology, drugs. Biological methods used for the analysis of forensic evidence. Prerequisites: CHE 101, 101L, 102, 102L, 221, 221L.

CHE 301 Organic Chemistry I – 3 hrs. A course designed to give the student a thorough working knowledge of the fundamentals of organic chemistry. The nomenclature, structure, properties and reactions of organic compounds are studied from an integrated approach, considering the interrelationships of structure, properties, and reactions. The topics will include saturated and unsaturated aliphatic compounds, alicyclic compounds, aromatic compounds, alcohols, and alkyl and aryl halides. Prerequisites: (CHE 101, 101L, 102, 102L) or (CHE 121, 121L, 122, 122L). Co-requisites: CHE 301L.

CHE 301L Organic Chemistry I Lab – 1 hr. Laboratory to accompany CHE 301. The laboratory work including basic techniques and experiments in synthesis and kinetics. Modern instrumental methods will be used in some experiments. Prerequisites: (CHE 101, 101L, 102, 102L) or (CHE 121, 121L, 122, 122L). Co-requisites: CHE 301.

CHE 302 Organic Chemistry II – 3 hrs. A continuation of the first semester. Lecture topics will include ethers, carboxylic acids, sulfonic acids, amines, aldehydes and ketones, diazo compounds, glycols, carbohydrates, and amino acids. Prerequisites: CHE 301, 301L. Co-requisites: CHE 302L.

CHE 302L Organic Chemistry II Lab – 1 hr. Laboratory to accompany CHE 302. The laboratory work will emphasize qualitative organic analysis by chemical reactions. Prerequisites: CHE 301, 301L: Co-requisites: CHE 302.

CHE 303 Inorganic Chemistry – 3hrs. This course is provided to develop student's understanding in the basic concepts of bonding in molecules, introduction to symmetry, chemistry of the main group elements, coordination chemistry of the transition elements, organometallic chemistry, solid state chemistry, bioinorganic chemistry, chemistry of the lanthanide, and actinide elements. Credit for this course will be counted toward the degree requirement. Prerequisites: CHE 101, 101L, 102, 102L.

CHE 303L Inorganic Chemistry Lab – 1 hr. Laboratory to accompany CHE 303.

CHE 306 Chemical Synthesis – 3 hrs. Course designed to give the student experience beyond the introductory level in laboratory preparative techniques, in both organic and inorganic chemistry (approximately equal emphasis on each). Procedures will be taken from the original literature and will emphasize a variety of the more important types of preparative techniques. Prerequisites: CHE 302, 302L.

CHE 308 Special Topics – 3 hrs. A course designed to help the chemistry major begin to fully grasp the fundamental concepts which undergird the understanding and practice of chemistry. Topics will vary according to student need but will usually embrace such subjects as atomic theory (from the Bohr atom to atomic and molecular orbitals), reaction mechanisms, equilibria, kinetics, electrochemistry, thermodynamics, nuclear and radiochemistry, molecular spectroscopy and chromatography. Prerequisites: CHE 221, 221L, 301, 301L, 302, 302L.

CHE 311 Applied Organic Chemistry I – 4 hrs. A course designed to show the relationship of organic chemistry to everyday life. Topics for discussion will embrace the effect of selected discoveries and innovations in organic chemistry upon the development of present-day technology. Laboratory exercises will include the production of nylon, aspirin, certain dyes, and other technologically important substances. Prerequisites: (CHE 101, 1010L, 102, 102L). Not open to chemistry majors and minors as a substitute for 301.

CHE 312 Applied Organic Chemistry II – 4 hrs. (Three, 1-hour lectures and one, 3-hour lab). A continuation of CHE 311 with further emphasis on technological aspects of organic chemistry. Laboratory exercises will involve additional experiments as described for CHE 311. Prerequisites: CHE 311. Not open to chemistry majors and minors as a substitute for CHE 302.

CHE 315 Chemistry Seminar – 1 hr. This course will provide an interdisciplinary postgraduate professional school preparation for students. The postgraduate professional school preparation will include test preparation for the entry level exams required for admission into the programs(i.e., MCAT, DAT, PCAT, and GRE). In addition to test preparation, seminars will be held that includes personal experiences from professionals in various fields, and professional development with respect to the application and interviewing process. The course will also guide students toward internship opportunities in chemistry and medically related fields. Prerequisites: (CHE 101, 102, 301) or special permission.

CHE 330 Environmental Chemistry Lecture – 3 hrs. In this course students will use the fundamental principles of chemistry to gain an understanding of the source, fate, and reactivity of compounds in natural and polluted environments. Emphasis will be placed on the environmental implications of energy utilization and on the chemistry of the atmosphere, hydrosphere, and lithosphere. Environmental issues that will be discussed include climate change, air pollution, stratospheric ozone depletion, pollution and treatment of water sources, and the utilization of insecticides and herbicides. Prerequisites: CHE 101, 102, 221, 301, 302.

CHE 331 Forensic Toxicology – 3 hrs. To introduce the student to the practices and policies of forensic toxicology. Give the student basic guidelines on how to analytically approach samples of suspected toxins as well as samples where no information is available as to what toxic substance, if any, may be present. The course will also cover problems in interpretation of analytical findings along with those methods that are considered insufficient for trial and those that are considered the gold standards as accepted by today's judiciary. Prerequisites: CHE 101, 101L, 102, 102L, 221, 221L, 231, 231L.

CHE 401 Physical Chemistry I – 3 hrs. A study of the gas laws; classical thermodynamics, thermochemistry, single and multicomponent phase equilibria, properties of solutions, and chemical equilibria. Prerequisites: CHE 221, 221L, 301, 301L, 302, 302L. Co-requisites: CHE 401L.

CHE 401L Physical Chemistry I Lab – 1 hrs. Laboratory to accompany CHE 401. To the extent possible, the laboratory experiments will be selected to coincide with the lecture topics. Experiments relating to gas laws, thermodynamics, thermochemistry, solids, solutions and chemical equilibria will be performed. Prerequisites: CHE 221, 221L, 301, 301L, 302, 302L. Co-requisites: CHE 401.

CHE 402 Physical Chemistry II – 3 hrs. A study of chemical kinetics, electrolytic conductance phenomena, electromotive force, quantum theory, molecular structure and spectroscopy, macromolecules, surface chemistry, crystals, and nuclear chemistry. Prerequisites: CHE 221, 221L, 301, 301L, 302, 302L, 401, 401L.

CHE 402L Physical Chemistry II Lab – 1 hrs. Laboratory to accompany CHE 402. To the extent possible, the laboratory experiments will be selected to coincide with the lecture topics. Experiments relating to gas laws, thermodynamics, thermochemistry, solids, solutions and chemical equilibria will be performed. Prerequisites: CHE 221, 221L, 301, 301L, 302, 302L, 401, 401L. Co-requisites: CHE 402.

CHE 403L Research in Chemistry I – 2 hrs. Laboratory and library work that involves the solution of a suitable problem in an area of the student's interest to culminate in an investigative paper required of all majors. Prerequisites: Consent of instructor.

CHE 404L Research in Chemistry II – 2 hrs. Laboratory and library work that involves the solution of a suitable problem in area of the student's interest to culminate in an investigative paper required of all majors. Prerequisites: Consent of instructor.

CHE 405 Advanced Organic Chemistry I – 3 hrs. A course designed to emphasize the mechanisms of the more important organic reactions and the various molecular rearrangements involved. Prerequisites: CHE 301, 301L, 302, 302L.

CHE 406 Advanced Inorganic Chemistry II – 3 hrs. A detailed study of the quantum theory, atomic and molecular structure, the periodic table, theories of chemical bonding, and the chemistry of inorganic complex compounds. Emphasis will be placed on the qualitative aspects of ligand field theory. Prerequisites: CHE 405.

CHE 407 Biochemistry I – 3 hrs. A course designed to provide a study of the molecular basis of life: chemical compositions of living cells, the relation between the structure and the function of proteins in biological systems, the isolation and purification of proteins, enzymatic kinetics and reaction mechanisms, coenzymes, and carbohydrate catabolism for generation of energy. Prerequisites: CHE 301, 301L, 302, 302L.

CHE 407L Biochemistry I Lab – 1 hrs. Laboratory to accompany CHE 407. The course will include the isolation and purification of proteins, protein quantitation, molecular weight determination of protein by gel electrophoresis, peptide mapping analysis, affinity chromatography, and enzymatic kinetics. Prerequisites: CHE 301, 301L, 302, 302L. Co-requisites: CHE 407.

CHE 408 Biochemistry II – 3 hrs. (Three 1-hour) This course is designed to provide a study of metabolic reactions and regulations of metabolic pathways for polysaccharides and glycoproteins, fatty acids, lipids, cholesterol, amino acids, and nucleotides; and fundamental principles of storage and utilization of genetic information, including structures of DNA and RNA, DNA replication, transcription, and protein biosynthesis. Prerequisites: CHE 301, 301L, 302, 302L, 407.

CHE 408L Biochemistry II Lab – 1 hrs. (one 3-hour lab). Laboratory to accompany CHE 408. In this course students are taught the modern biochemical topics such as protein evolution and Western blot, effects of temperature on cell respiration, protein separation by gel-filtration chromatography, determination of the length of DNA molecules by gel electrophoresis, restriction nuclease mapping of DNA, and plasmid DNA structure. Prerequisites: CHE 301, 301L, 302, 302L, 407, 407L. Co-requisites: CHE 408.

CHE 409 Instrumental Methods and Materials Evaluation – 3 hrs. A lecture course designed to expand the student's background in modern analytical techniques such as spectrophotometry, chromatography, electrophoresis, mass spectrometry, FTIR, roton NMR and Carbon -13 NMR spectroscopy. Prerequisites: CHE 221, 221L, 301, 301L.

CHE 409L Instrumental Methods and Materials Evaluation Lab – 1 hr. (one 3-hour lab). Laboratory to accompany CHE 409. In this course students are taught the usage and operation of modern analytical instruments, analysis of data collected and interpretation of results using a variety of databases available. Emphasis is placed on HPLC, GC. GC/MS, FTIR, TGA, DTA, carbon and proton NMR. Prerequisites: CHE 221, 221L, 301, 301L.

CHE 411 Qualitative Organic Analysis – 3 hrs. (Two, 1-hour lectures and one 3-hour lab). A systematic study involving classification reactions and physical properties of organic compounds and their identification. Reactions of various functional groups, along with solubility measurements, are used to elucidate structural features of compounds. Instrumental methods such as infrared, nuclear magnetic resonance spectroscopy, gas chromatography, and mass spectrometry are used as supplementary identification techniques. Prerequisites: CHE 221, 221L, 301, 301L, 302, 302L.

CHE 412 Organometallic Chemistry – 3hrs. This course will provide a detailed understanding into the transition metal organometallic chemistry. It will develop the student's understanding in bonding theory, synthesis and reactivity of sigma – bonded alkyls and aryls, metal carbonyls, and pi- bonded organic ligands such as alkenes, alkynes, allyls, and arenes. Applications of organometallic complexes in organic synthesis and industrial catalysis. Credit for this course will be counted toward the degree requirement. Prerequisites: CHE 301, 301L, 302, 302L, 303.

CHE 431 Forensic Chemistry Seminar – 1 hr. To introduce the student to the readings of forensic chemistry and also introduce the student to the demonstrations of the computer forensic tools and processes. Prerequisites: CHE 231, 231L, 331.

CHE 441 Forensic Practicum – 3 hrs. The practicum provides students with supervised forensic laboratory experience. It is developed to provide opportunities for students to integrate didactic and theoretical training with applied experience in forensic chemistry. The practicum is viewed by the program as introductory laboratory experiences that enable students to become familiar with various forensic science setting.

CHE 450 Nuclear and Radio Chemistry – 3 hrs.

Chinese

CHN 101 Basic Chinese Language – 3 hrs. The objective of this Chinese course is to help beginners grasp the pronunciation of Chinese, skillfully use Pinyin, understand the basic grammar and structure of Chinese, and know a substantial number of frequently used characters and essential grammar points. Prerequisites: None.

CHN 102 Chinese Writing – 3 hrs. This course will develop students' written Chinese skills through use of the textbook, course readings, workbook, and class meetings. The course uses the HSK test to help the students improve their Chinese. Prerequisites: CHN 101.

CHN 401 Studies in Chinese Culture – 3hrs. Study of Chinese culture especially the elements of traditional culture and their functions and the ethos of ancient Chinese society. Emphasis will be placed on values and the historical and cultural heritage. Prerequisites: ENG 203 or equivalent.

Construction Management

CMG 101 Introduction to Construction Management – 2 hrs. Study of construction industry practice emphasizing business organizations and management techniques and career opportunities. Topics include organizational environments, decision making, design, technology, leadership, and basic construction management including terminology, quantity take-offs, estimating, planning, scheduling and inspection. Occasional field trips required. Prerequisites: None.

CMG 105 Introduction to Construction Materials – 2 hrs. Introduction to basic construction materials, to their properties in place in completed projects and to their characteristics that affect construction processes. Overview and study of the principal construction materials used within the construction industry: concrete, masonry, metals, woods, thermal materials, finishes, construction equipment, and specialties. Labs and field trips are required. Prerequisites: None.

CMG 110 Blue Print Reading & Construction Plans – 3 hrs. The students will be exposed to the whole spectrum of construction blueprint reading—from what a blueprint is to how to make use of a set of plans. The students will learn the proper meaning of the construction symbols, abbreviations, and keynotes common to construction for all trades; the difference in the plan groups and how they are applied to a project; how to associate plans, sections, and details on blueprints to get a better understanding of the object(s) noted; and how to determine the coordination of the plans and how to reference the plans to each other. Prerequisites: None.

CMG 225 Computer Applications for Construction – 3 hrs. Computer-based construction project management techniques for planning, scheduling, estimating, cost optimization, cash flow analysis, bidding, accounting and project control. Prerequisites: CMG 101. Co-requisites: CMG 250.

CMG 250 Construction Estimating – 3 hrs. Detailed unit price cost estimating including quantity takeoff, labor, material, mechanical and electrical systems, equipment unit pricing and computer-aided estimation applications. The course will also examine bidding strategies, worker and equipment productivity, and value engineering. Prerequisites: CMG 105. Co-requisites: CMG 110.

CMG 300 Construction Methods – 3 hrs. Introduction to the techniques, methods, and materials of building and road construction. Excavation, foundations, framing, masonry, roofing, finishing, and mechanical, electrical, and plumbing systems are covered. Prerequisites: TGC 218, CMG 105. Co-requisites: CE 201.

CMG 301 Construction Materials & Testing – 3 hrs. A two hour lecture class and a 2 hour lab class. Properties of concrete, masonry, metals, woods, thermal materials and hot mix asphalt. Construction materials testing and inspection procedures in laboratory and field situations using standard testing equipment, methods and field inspection techniques. Testing concrete, steel, wood, soils, aggregate, asphalt and masonry materials and samples relative to ASTM testing standards, laboratory reports, computer analysis, data collection and simulated field inspections. Prerequisites: CMG 105, TGC 218.

CMG 306 Construction Planning & Scheduling – 3 hrs. Study the fundamentals of planning and scheduling of construction projects. Introduction to all of the aspects and techniques of scheduling such as precedence diagrams, activity durations, contract provisions, resource allocation and leveling, money, project monitoring and control, computer scheduling, CPM and PERT methods, earned value, productivity, litigation, short-interval schedules, linear scheduling, arrow diagrams and, scheduling using Primavera and Microsoft projects. Prerequisites: CMG 101.

CMG 308 Soil Mechanics & Foundations – 3 hrs. A two hour lecture class and a two hour lab class. Study of origin, formation, classification, identification and subsurface exploration of soil. Physical and mechanical properties of soils, shear strength, consolidation, settlement, lateral earth pressure and bearing capacity. Introduction to foundation analysis. Prerequisites: TGC 218.

CMG 310 Construction Contracts and Law – 3 hrs. Examine the major legal issues concerning the construction industry. Topics include an overview of participants; bidding and contract formation; typical construction contracts and conditions; subcontracts; architects and engineers; privacy of contracts; defaults/termination; changed conditions; changes/extra work; lien law; surety bonds; fraud, duress, and mistakes; delays; and alternative dispute resolution. Co-requisites: MGT 207.

CMG 315 Heavy Constructions – 3 hrs. Construction methods and management of heavy construction projects including highways, bridges, tall buildings, dams, tunnels, waste treatment facilities, governmental buildings and underground facilities. Prerequisites: CMG 300, 301, 308.

CMG 318 Mechanical and Electrical Systems – 3hrs. Basic study of the primary mechanical and electrical equipment and systems used in buildings. Design principles for selecting and sizing various systems are stressed throughout the course. Mechanical topics include plumbing, heating, ventilating, air conditioning, water supply, fire protection, and sanitary sewer systems. Electrical topics include basic principles of electricity, single and three phase systems, transformers, branch circuits and feeders and residential and commercial illumination. Prerequisites: Junior Standing.

CMG 320 Leadership in Construction – 3 hrs. Models of construction leadership for the 21st Century, application of transformational leadership to strategic planning and marketing in construction contracting and, leadership and strategic problem solving in construction and methods. Prerequisites: CMG 310. Co-requisites: MGT 207.

CMG 350 Construction Safety – 3 hrs. Explanation of requirements of the Occupational Safety and Health Act and other related federal and state legislation as applied to the construction industry. Standards for accident prevention, hazard identification, and responsibility for compliance emphasized. Prerequisites: Junior Standing.

CMG 400 Construction Accounting – 3 hrs. Introduction to the long-term contract methods for recognizing revenue and their impact on financial statements. An analysis of financial statements and their use in developing budgets, projecting cash needs, pricing construction projects, and forecasting the impact of business decisions on profit. Prerequisites: Senior Standing.

CMG 410 Concrete, Steel and Wood Design & Construction – 3 hrs. Design and construction of concrete, steel and wood structures. Principles and fundamental design procedures for concrete, steel, wood beams, columns, slabs, and footings. Gain experience working with the building codes for designing, detailing and construction of structural members. Prerequisites: TGC 218. Co-requisites: CMG 301.

CMG 420 Internship – 3 hrs. Cooperative education/internship in construction management provides practical, on-the-job experience in blueprint reading, material takeoffs, estimating, scheduling, construction safety, equipment management, construction management, and project planning. Prerequisites: Senior Standing.

CMG 430 Advanced Construction Cost Estimating – 3 hrs. Examines cost estimating as a key process in planning, designing and constructing buildings. Topics include the analysis of the elements of cost estimating; database development and management, productivity, unit costs, quantity surveys and pricing, and the application of these tools in business situations; marketing, sales, bidding, negotiating, value engineering, cost control, claims management and cost history. Computerization is evaluated as an enhancement to the process. Prerequisites: CMG 250.

CMG 450 Construction Codes & Quality Control – 3 hrs. Issues of Quality Assurance and Quality Control (QA/QC) in the construction process. The constructors' roles in ensuring quality are analyzed. Interpretation of building code requirements, assessment of the utilization of QA/QC and its impact on project quality, cost, schedule, productivity, and safety are examined. Prerequisites: CMG 301, 410.

CMG 460 Capstone Project Phase I – 2 hrs. This capstone course is designed to provide instruction in the successful analysis of a construction-related project. Coordination with the CM course faculty is required to propose, design and implement a project that will analyze, integrate, and synthesize concepts and knowledge from previous CM and related course work. Independent research will be performed to develop projects in preparation for a formal final presentation for the CM course faculty, selected other college professors, and participating industry professionals. Prerequisites: Senior standing or consent of instructor.

CMG 461 Capstone Project Phase II – 2 hrs. A continuation of CMG 460 Capstone Project Phase I. Prerequisite: CMG 460.

Criminal Justice

CRJ 250 Introduction to Criminal Justice – 3 hrs. A survey of the entire American criminal justice process and systems including criminal laws, police subsystem, judicial subsystem, and correctional subsystem. Issues in America's criminal justice system will be integrated into the coverage. Prerequisites: None.

CRJ 251 Rules of Evidence in Criminal Cases – 3 hrs. Consideration of the foundation and rationale of rules of evidence in criminal cases as well as rules of evidence pertaining to the various types of evidence, such as testimony of witnesses, judicial notice, hearsay, confession, physical evidence, etc. Prerequisites: None.

CRJ 252 Criminal Law and Procedure – 3 hrs. Consideration of selected problems in criminal law of special significance to police officers and administrators. Prerequisites: None.

CRJ 253 (SOC 253) Deviant Behavior – 3 hrs. A study of processes by which some members of society become deviant. Readings will deal with particular forms of deviance such as mental illness, suicides, prostitution, use of drugs, riots, vice, and white collar crime in an effort to arrive at a general theory of the causes of deviance. Prerequisites: None.

CRJ 254 Introduction to Corrections – 3 hrs. An examination of the origin and current status of various aspects of the correctional system including jails, prisons, community-based correctional programs and the philosophies of punishment and justice. Problems and issues associated with the correctional system will be discussed. Prerequisites: None.

CRJ 323 (SOC 323) Juvenile Delinquency – 3 hrs. An examination of the nature and causes of juvenile delinquency. The course also reviews the juvenile justice system and programs for treatment, control and prevention of juvenile delinquency. Prerequisites: None.

CRJ 351 (SOC 351) Criminology – 3 hrs. An introduction to the field of criminology. Specifically, the course covers the nature of crime, the causes of criminal behavior and the reactions to crime. Theories of crime causation are also discussed. Prerequisites: None.

CRJ 355 Criminal Justice Administration – 3 hrs. An analysis of administration and management in a variety of criminal justice settings and of their related problems and issues. Major topics include the unique nature of criminal justice organizations, work motivation, job design, communications, leadership or management styles, management by objectives, managing employee performance, organizational behavioral modification, decision making, and organizational change and development. Prerequisites: None.

CRJ 356 Police Administration – 3 hrs. Organization and function of law enforcement agencies are covered. Police problems and practices are evaluated. Prerequisites: None.

CRJ 357 Probation and Parole – 3 hrs. An introduction to the history, administration, and various components/processes of probation and parole, such as pre-sentence investigation, classification, supervision of probationers, conditions of probation, and revocation hearings. Issues in probation and parole are also discussed. Prerequisites: None.

CRJ 458 Internship – 3 hrs. Opportunities for students to have field experience by working in various criminal justice agencies. Additionally, the student must have completed a total of at least 9 hours of Criminal Justice courses with a "C" or better in each of the required Criminal Justice courses and may not be on academic probation before registering for Internship. Prerequisites: CRJ 250.

Computer Science

CS 101 Fundamentals of Computer and Information Systems – 3hrs. This course is designed to introduce students to fundamentals of computer science and technologies. Topics will cover brief history of computer and the information age, word processing, INTERNET access, operating system, computer structure, electronic storage, database fundamentals, computer network. Impact of computers on the individual and society and application of computer in different areas are also introduced. Prerequisites: None.

CS 102 Introduction to Programming I – 3hrs. This course concentrates on the process of computer problem solving. The idea of an algorithm is covered and flow charting skills are taught as a means of logical problem solving. The core elements of high level language are also taught. The student is expected to solve routine programming problems. Prerequisites: None.

CS 104 Introduction to Computers & Ethics – 3hrs. This course is designed to introduce students to fundamentals of computer science and technologies. Topics will cover brief history of computer and the information age, Algorithms, word processing, INTERNET access, operating system, computer structure, electronic storage, database fundamentals, computer network. Impact of computers on the individual and society and application of computer in different areas are also introduced. Prerequisites: None.

CS 109 Introduction to Programming II – 3hrs. A continuation of the subject matter of CS 102. More advanced programming concepts are covered here. Topics include control structures, arrays, procedures, files, and recursion. Several programming exercises are assigned. Prerequisites: CS 102 with a C or better.

CS 203 Discrete Structures – 3 hrs. Introduction to the use of formal mathematical structures to represent problems and computational processes. Develop an understanding of how to read, understand, and construct mathematical proofs and theorems. Introduce various problem-solving strategies such as thinking algorithmically (iterative and recursive) to solving problems in computing applications. Topics covered include (1) functions, relations, and sets, (2) basic logic, (3) proof techniques, (4) basics of counting, (5) graphs and trees, and (6) number systems. Prerequisites: CS 102 with a C or better.

CS 206 Visual Programming I – 3 hrs. This course introduces fundamental concepts of visual programming languages such as Visual Basic, Visual C#, or Visual Java. Emphasis will be placed on solving real world problems. Students will be asked to design and code using these languages in an efficient manner. Prerequisites: CS 102 with a C or better.

CS 209 Introduction to Digital Logic Design – 3 hrs. This course is designed to introduce the logic design concepts for both combinatorial and sequential circuits. The binary number systems, the Boolean algebra, concepts of optimization of logic equations using various methods are covered in depth. Various types of integrated systems and components such as flip-flops, registers, counters are covered. Students will learn the basics as well as implementation skills upon completion of this course. Prerequisites: CS 203 with a C or better.

CS 215 Data Structures – 3hrs. This course concentrates on the ways data can be organized and accessed. The idea of abstract data types is introduced and real data structures such as lists, linked lists, record, stacks, trees, and graphs are explained in terms of their basic structure and in the ways that they can be used in practical programming problems. Several programming assignments are required. Prerequisites: CS 109 or EE 109 with a C or better.

CS 303L Assembly Language – 3 hrs. The architecture and organization of a selected machine will be discussed in this class. The assembly language of this machine will be taught and students will learn the basics of addressing modes, representation of data control structures, memory organization, and the assembly/relocation process. Programming assignments will allow the student to become proficient in the assembly language. Prerequisites: CS 103, 109.

CS 304 Introduction to Web Programming – 3hrs. This course is designed to introduce undergraduate students to the basic concepts of the World Wide Web (HTTP, HTML, browser software), languages and techniques used for web programming (for

example: Perl, Java, CGI), data transfer over the web (associated tools and techniques), and the tools available in the web environment. By the end of the course the students are expected to learn programming in HTML, Perl and to be able to develop interactive web pages and applications. Prerequisites: CS 102 with a C or better.

CS 305 Numerical Methods – 3hrs. This course will investigate the use of several fundamental algorithms to solve mathematical problems common to science and engineering applications. Methods illustrated will include numerical interpolation, integration, and the solution of differential equations. Programming assignments will be made to illustrate the numerical concepts. Prerequisites: (MTH 126 or 146) and CS 109 with a C or better.

CS 306 Visual Programming II – 3 hrs. This undergraduate course is designed to introduce advanced visual programming skills in Java platform. The main topics include Java network programming (RMI, servlets, socket programming), JDBC, Java Beans and EJBs, media and Java 2-D graphics. Students will learn to use Java technologies in the real world and write numerous, nontrivial programs throughout the semester to demonstrate mastery of the concepts discussed in the classroom. Prerequisites: CS 206 with a C or better.

CS 309 Computer Graphics – 3hrs. Computer Graphics covers the means of visually displaying data. Hardware graphics systems are discussed, as well as the data structures and software techniques used in setting up graphical displays. Prerequisites: CS 215 with a C or better and MTH 237.

CS 311 Introduction to Simulation – 3hrs. The basics of simulating real world situations with the computer form the content of this course. Mathematical modeling is discussed; elements of probability and statistics, Monte Carlo sampling, and uses of simulation languages are also undertaken. Programming assignments are made to illustrate these basic concepts. Prerequisites: CS 215 with a C or better.

CS 314 Advanced Programming – 3 hrs. Introduces more advanced elements of programming, such as user interface design, event driven programming, object-oriented programming, web-based programming, computer graphics, and database access. Use of a development environment to design, code, test, and debug advanced programs, including multi-file source projects. Also provide the opportunity for students to work as teams on application projects. Several programming assignments are required. Microsoft Visual Studio, C#, and the .NET Framework will be the programming environment for this semester. Prerequisites: CS 109 and 206 with a C or better.

CS 315 Introduction to Game Programming – 3hrs. The course is designed to introduce undergraduate students to the basic concepts of game design and development, hands-on exposure to the different techniques used for game programming, implementation on different target devices/platforms using the available tools and programming languages such as java, C# in the game environment. By the end of the course the students are expected to learn the concepts of game design, development and implementation using different programming languages/tools available. Prerequisites: CS 206 and 215 with a C or better.

CS 320 Introduction to Multimedia Authoring – 3hrs. This course focuses on the basic concepts of computer-based multimedia production. Topics included are essentials of interactive multimedia authoring, design planning of a multimedia production, building blocks for multimedia productions (text, graphics, sound and video), introduction to HyperCard and HyperCard objects (buttons, fields, card, background), use of Hypertalk programming language, and introduction to the Authorware authoring tool. Each student is required to complete a semester project. Prerequisites: CS 215 with a C or better.

CS 321 Principles of Information Security – 3hrs. Introduce students to the principles of information security and assurance as applied to computer networks. This course includes the foundation for understanding the key issues associated with protecting information security assets, determining levels of protection and response to security incidents, and designing a consistent, reasonable information system with appropriate intrusion detection and reporting features. Students will be exposed to the spectrum of security activities, methods, tools, and procedures. Coverage will include inspection and protection of information assets, identification of appropriate pre/post-incident procedures, and technical/managerial responses. Prerequisites: CS 104 with a C or better.

CS 328 Object Oriented Design with UML – 3 hrs. This course introduces students to UML (Unified Modeling Language) and its comprehensive notation for communicating the requirements, architecture, implementation, deployment, and states of a system. The students will learn both the concepts and hands-on skills of Object Oriented Analysis and Design using UML. The course also deals with the implementation of the UML design in a programming language. Prerequisites: CS 109 and 206 with a C or better.

CS 330 Computers in Society – 3hrs. This course examines computing as a social process with emphasis on ethical issues and the social impact of computerization on local and global organizations. Prerequisites: CS 104 with a C or better.

CS 381 Computer Organization – 3 hrs. The primary hardware and software components of a computer system are addressed in this course. Topics covered include digital logic and data representation, computer architecture and organization, interfacing and I/O strategies, memory architecture, functional organization, multiprocessing, performance enhancements, distributed architectures, devices, and directions in computing. The organization of the CPU, main memory, interrupt structure, and addressing techniques as well as assemblers and linker/loaders are also taught. Prerequisites: CS 209 with a C or better.

CS 384 Operating Systems – 3hrs. The use of the operating system and other software systems is the core content of this course. Topics include tasking and processes, scheduling, task coordination, device management, file systems, security, and networking. Prerequisites: CS 381 with a C or better.

CS 386 Cryptography – 3 hrs. The objective of this course is to learn the concepts of cryptography, its applications and importance in cyber security. The course will cover the fundamental concepts of cryptography including historical background, number theory, encryption, authentication, public key cryptography, digital signatures and some modern cryptography principles. Prerequisites: CS 203 and 215 with a C or better.

CS 389 Programming in Robotics Systems – This course is designed to introduce the programming concepts involved with autonomous robotics systems. The educational version and off-the-shelf robot kits will be provided and used for student projects and assignments. Students will design a simple robotic platform to meet specific goals. A common platform is used as practice environment for students to learn programming skills in robotics systems. Prerequisites: CS 109 or 206 with a C or better.

CS 401 Software Engineering – 3hrs. This course covers the ideas involved in large scale programming design. The software life cycle is covered along with design specifications, verification and validation, and the use of various supporting CASE tools. The student is expected to design and document a software system of some kind and may be asked to code some of the design. Prerequisites: CS 384 with a C or better.

CS 403 Senior Problems – 3hrs. During this course, the student is expected to code a single, meaningful project begun earlier in CS 401 and present the results of this project in class. This project must meet set standards of design and documentation. Topics of professional ethics and responsibilities will also be discussed. Prerequisites: CS 401 with a C or better.

CS 405 LINUX with Application Programming – 3 hrs. This course deals with advanced skills related to Linux operating systems, programming environments, interfaces, programming tools, and utilities. This course will offer detailed programming/scripting skills using different shells, viz., Bourne, C Shell, Bash, tcsh, Perl, etc. In this course, the students will learn Linux virtualization and emulation, GNU tools, sockets programming. Prerequisites: CS 384 with a C or better.

CS 408 Wireless Computing – 3hrs. Advances and new applications in the expanding field of telecommunications and wireless computing and networks are investigated. Methodologies and tools for network planning, implementation, management, maintenance, and security are described. Topics include asynchronous transfer mode (ATM), synchronous optical network/synchronous digital hierarchy (SONET/SDH), Gigabit Ethernet, the Open Systems Interconnection (OSI), Reference Model, transmission media, second-generation and third generation wireless networks, network protocols, and networking performance. Trends in standardization, internet working, and the development of optical networks; WLANs (Wireless Local Area Networks), WMANs (Wireless Metropolitan Networks) and WWANs (Wireless Wide Area Networks) and residential networking solutions that feature cable, DSL (Digital Subscriber Line), Power line and satellite technologies are considered. Prerequisites: CS 384 with a C or better.

CS 409 Introduction to Digital Image Processing – 3hrs. Focus on the fundamental concepts of image processing and computer vision; it's principles in signal processing, the theory of feature extraction and image analysis, its relation to human vision and technology for implementation. Introduce students to MATLAB image processing toolbox. Students will understand how to acquire and process images, the nature and operation of basic image processing algorithms and their basis. Prerequisites: CS 215 with a C or better.

CS 410 Seminar – 3hrs. This course is intended to enhance students' overall skills towards professional development. This includes writing and presenting technical papers utilizing technical digital/library resources, attending lectures from experts in the

industry, visiting computer science related industries. The students will also get the opportunity to work in a team on application projects. The topics will be based on current trends in the industry. Prerequisites: CS 314 and 381 with a C or better.

CS 414 Forensic Computing – 3hrs. The course introduces the undergraduate students to the study of computer forensics, including the concepts, tools and techniques necessary for identification, retrieval, preservation, analysis and documentation of information from electronic media in matters of suspected unauthorized access to confidential information, intellectual property crimes, fraud, piracy, industrial espionage, decryption, destruction of information, etc. The course will incorporate demonstrations and laboratory exercises to reinforce practical applications of course instruction. Prerequisites: CS 384 with a C or better.

CS 421 Computer Security – 3hrs. This course is designed to introduce undergraduate students to the basic concepts of computer security. The students will learn the tools and techniques that can monitor the system for activities by unwanted programs such as malware, adware, viruses, worms, trojans, etc. By the end of the course the students are expected to learn to use available tools as well as develop and implement programs using different programming languages, for computer security. Prerequisites: CS 384 with a C or better.

CS 425 Theory of Algorithms – 3hrs. Formal properties of algorithms are covered here. The use of big O notation is covered, along with its use in algorithm analysis. Other topics include recursion, finite automata, and NP complete problems. Examples of several routine algorithms such as searching and sorting are done and assigned as programming projects. Prerequisites: CS 215 with a C or better and MTH 126.

CS 435 Introduction to Bioinformatics – 3hrs. This course is designed to introduce students to the fast emerging field of Bioinformatics that demands/consists of knowledge mainly from the areas of biology and computer science. The main objectives of this course are to prepare the students to analyze the vast biomolecular data and to develop necessary tools to analyze. Prerequisites: Senior standing.

CS 440 Programming Languages – 3hrs. In this course, comparisons are made between several modern programming languages. Language syntax, use, and structure are covered. Programming assignments in these languages are made. Prerequisites: CS 314 with a C or better.

CS 450 Artificial Intelligence – 3hrs. This is an introduction to the uses and techniques of artificial intelligence. Topics covered include knowledge representation, natural languages, machine learning, vision, and expert systems. Programming projects will be assigned. Prerequisites: CS 215 with a C or better.

CS 483 Compilers – 3hrs. This course is a study of formal grammars, syntactic and semantic analysis, code generation, and other topics necessary to understand how compilers translate high-level languages into machine form. Programming projects are assigned. Prerequisites: CS 215 with a C or better.

CS 484 Internship – 3hrs. The computer science internship program gives senior level undergraduates an opportunity to gain valuable, practical experience in the professional work environment. An internship consists of approved part-time employment over one semester with cooperation between the student's advisor and the employer. Prerequisites: CS 314 with a C or better or consent of instructor.

CS 485 Introductions to Data Communications and Networks – 3hrs. This is a course covering data communications concepts and systems, communications networks, communication processors, network protocol, and local area networks. Prerequisites: CS 381 with a C or better.

CS 488 Database Systems – 3hrs. A study of the basic issues in database design, including database interfaces, data structures used the relational model, and query languages. A commercially available database package will be used to give students exposure to these concepts. Prerequisites: CS 215 with a C or better.

CS 490 High Performance Computing – 3hrs. This course serves as an introduction to the areas of parallel and structured computers. The course covers distributed computers in networks, multiprocessors, and pipelines. Architectural considerations, algorithm design, and performance measures are also covered. Prerequisites: CS 215 and 381 with a C or better.

Communicative Sciences & Disorders

CSD 202 Survey of Communication Disorders – 3 hrs. A broad survey of the field of speech-language pathology and audiology. Prerequisites: GPA of 2.5 or higher and CSD advisor consent.

CSD 203 Phonetics – 3 hrs. A study of speech sounds in the English language and development of skills using the International Phonetic Alphabet. Prerequisites: GPA of 2.5 or higher and CSD advisor consent.

CSD 204 Anatomy and Physiology of Speech Mechanism – 3 hrs. A study of the structure and functioning of organs, muscles, and nerves of speech and the mechanisms involved in normal speech and language production. Prerequisites: GPA of 2.5 or higher and CSD advisor consent.

CSD 205 Language Development – 3 hrs. A course emphasizing the study of normal language development with emphasis on the development of the phonological, syntactic, and semantic systems in children. Prerequisites: CSD advisor consent.

CSD 207 Speech and Hearing Science – 2 hrs. An overview of the physiology, acoustics, and perception of speech. Prerequisites: CSD advisor consent.

CSD 215 Articulation Disorders and Phonological Disorders – 3 hrs. Professional terminology, classifying problems, etiologies, appropriate diagnostic and therapeutic procedures, and associated problems. Prerequisites: CSD advisor consent.

CSD 307 Principles of Diagnostic Assessment in Communication Disorders – 3 hrs. Methods of classifying communication disorders for assessment purposes. Utilization of diagnostic tests, test interpretation, and report writing of test results on speech and language disorders. Prerequisites: CSD advisor consent.

CSD 308 Basic Audiology – 3hrs. A study of the anatomy and physiology of the ear, description of types of hearing losses, and basic tests in pure tone and speech audiometry. Prerequisites: CSD advisor consent.

CSD 310 Clinical Procedures in CSD – 3 hrs. A course in the construction of therapy plans, clinical methods, materials, and applications of remedial techniques for communication disorders. Students will begin to accrue observation hours as required by ASHA. Prerequisites: CSD advisor consent.

CSD 312 Language Intervention and Communication Skills for the Moderately and Severely Disabled Individual – 2 hrs. A course involving the study of language remediation and intervention for developing communication skills in severely and profoundly disabled individuals. Prerequisites: CSD advisor consent.

CSD 321 Supervised Clinical Practicum I – 3 hrs. Clinical experiences with children and adults who have communication disorders. Prerequisites: CSD advisor consent.

CSD 323 Communication for the Hearing Impaired – 3 hrs. A study of the theories and methods of working with the hearing impaired. Emphasis will be placed on communication disabilities related to hearing losses. Prerequisites: CSD advisor consent.

CSD 324 Language, Literacy and Learning – 3 hrs. This course focuses on developing literacy (speaking, listening, reading, writing, and viewing) in young children. Emphasis is on the integration of all dimensions of literacy. Learning and teaching theories will be integrated with practical applications. Theories, materials, and methods that develop literacy in developmentally appropriate environments from preschool through grade two will be discussed. Family involvement; cultural and linguistic differences; English language learners; integrating play, language, and literacy; performance assessments; and adaptations for special needs children are explored. Prerequisites: CSD advisor consent.

CSD 325 Voice and Articulation – 3 hrs. A course emphasizing the physiology and scientific aspects of the speech production process with emphasis on cultural differences in speaking and voice problems. Prerequisites: CSD advisor consent.

CSD 332 Augmentative and Alternative Communication – 3 hrs. This course is designed to increase the student's awareness and functional knowledge of augmentative and alternative communication (AAC) devices. AAC is the supplementation and/or replacement of natural speech and/or writing using aided and/or unaided symbols (e.g., Blissymbols, finger spelling, gestures, ideographs, logographs, manual signs, pictographs) and the related means of selection and transmission of such symbols. This course offers a survey of the issues that address the individual needs and requirements of those that utilize AAC devices. The student will be exposed to those issues that must be addressed in order to provide appropriate and efficacious services. Prerequisites: CSD advisor consent.

CSD 406 Supervised Clinical Practicum II – 3 hrs. Clinical experience with children and adults who have communication disorders. Enrollment limited. Prerequisites: CSD advisor consent.

CSD 414 Advanced Speech Pathology – 3 hrs. A study of professional terminology, classification, etiologies, symptomologies, and appropriate therapy procedures used with individuals having specific communication disorders. Prerequisites: CSD advisor consent.

CSD 415 Foundations of Counseling in CSD – 3 hrs. This course involves the discussion and application of positive communication and interaction with patients and caregivers to promote and enhance the therapeutic process. Prerequisites: CSD advisor consent.

CSD 417 Methods and Materials in Communicative Disorders – 3 hrs. A study of methods and materials for speech-language pathologists including coordination, planning, professional relationships and program structure. Current materials for communication disorders are discussed and utilized. Prerequisites: CSD advisor consent.

CSD 421 Multicultural Issues in Communicative Disorders – 3 hrs. This course is designed to increase the student's awareness of the cultural differences and practices of various ethnic and racial groups. This course offers a survey of the issues that address the individual and collective differences that must be considered in order to provide appropriate and efficacious services. Prerequisites: CSD advisor consent.

CSD 423 Speech and Language Problems in the Aged – 3 hrs. This course is intended to serve as a source for understanding normal communication changes, communication disorders, and service delivery options from a gerontological perspective. This course will explore the concept of understanding and developing strategies for management of age-related communication deficits. Information is presented within the context of a unified model of communicative functioning in the elderly. Emphasis will be placed on key issues, vocabulary associated with the management of the impaired elderly, and topics of particular interest in considering communicative behavior. Prerequisites: CSD advisor consent.

CSD 425 Senior Seminar – 3 hrs. This course involves the discussion of current trends and topics in the field of communicative sciences and disorders. Topics will include, but are not limited to, genomics and ethical practices. Prerequisites: CSD advisor consent.

Cooperative Work Experience

CWE 220 Cooperative Work Experience – 3hrs. Each course is on-the-job work experience that provides the student an opportunity to apply classroom facts, theories, and principles to practical work situations.

CWE 230 Cooperative Work Experience – 3hrs. Each course is on-the-job work experience that provides the student an opportunity to apply classroom facts, theories, and principles to practical work situations.

CWE 320 Cooperative Work Experience – 3hrs. Each course is on-the-job work experience that provides the student an opportunity to apply classroom facts, theories, and principles to practical work situations.

CWE 330 Cooperative Work Experience – 3hrs. Each course is on-the-job work experience that provides the student an opportunity to apply classroom facts, theories, and principles to practical work situations.

CWE 420 Cooperative Work Experience – 3hrs. Each course is on-the-job work experience that provides the student an opportunity to apply classroom facts, theories, and principles to practical work situations.

CWE 430 Cooperative Work Experience – 3hrs. Each course is on-the-job work experience that provides the student an opportunity to apply classroom facts, theories, and principles to practical work situations.

Pre-Elementary & Elementary Education

ECE 300 Artistic Expressions through Art, Music and Movement – 3 hrs. A course designed to give candidates an understanding of the use of art and music are used in the classroom to aid student's artistic expressions. Special emphasis is given to the use of art and music to enhance the physical and motor growth and development of all young children. The content of this course is designed so that candidates are given information and resources about primary students (P-3) and intermediate students (4-6). Prerequisites: Admission to Teacher Education.

ECE 301 Materials and Methods of Teaching Language Arts – 3 hrs. A course designed to provide candidates with experiences that give them knowledge, skills, and dispositions about methods and materials related to language arts with special emphasis on listening, handwriting, reading, speaking, and children's literature. Emphasis will also be placed on writing compositions. The content of this course is planned around primary students (P-3) and intermediate students (4-6). A practicum is required. Prerequisites: Admission to Teacher Education.

ECE 302 Materials and Methods of Teaching Social Studies – 3 hrs. Emphasis on the knowledge, skills, and dispositions needed by candidates to become effective classroom social studies teachers. The course will underscore the content taught to primary students (P-3) and intermediate students (4-6). Among topics, the instruction will focus on cooperative learning, multicultural concerns, current issues, inquiry methods and developing map and globe concepts. A practicum is required. Prerequisites: Admission to Teacher Education.

ECE 303 Materials and Methods of Teaching Science & Health – 3 hrs. A course intended to help candidates develop the knowledge, attitudes, and skills needed to teach effectively and to nurture children's curiosity. The curriculum concept will target primary students (P-3) and intermediate students (4-6). The curriculum topics emphasized will include: process of science and scientific inquiry, construction of science knowledge, science teaching strategies, planning for science instruction and health education and nutrition. A practicum is required. Prerequisites: Admission to Teacher Education.

ECE 304 Teaching Reading to Young Children – 3 hrs. A course providing an in-depth study of early literacy development and word identification strategies that will include methods of assessment and instruction in phonemic awareness, phonics, fluency, vocabulary, and text comprehension. Major approaches to reading instruction developmentally appropriate for young children will be investigated. A practicum is required. Prerequisites: Admission to Teacher Education.

ECE 305 Materials and Methods of Teaching Mathematics – 3 hrs. A course designed to provide experiences related to mathematics education for primary students (P-3) and intermediate students (4-6). The emphasis of the first part of the course is on the concept development of young children, early number sense, and concepts and operations for the primary grades. The second part of the course focuses on the nature of mathematical processes, methods of instruction, instructional materials, the evaluation of outcomes, and current research and reform in mathematics education. A practicum is required. Prerequisites: Admission to Teacher Education.

ECE 404 Problems in Teaching Reading – 3 hrs. A course involving in-depth study into the reading process with regard to understanding reading comprehension. Candidates will learn to assess the strengths and weaknesses of readers in order to plan a program of accelerated instruction. A practicum is required. Prerequisites: Admission to Teacher Education.

ECE 405 Seminar: Issues and Problems in Teaching – 3 hrs. An analysis of current trends and problems in teaching. Subjects of contemporary interest will be explored in depth by students. Attention will be given to possible solutions for current problems in education. Prerequisites: Admission to Teacher Education.

ECE 407 Teaching Intermediate Readers – 3 hrs. In-depth study in and application of the process of reading and reading instruction, theoretical approaches, instructional strategies, classroom organization, and the formal/informal assessment of teaching reading in the intermediate grades. Emphases are on acquiring vocabulary, developing comprehension skills, and refining reading processes by modeling metacognitive strategies that promote reading for meaning in a balanced literacy program. A practicum is required. Prerequisites: ECE 304 and Admission to Teacher Education.

ECE 412 Children's Literature – 3 hrs. A survey course of current and traditional literature applicable to diverse populations of children. The components of a well-balanced literature program and related audio-visual media are explored as a means of enriching the basic curriculum and as a source of information and pleasure for children. Prerequisites: Admission to Teacher Education.

Pre-Elementary Education

ECH 300 Programs in Early Childhood Education – 3 hrs. Introduction to the field of early childhood education. Topics include trends and issues in early childhood education, learning theories related to early childhood education and career opportunities in the field. Prerequisites: Advisor Approval.

ECH 303 Early Childhood Education: Methods & Materials – 3 hrs. A study of principles and practices which are implemented in early childhood education. Practicum required. Prerequisites: Advisor Approval.

ECH 402 Creating & Implementing Teaching Materials in Early Childhood Education – 3 hrs. A course which places emphasis on the designing and laboratory testing of teacher-made materials useful in teaching young children cognitive and social skills. Prerequisites: Advisor Approval.

ECH 405 Organization and Administration of Early Childhood Education Programs – 3 hrs. A course addressing the administration, organization, and supervision of programs for infants and young children. Prerequisites: Admission to Teacher Education.

ECH 407 Practicum in Groups of Young Children – 3 hrs. University-supervised practical experiences in working with young children in an on/off-campus public or private state accredited school, grade levels P-3. Prerequisites: Advisor Approval.

ECH 411 Teacher Education Workshops – 3 hrs. Selected topics related to early childhood programs and activities. Prerequisites: Advisor Approval.

ECH 495 Internship – 12 hrs. Fourteen weeks of full-time teaching under the immediate direction of supervising teachers in off-campus public (or approved private) schools. Upon return to the campus, students share their experiences, discuss problems, and develop new techniques in a professional seminar. Weekly seminar is required. Prerequisites: Senior classification; official admission to Teacher Education Program; minimum cumulative average of 2.5, "C" in all coursework completed, with no grade less than a "C" for professional courses; completion of all coursework in the program.

Economics

ECO 200 Basic Economics – 3 hrs. A study of the fundamentals of macro- and microeconomics in a market economy; economic systems; money and banking, economic conditions and government policies. This course is not open to Business majors. ECO 231 and 232 combined may be substituted for ECO 200. However, ECO 200 cannot be substituted for ECO 231 or ECO 232 or (ECO 231 and 232 combined). Prerequisites: None. (Offered Fall, Spring,, Summer.)

ECO 200H Basic Economics Honors – 3 hrs.

ECO 231 Principles of Macroeconomics – 3 hrs. A study of the measurement and determination of GNP and related measures; money and banking; inflation; unemployment; Keynesian, monetarist and other macroeconomics theories; the economic role of the government; the U.S. economy; monetary and fiscal policies; economic growth; and international issues. Prerequisites: MTH 112.

ECO 232 Principles of Microeconomics – 3 hrs. Elements of supply and demand; elasticity; consumer behavior; theory of the firm; production, cost analysis and profit optimization; product markets and market structures; resource markets and resource allocation; and taxation and government expenditures. Prerequisites: MTH 112.

ECO 271 Business Statistics I – 3 hrs. An introduction to descriptive and analytical statistical techniques; collection, organization and graphical presentation of data; probability theory and probability distributions; elementary estimation and hypothesis testing; simple linear regression and correlation; time series; and index numbers. Prerequisites: MTH 112.

ECO 272 Business Statistics II – 3 hrs. Review of probability; normal and t distributions; statistical inference about means and proportions; inferences about population variances; test of goodness of fit and independence; analysis of variance and experimental design; time series and index numbers; regression and correlation analysis. Prerequisites: ECO 271 or equivalent.

ECO 300 Engineering Economics – 3 hrs. Economic evaluation of private and public projects; time value of money; compound interest; present and future values; uniform series of costs and benefits; effects of depreciation, inflation and taxes on the valuation of projects; risk and uncertainty; investment criteria; internal rate of return, net present value and cost-benefit analysis. Prerequisites: None.

ECO 326 Labor Management Relation – 3 hrs. Study of the labor union movement, labor management relations, collective bargaining, and labor legislation. Prerequisites: ECO 200, 231 or 232.

ECO 401 Intermediate Macroeconomics – 3 hrs. Aggregate economic analyses; measurement and determination of national income, including the price level, unemployment and economic growth; international aspects of macroeconomics; fiscal and monetary policies; classical, Keynesian and post-Keynesian theories. Prerequisites: ECO 231.

ECO 402 Intermediate Microeconomics – 3 hrs. The theories of consumer behavior; production and cost theories; behavior of the firm in the product and resource markets under different types market structures; supply and demand; elasticity; resource allocation; analysis of the impact of economic policies on firms and industries, including taxation, quotas and price fixing; welfare economic. Prerequisites: ECO 232.

ECO 411 Contemporary Issues in Economics – 3 hrs. Current economic problems and issues such as the debt and the deficit, health care, environmental economics, crisis in financial institutions, social security, and the U. S. trade deficit. Prerequisites: ECO 231.

ECO 413 Money and Banking – 3 hrs. The monetary system; functions, properties and types of money; evolution of money, commercial banks and other depository institutions; origins and current role of the Federal Reserve System and other public monetary institutions; measurement and control of the stock of money; the role of money in the macro-economy; monetary policy. Prerequisites: ECO 231.

ECO 414 Managerial Economics – 3 hrs. Application of economic concepts to business decision-making; analysis and forecasting of demand; cost analysis; pricing behavior; and optimizing techniques. Prerequisites: ECO 232.

ECO 415 Environmental Economics – 3 hrs. Economic analysis of environmental issues, problem, and solution; analysis of benefits and costs of improving the environment; the global dimensions of the environmental problems resulting from resource extraction and utilization and industrial production. Prerequisites: ECO 200 or 232.

ECO 433 Investment in Practice – 1 hr. Students manage an investment portfolio. They trade stocks through a broker. This is not a game, but the management of real money. Students apply their knowledge of portfolio management and investment theory in making these decisions. Student may repeat the course one or two times. Prerequisites: FIN 315.

ECO 434 Investment in Practice – 1 hr. Students manage an investment portfolio. They trade stocks through a broker. This is not a game, but the management of real money. Students apply their knowledge of portfolio management and investment theory in making these decisions. Student may repeat the course one or two times. Prerequisites: FIN 315.

ECO 435 Investment in Practice – 1 hr. Students manage an investment portfolio. They trade stocks through a broker. This is not a game, but the management of real money. Students apply their knowledge of portfolio management and investment theory in making these decisions. Student may repeat the course one or two times. Prerequisites: FIN 315.

ECO 444 Public Sector Economics – 3 hrs. Effects of spending public funds, collecting taxes and other revenues; government borrowing and debt payment; government expenditures, revenues, and public credit. Prerequisites: ECO 200 or ECO 231.

ECO 446 International Trade and Policy – 3 hrs. Principles underlying international trade; free trade and the effects of barriers to trade; the effects of mobility of factors of production; macroeconomics of international exchange of goods, services, and financial assets. Prerequisites: ECO 231.

ECO 490 Internship in Economics/Finance – 3 hrs. This course integrates the theoretical knowledge in economics and finance with practical application of that knowledge. Interested students with approved placements are eligible to take this course for credit. Prerequisites: ECO 231, 232, FIN 315.

Education Development

EDU 100 Reading (General Education) – 3 hrs. Required of all entering freshmen and transfer students (with fewer than 30 semester hours) scoring below 12.0 on the Nelson-Denny Reading Test (required placement test). A corrective course of individualized reading instruction designed to improve basic reading, study, and cognitive skills which are essential to success at the college level. Students who score below the requisite score on the COMPASS are required to enroll. This course may extend for two semesters commensurate with the need of the student. Credit hours for this course may not be counted toward any degree requirement. However, the grade for this course is calculated in the cumulative GPA. Prerequisites: None.

EDU 100L Reading with Lab – 3 hrs. Corrective individualized reading instruction designed to improve basic reading, study and cognitive skills, which are essential to success at the college level. Freshmen who enter the University with a score between 0 and 11 on the Reading Subtest of the ACT or a score between 0 and 10.8 on the Nelson-Denny Reading Test are required to register for this course. Students who do not pass this course are required to enroll in EDU 100. Credit hours for this

course may not be counted toward any degree requirement. However, the grade for this course is calculated in the cumulative GPA. Prerequisites: None.

EDU 101 Laboratory Approach to Concept Development – 2 hrs. A program designed to aid those students who select to major in education and must pass the Alabama Prospective Teacher's Test (APTT) as stipulated by the Alabama State Board of Education. Generally, the course gives students an opportunity to improve their performance on standardized and teacher-made tests by allowing them to explore test-taking techniques and to participate in numerous activities related to English usage, mathematics usage, reading and writing. Prerequisites: None.

EDU 150 College Reading – 3 hours. A course providing both individualized and group reading instruction to improve advanced reading, thinking, listening and study skills which are essential to success at the college level. Students who score below the requisite score on the Reading component of the COMPASS are required to enroll in this level of the course. This is a one semester course. Credit hours for this course may not be counted toward any degree requirement. However, the grade for this course is calculated in the cumulative GPA. Prerequisites: None.

EDU 306 Word Attack Technique Skills – 3 hrs. This course is designed to prepare students to take and pass the Elementary, Early Childhood and Special Education content knowledge of Praxis II. Prerequisites: None.

Electrical Engineering

EE 101 Introduction to Electrical Engineering – 3 hrs. Fundamental concepts in electrical engineering are introduced. Practical pre-calculus concepts are utilized. Students are required to develop an electrical project. Students develop communication skills through presentations of projects and research of historical topics in the electrical engineering discipline. Co-requisites: MTH 115.

EE 109 Engineering Computing – 3 hrs. This course introduces students to the concepts of utilizing computer systems for solution of engineering problems using the C/C++ programming language. Formulation and development of problem solving strategies are explored. Basic data representation and program flow control structures are discussed, as well as techniques for input/output of data. Intermediate level data and program structures are introduced. Co-requisites: MTH 115.

EE 201 Linear Circuit Analysis I – 3 hrs. Kirchoff's Laws, nodal analysis, mesh analysis, superposition, source transformation, Thevenin and Norton theorems, maximum power transfer; inductance and capacitance; sinusoidal waveforms; reactance, impedance; A.C. circuit analysis, power and power factor; and simple opamp circuits are covered in this course. Prerequisites: EE 101. Co-requisites: MTH 115.

EE 201L Linear Circuit Analysis I Lab – 1 hr. This course is the companion lab to EE 201. Co-requisites: EE 201.

EE 202 Linear Circuit Analysis II – 3 hrs. This is a continuation course to EE 201. It addresses analysis of ac circuits, power calculations, Laplace transforms and application to transient analysis of electric circuits. Response to non-periodic excitations using Fourier series is included. Concepts of frequency response, basic filter circuits are also considered. Prerequisites: EE 201, MTH 125.

EE 203 Analog Circuit Design and Analysis I – 3 hrs. An analysis of nonlinear semiconductor devices; PN junction diodes, bipolar junction and field-effect transistors, biasing concepts, worst case analysis, and discrete amplifier circuit design and analysis. Prerequisites: EE 201 Co-requisites: EE 203L.

EE 203L Analog Circuit Design and Analysis I Lab – 1 hr. This course is the companion lab to EE-203 and includes both analysis, simulation and fabrication of analog electronic circuits including diode circuits, bipolar junction transistor amplifiers, operational amplifiers and circuits using operational amplifiers such as oscillators and filters. Co-requisites: EE 203.

EE 204 Digital Circuit Design and Analysis – 3 hrs. Analysis and design of those circuits where the nonlinearity of the active element is significant. Includes basic digital circuits, Boolean algebra, Karnaugh maps, encoding and decoding, flip-flops, finite state machines, and analog-digital conversion. Prerequisites: EE 101.

EE 301 Signals and Systems I – 3 hrs. Continuous time signals and systems; impulse and step functions, signal synthesis, convolution integrals, impulse response, transfer functions, poles and zeros, system responses, and state space methods, introduction: discrete time Fourier series. Discrete time Fourier transforms, discrete time systems, difference equations, and Z-transforms are introduced in this course. Prerequisites: EE 202. Co-requisites: MTH 238.

EE 302 Signals and Systems II – 3 hrs. A study of random signals and random input systems; probability, density functions, random variables, random processes, Gaussian and Poisson processes; correlation functions, spectral density; random input systems, analysis, and signal-to-noise ratio concepts. Prerequisites: EE 301.

EE 303 Electromagnetic Field Theory – 3 hrs. A review of coordinate systems; vector analysis; study of electrostatics to include Coulomb's Law, Gauss's Law, electric field intensity, and flux density calculations, electric potential calculations; magnetostatics to include Biot-Savart law, Ampere's law, magnetic field intensity and flux density concepts; introduction to magnetic vector potential; time varying fields, Maxwell's equations; and transmission lines. Prerequisites: MTH 237, EE 202.

EE 304 Numerical Methods and Digital Computation – 3 hrs. In this course numerical techniques are applied to the solution of scientific and engineering problems. Topics include software development techniques, solution of both linear and nonlinear equations, numerical integration and differentiation, interpolation and curve fitting, solution of differential equations, and optimization techniques. Emphasis is placed on developing programs in C++ language for execution in a UNIX environment. Prerequisites: EE 109, MTH 238.

EE 305 Semiconductor Engineering I – 3 hrs. A study of semiconductor fundamentals and physics of semiconductor devices to include: properties of materials and devices used in electrical engineering; theory of operation of semiconductor devices; p-n junction diodes, bipolar transistors (n-p-n and p-n-p), and field-effect devices. Prerequisites: EE 203.

EE 306 Survey of Energy Systems – 3 hrs. This course reviews various sources of electric power including fossil fuel, renewable energy including solar, wind, wave, geothermal, and biomass and nuclear energy. Technologies for energy storage, transmission and distribution will also be included. Power plants, engines, radioactivity, and environmental impacts will be discussed. Cost of generation, distribution, energy consumption, and efficiency of various energy technologies are discussed. Prerequisites: Junior standing in EE.

EE 307 (ME 307) Fundamentals of Nuclear Engineering – 3 hrs. This course will cover basic nuclear physics, fundamentals of radiation, radioactive decay, binding energy, types of interactions, shielding, and radioisotopes, fission cross section, fission in a reactor, controlling fission chains, basic reactor model, reactor theory, components of nuclear reactors, nuclear fuel cycles, radioactive waste storage and disposal, reactor accidents, safety, nonproliferation and national security, radiation effects, radiation detectors, medical applications, nuclear propulsion. Prerequisites: Junior standing in EE.

EE 311 Electrical Engineering – 3 hrs. This course is an introduction to Ohm's Law, KCL and KVL equations, dc circuit analysis; inductance and capacitance, AC circuit analysis; electrical machines, transformers, DC motors, DC generators, induction motors, alternators, synchronous motors, principle of operation, characteristics, and applications. This course is offered for non-EE majors only. Prerequisites: MTH 238. Co-requisites: EE 311L.

EE 311L Electrical Engineering Lab – 1 hr. This course is a companion lab to EE 311. Co-requisites: EE 311.

EE 320 Computer Architecture – 3 hrs. Basic concepts used in computer hardware design and computer system architecture are studied. The computer is presented as an infinite state machine. Basic computer functions such as address and data paths, instruction sets and memory cycles, components such as registers, arithmetic units, instruction decoders, and types of memories are discussed. A general purpose instruction set computer will be analyzed. Prerequisites: EE 204. Co-requisites: EE 320L.

EE 320L Digital Systems Laboratory – 1 hr. This laboratory course provides a hand-on approach to digital fundamentals through the use of Complex Programmable Logic Devices (CPLDs and FPGAs). A number of laboratory projects will be completed. Early experiments concentrate on basic logic devices, and then more complex combinatorial circuits follow, including adders, multiplexers, encoders, and decoders. Low level memory devices including latches and flip-flops, counters and registers are developed. The use of advanced logic device technology prepares students for work using an industry-standard design environment. Co-requisites: EE 320.

EE 330 Microprocessors – 3 hrs. A study of number systems, binary arithmetic, basic structure and operation of microcomputer systems. The microprocessor will be studied in both machine code and assembly language levels. Students will write code in assembly language, interface external devices to the microcomputer system, and study bus protocols. Prerequisites: EE 320.

EE 333 Analog Circuit Design and Analysis II – 3 hrs. This course is a continuation of the material presented in EE 203 and includes concepts of advanced electronic circuit design and analysis. Prerequisites: EE 203.

EE 333L Analog Circuit Design and Analysis II Lab – 1 hr. This course is the companion lab to EE 333.

EE 340L Energy Conversion Laboratory – 1 hr. This course consists of experiments for determining the operating characteristics of electrical machines. Transformers, induction motors, synchronous machines, and DC machines are covered. Stepper motors, brushless DC motors, and other special machines are introduced. Prerequisites: EE 202.

EE 350 VLSI Design and Testing I – 3 hrs. Principles of structured VLSI design with emphasis on MOS field effect transistor characteristics; VLSI fabrication techniques for MOS circuits; circuit characterization and performance estimation, logic design and testing. Prerequisites: EE 305.

EE 360L Communications Laboratory – 1 hr. This lab is designed to support the concepts taught in areas of microwaves and transmission lines, the seven layered communication protocol, and lecture courses offered in the junior year of the electrical engineering curriculum. Prerequisites: EE 301.

EE 402 Electrical Machines – 3 hrs. A study of energy conversion; D.C. machines, motors, generators, principles of operation, characteristics, and applications; transformers and induction machines, principles of operation, characteristics, and applications; and synchronous machines, alternators, synchronous motors, principles of operation, characteristics, and applications. Prerequisites: EE 303.

EE 403 Feedback System Analysis and Design – 3 hrs. A study of open and closed loop systems; time domain analysis; transfer functions, poles, and zeros; frequency response, Bode plots; root locus methods; system stability, Routh-Hurwitz criterion, Nyquist criterion; system compensation and design; state space methods, state equations, state transition matrix, and system response. Prerequisites: EE 301.

EE 404 Communication Theory – 3 hrs. A study of communication signals and systems; AM and FM methods; pulse code modulation; multiplexing, and digital communications. Prerequisites: EE 301.

EE 405L Simulation Techniques – 1 hr. This course is designed to provide hands on experience in the use of computer software and simulation tools. Simulation using SPICE is emphasized. Software such as National Instruments Multisim, LabView and Matlab will be used to analyze and design electronic circuits. The course will include the analysis and design of mixed-signal electronics including analog to digital conversion and digital to analog conversion. Prerequisites: EE 333.

EE 410 Microwave Engineering – 3 hrs. A review of electromagnetic theory; transmission lines and waveguides; circuit theory for waveguide systems; impedance matching and transformation; passive microwave devices; electromagnetic resonators; and periodic structures and filters. Prerequisites: EE 303.

EE 410L Microwave Engineering Laboratory – 1 hr. This lab complements the course materials taught in EE 410, Microwave Engineering. Co-requisites: EE 410.

EE 411 Radar Engineering I – 3 hrs. Fundamentals of pulsed and continuous wave radar systems and the concepts of range and doppler frequency measurement are presented. Radar receiver sensitivity, effects of noise, and component losses are analyzed. Techniques of signal detection in noise, parameter estimation, and radar waveform analysis are introduced. The effects of radar cross-section, clutter, multipath, and electronic countermeasures on the received signal are analyzed. Prerequisites: Senior standing and consent of instructor.

EE 420 Power Systems I – 3 hrs. Fundamental concepts of power system analysis, transmission line parameters, basic system models, steady state performance, network calculations, power flow solutions, symmetrical components, fault studies, operating strategies and control are presented in this course. Prerequisites: Senior standing and consent of instructor.

EE 421 Power Systems II – 3 hrs. Generating station characteristics, transmission line calculations, load studies and economic operations, and stability are addressed in this course. Prerequisites: Senior standing and consent of instructor.

EE 424 Advanced Digital Systems – 3 hrs. This course is designed to provide seniors in electrical and computer engineering with real digital system design experience using the Verilog hardware description language (Verilog HDL). The history of descriptive hardware design and features of hardware description languages are explained along with design and simulation

examples. With the use of the industry standard simulation and synthesis tools, designs will be constructed, synthesized, and configured in Field Programmable Gate Arrays (FPGA) or other Programmable Logic Devices. Experience gained in this class will prepare students to move directly into modern logic design environments. Prerequisites: EE 330.

EE 425 High Performance Computing and Networks – 3 hrs. This course introduces students to the cutting edge of high performance computing, examining both parallel and distributed architectures and the networks that interconnect them. The course covers a number of topics, ranging from computing and network architecture, design of software applications, to hands-on supercomputing. Prerequisites: EE 304, Senior Standing.

EE 430 Integrated Circuit Engineering – 3 hrs. Analysis, design and fabrication of silicon, thin-film, and thick-film integrated circuits; circuit simulation studies aided with SPICE II software system; integrated operational amplifiers and logic gates (T^2L, I^2L, MOS and CMOS) are treated in this course. Prerequisites: EE 305.

EE 431 Semiconductor Engineering II – 3 hrs. Principles of device electronics, physics of band models, Schottky barriers, bipolar and unipolar devices, conduction phenomena, SRH generation-recombination statistics, role of defects and noise. Introduction to wide bandgap semiconductors and devices. Prerequisites: EE 305.

EE 441 Digital Signal Processing – 3 hrs. A review of discrete time signals and systems; sampling of continuous time signals, sampling theorem; discrete time Fourier transforms; Z-transforms; region of convergence; applications; discrete Fourier transforms; fast Fourier transforms; design of digital filters, IIR filters, FIR filters, and computer-aided design. Prerequisites: EE 301

EE 445 Advanced Electromagnetic Theory – 3 hrs. Solution of Laplace's equation in two dimensions, circular harmonics, cylindrical harmonics, method of finite differences; wave propagation, perfect dielectrics, conductors, lossy dielectrics, transmission line analogy, Smith chart solutions; and computer applications are covered. Prerequisites: EE 303.

EE 451 Integrated Circuit Fabrication – 3 hrs. Introduction to principles of monolithic IC fabrication including bipolar and MOS transistor processing. The course includes active and passive device and process design, simulation, cleanroom procedures, in-process and final test and evaluation techniques, yield, chip assembly and packaging. A practicum is required. Prerequisites: EE 305. Co-requisites: EE 451L.

EE 451L Integrated Circuit Fabrication Laboratory – 1 hr. This laboratory course provides a hand-on clean room experience fabricating an integrated circuit (IC) chip. Silicon-based semiconductor technology and standard IC microfabrication processes for the fabrication of the microchip will be implemented through the course. Specific clean room fabrication processes and techniques used in the class include basic clean room skills, mask layout and fabrication, UV lithography, wet and dry oxidation, wet and dry etching, thermal diffusion, metallization, packaging, and device characterization. The students will fabricate a device wafer and characterize the electrical properties of the fabricated devices and circuits on the wafer. Co-requisites: EE 451.

EE 452 Semiconductor Instrumentation – 3 hrs. Basic principles of semiconductor testing and evaluation. Various tools and techniques will be introduced for test and evaluation of semiconductor materials, devices and integrated circuits. Prerequisites: EE 305.

EE 455 Optimal Control Theory – 3 hrs. A review of state space methods; optimal control problems, performance criterion, minimum time problems, minimum energy problems, and minimum fuel problems; optimization, using calculus of variations, Lagrange, Meyer, and Bolza problems, Lagrange equations, solution, applications; Pontryagin's maximum principle, formulation, costate variables, solution; dynamic programming, principle of optimality, discrete control processes; Hamilton-Jacobi approach, closed loop control law, matrix Riccati equation, applications; and stability in the sense of Lyapunov are covered. Prerequisites: EE 403.

EE 456 Nonlinear Control Systems – 3 hrs. A study of nonlinearities, classification, saturation, dead zone, hysteresis; phase plane formulation, phase portraits; describing function approach, limit cycles, and relay servomechanisms. Prerequisites: EE 403.

EE 460 (ME 460) Nuclear Reactor Engineering I – 3 hrs. This course introduces students to nuclear power generation concepts and systems. Topics will include heat generation and removal from reactors, steady and unsteady-state conduction mechanisms in the reactor elements, single and two-phases, and liquid metal cooling core thermal design. Prerequisites: EE 307, ME 312.

EE 461 (ME 461) Nuclear Reactor Engineering II – 3 hrs. This course is the continuation of EE 460 (Nuclear Reactor Engineering I). It provides the BSEE students in the NP concentration with more advanced knowledge in reactor engineering and prepares them for careers in the nuclear power industry. Topics include heat generation and removal studies from reactors, reactor-specific issues, heat transfer calculations, heat flux calculations and core thermal design, major safety issues. Prerequisites: EE 460.

EE 470 Engineering Analysis and Design I – 2 hrs. Students must demonstrate their complete engineering capabilities by participating in a capstone design project. Project management and engineering ethics are included. This first course is provided to facilitate project selection, literature survey, and orientation. Meeting times are flexible. Prerequisites: Senior standing and consent of instructor.

EE 471 Engineering Analysis and Design II – 2 hrs. This is a continuation of EE 470 and is provided to facilitate completion of the capstone design project. Meeting times are flexible. Prerequisites: EE 470.

EE 490 Special Topics – 3 hrs. This course focuses on topics based on modern trends in electrical engineering. This course can be taken multiple times with students receiving additional credit each time. The specifics of each course will be identified at the beginning of each semester. Prerequisites: Senior standing or consent of instructor.

Electrical Engineering Technology

EET 103 Introduction to Engineering Technology – 3 hrs. A course providing a broad view of the many specialties in engineering and technology and discussions the differences between engineering science and engineering technology. This course acquaints the beginning student with the fundamental mathematical and physical concepts, tools, equipment, and language of the electrical and mechanical fields. Scheduling, planning, and time management skills are developed. Prerequisites: None.

EET 109 Digital Fundamentals – 3 hrs. A study of digital fundamentals, including Boolean algebra, different base-numbering systems, logic gates and combinational and sequential logic. Introduced are simplification techniques such as Karnaugh mapping. The basic concepts of digital design are presented. The course includes laboratory. Prerequisites: None.

EET 110 DC Circuits – 3 hrs. A study of further DC circuit concepts including Kirchoff's Laws, Thevenin's Theorem, Superposition Theorem, and the basic design of DC instruments, magnetic circuits, and transient analysis. Prerequisites: None.

EET 200L Basic Electricity and Electronics – 4 hrs. A study of the basic aspects of DC and AC circuits. This course is suitable for the non-EET majors who require a background in electrical and electronic components, circuits, and applications. Analysis of circuits by computer methods is introduced. Includes laboratory. Prerequisites: MTH 113.

EET 210 AC Circuits – 3 hrs. A study of basic principles of alternating circuits, vectors, phase relationship, inductance, capacitance, impedance and reactance. The application of network theorems to a-c analysis, and investigation of resonance phenomena are also discussed. Prerequisites: EET 110.

EET 211L EET Lab I – 1hr. A course including laboratory projects in Digital Logic, DC Circuits, AC Circuits, Electronics and Microcontrollers. The Lab will meet each week starting the first week of the semester. A strict schedule will be followed so that all projects can be completed before the end of the semester. The lab will require the students to work in teams assigned by the instructor. Quality technical reports will be required for each project and several projects will require oral presentations. The student should be prepared to meet with team members outside class time to prepare the reports and presentations. A specific lab report format will be adhered to. Prerequisites: EET 109, 110.

EET 212 Electronics – 3 hrs. An introduction to semiconductor physics, including electronic devices such as solid state diodes, BJT and FET transistor amplifier circuits, with emphasis on the understanding of basic circuit analysis. Computer methods are used for transient analysis. Prerequisites: EET 110.

EET 228 Electrical Power & Control – 3 hrs. Design, analysis, and application of circuits using operational amplifiers, four-layer solid state devices such as SCR's and triacs, and linear integrated circuits. Discussion includes AC/DC motors and generators and other industrial control devices. Prerequisites: EET 210, 212.

EET 231 Instrumentation - 3 hrs. Real-world applications of computers and devices for electronic instrumentation and studies of industrial devices most commonly used by industry in Automated Process Control Systems. Students learn about electrical

and mechanical transducers used for the measurement of temperature, pressure, flow and position, and complete exercises using computers and computer interfacing to give a realistic approach to the industrial application of these devices. Prerequisites: EET 211L.

EET 241 Microcontrollers I – 3 hrs. An introduction to the Microchip's PIC microprocessor. Students will learn to design embedded system using industry standard components and assemblies. Topics include PIC architecture, arithmetic logic, data handling, interrupt concepts, subroutines, and elementary Basic language programming. Prerequisites: EET 109, EET 110.

EET 290L EET Lab II – 1 hr. Laboratory projects in Instrumentation, Power and Control, AC Circuits, Electronics, and Microcontrollers. The Lab will meet each week starting the first week of the semester. A strict schedule will be followed so that all projects can be completed before the end of the semester. The lab will require the student to work in teams assigned by the instructor. Quality technical reports will be required for each project and several projects will require oral presentations. The student should be prepared to meet with team members outside class time to prepare the reports and presentations. A specific lab report format will be adhered to. Prerequisites: EET 211L.

EET 300 Engineering Ethics and Professionalism – 3 hrs. This course proves a broad view of the many aspects of engineering ethics, code of ethics, and professionalism. Topics include the issues of diversity and knowledge of societal and global issues. The course utilizes classical materials in ethics as well as contemporary case studies of ethics and professionalism. Students are required to work in prearranged groups. All students are required to prepare and present oral presentations. Some assignments require group interaction outside class times. Prerequisites: Junior standing.

EET 303 Machinery I – 3 hrs. A study of the technical characteristics of various field and armature connections of D-C generators and motors, including trouble shooting and maintenance. Laboratory experiments allow the demonstration of the concepts discussed in the classroom. Prerequisites: EET 210.

EET 304 Machinery II – 3 hrs. A study of polyphone systems balanced and unbalanced, generator, basic connection, parallel loads, voltage regulation, power factor correction, transformer connections, phase-sequence indicator, two-phase, and three phase systems, wattmeter connection. The laboratory experiments allow the demonstration of the concepts discussed in the classroom. Prerequisites: EET 303.

EET 310L EET Lab III – 1 hr. Laboratory projects in PLCs, Instrumentation, Power and Control. The Lab will meet each week starting the first week of the semester. A strict schedule will be followed so that all projects can be completed before the end of the semester. The lab will require the student to work in teams assigned by the instructor. Quality technical reports will be required for each project and several projects will require oral presentations. The student should be prepared to meet with team members outside class time to prepare the reports and presentations. A specific lab report format will be adhered to. Prerequisites: EET 290L.

EET 312 Methods of Engineering Analysis – 3 hrs. A study of probability, statistics, and differential equations and their applications to engineering problems. Emphasis is placed on the use of Microsoft Excel in the solution of these applications. Prerequisites: TBC 102, MTH 126.

EET 318 Advanced Digital Circuits – 3 hrs. A study of basic logic functions, random and sequential logic circuits, memory, analog-to-digital and digital-to-analog converters, code converters, and applications of logic circuits in digital systems. Prerequisites: EET 109.

EET 341 Microcontroller II – 3 hrs. An introduction to the Microchip's PIC12F675 and PIC16F684 microcontrollers. Students will learn to design embedded system using industry standard components and assemblies. Topics include PIC's advance assembly instructions, Hitachi 44780 compatible LCD display module, analogue-to-digital conversion module, data EEPROM memory, and building project using the LCD display, sensors, and PICkit I. Prerequisites: EET 241.

EET 351 Advanced Circuit Analysis – 3 hrs. A comprehensive coverage of circuit analysis utilizing the Laplace transform. Also covered are active filter design, and computer solutions using PSPICE. Prerequisites: EET 210.

EET 360 (MET/INT 360) Project Management – 3 hrs. Theory and practice of managing projects including the application of modern project management software to efficiently plan, schedule, and control project activities. Topics include work breakdown structures, precedence grids, precedence node diagrams, analytical methods for network solutions, resource scheduling, leveling and allocation, time-cost tradeoffs, and project-scheduling stimulation. Prerequisites: INT 206.

EET 370 PLC I – 3 hrs. Designed to introduce the student to a wide range of industrial automatic controls. The programmable logic controller is the base of study with the emphasis on programming. Included are the various types of transducers common to the industrial environment and the interfacing of I/O devices to the PLC. Modes of control, process response, and the final correcting devices are discussed. Prerequisites: EET 231.

EET 380 Computer Networks I – 3 hrs. An introduction to computer networks. The fundamentals of modern networking theory are covered. The course includes the terminology and technology of basic through state-of-the-art networking hardware and software. Network system concepts are examined from a wide range of applications including small work groups, local area networks, wide area networks, and global networking and modern network technology and applications including Wi-Fi, Microsoft Networks and CISCO routers. The course covers the material necessary for taking the Network+ certification exam. Prerequisites: EET 211L.

EET 390L EET Lab IV – 2 hrs. Laboratory projects in Computer Networks and PLCs. The Lab will meet each week starting the first week of the semester. A strict schedule will be followed so that all projects can be completed before the end of the semester. The lab will require the student to work in teams assigned by the instructor. Quality technical reports will be required for each project and several projects will require oral presentations. The student should be prepared to meet with team members outside class time to prepare the reports and presentations. A specific lab report format will be adhered to. Prerequisites: EET 310L.

EET 411 Data Communication Systems – 3 hrs. Overview of digital communication and an introduction to the concepts that lead to the implementation of digital systems. Topics covered are digital signal techniques, modulation and demodulation, error control coding and system synchronization, and application of phase-locked loops. The effects of noise and noise-induced design trade-offs are discussed and the complete design of a bit synchronizer is presented. Prerequisites: EET 212.

EET 421 Computer Design & Construction – 3 hrs (2 clock hrs lecture, 3 clock hrs lab). A course covering the current state of the art in computer design as applied to industrial applications and computer networking. This course covers the material necessary for taking the A+ certification. Prerequisites: EET 380.

EET 428 EET Capstone Design Phase I – 1 hr. Course demonstrating proficiency in analysis, layout, and completion of an electrical project. This first course is provided to facilitate project selection, project planning/scheduling, literature survey, and proposal writing. The student must complete an acceptable project proposal including presentation. Meeting times are flexible. Prerequisites: EET390L & MET 315.

EET 429 EET Capstone Design Phase II – 1 hr. A continuation of EET 428 focusing on the completion of the project and presentation of the final results. The course is conducted to simulate the procedures utilized by local industries to conduct engineering projects. An objective of the course is to demonstrate and practice the diverse skills and teamwork required in the modern workplace. Prerequisites: EET 428.

EET 490 Special Topics in Electrical Engineering Technology – 1-3 hrs. Focuses on topics based on modern trends in electrical engineering technology. This course can be taken multiple times (in different topics) with students receiving additional credit each time. The specifics of each course will be identified at the beginning of each semester. Prerequisites: Junior Standing.

EET 499 VLSI Circuit Design – 4 hrs. A study of design and layout techniques for microelectronics, both digital and analog. An introduction of MOS VLSI design technology, design application projects utilizing computer workstation resources may be undertaken at the discretion of the instructor. Prerequisites: EET 318.

Engineering General Course

EGC 101 Engineering Drawing and Graphics – 3 hrs (2 hours lecture and 4 hours lab). A study of principles of design drafting, and graphics as applied to engineering, geometric constructions, multi-view drawing and sketching, and graphical algebra and calculus. The student is introduced to computer graphics package. Prerequisites: None.

EGC 104 Computer Programming – 3 hrs. An introduction to the use of the computer as a tool in engineering. Systems and utility programs, programming techniques, recent developments in computing, and practice in solving engineering problems are included. Prerequisites: None. Co-requisites: MTH 125.

EGC 204 Engineering Analysis – 3 hrs. An introduction to statistics and data analysis, probability and sampling distributions, quality control, estimation and statistical intervals, testing statistical hypotheses, the analysis of variance, experimental data, regression and correlation, and computer applications in Civil Engineering. Prerequisites: MTH 126.

EGC 205 Statics – 3 hrs. Fundamental definitions and the concepts of static equilibrium, systems of forces and couples, application to solution of trusses and frames, friction, centroids and moments of inertia are covered in this course. Prerequisites: MTH 125, PHY 105. Co-requisites: EGC 101 or consent of instructor

EGC 206 Dynamics – 3 hrs. A study of kinematics of a particle; moment of inertia of masses; translation, rotation and plane motion of rigid bodies; principles of work and energy, impulse, and momentum, as applied to engineering problems. Prerequisites: EGC 205, MTH 126.

EGC 207 Strength of Materials – 3 hrs. Concepts of stress and strain, combined stresses, analysis of stresses and deformation in bodies loaded by axial, torsional, and bending loads. Prerequisites: EGC 205, MTH 126. Co-requisite (for CE Majors): EGC 104.

EGC 207L Strength of Materials Lab – 1 hr. The purpose of this course is to present a selection of experiments that will demonstrate the principles of Mechanics of Materials. A Laboratory Manual for this course will be used for performing these experiments. Co-requisites: EGC 207.

EGC 305 Fluid Mechanics – 3 hrs. A study of the properties of fluids and fundamental principles governing fluid motion, including fluid statics; conservation of mass momentum and energy with application to pipe and channel flow of incompressible fluids. Prerequisites: EGC 206, MTH 227, 238. Co-requisites: EGC 305L.

EGC 305L Fluid Mechanics Lab – 1 hr. The purpose of this course is to present a selection of experiments that will demonstrate the principles of Fluid Mechanics. A Laboratory Manual for this course will be used for performing these experiments. Co-requisites: EGC 305.

Elementary Education

ELE 300 Elementary School Organization – 3 hrs. A survey of all aspects of elementary education as a professional career. Candidates will become familiar with dynamics affecting research-based best teaching practices in the elementary school. Special emphasis will be given to integrating the elementary school curriculum to meet the needs of diverse populations, including students from various cultural backgrounds, students with special learning needs, and students who are English language learners. Prerequisites: Admission to Teacher Education.

ELE 495 Internship – 12 hrs. Fourteen weeks of full-time teaching under the immediate direction of supervising teachers in off-campus public schools. Upon return to the campus, students share their experiences, discuss problems, and develop new techniques in a professional seminar. Prerequisites: Senior classification; official admission to Teacher Education Program; minimum cumulative average of 2.5, "C" in all coursework completed, with no grade less than a "C" for professional courses; completion of all coursework in the program. Weekly seminar is required.

English

ENG 100 Developmental English – 3 hrs. A course presenting functional aid in preparing freshmen to enter ENG 101. Placement is determined by the student's score on the English/Writing component of the COMPASS assessment. It presents fundamentals of the language with practical usage in writing. Those who do not complete the course must continue it during the next semester they are enrolled at the University. Credit hours for this course may not be counted toward any degree requirement. However, the grade for this course is calculated in the cumulative GPA. Prerequisites: None. Co-requisites: ENG 100L.

ENG 100L Developmental English Laboratory – No credit hrs. This lab provides tutorial assistance and individualized study of the grammatical, mechanical, and writing skills covered in ENG 100. The grade for this course is calculated in the cumulative GPA. Co-requisites: ENG 100.

ENG 101 Composition I – 3 hrs. A course presenting an opportunity for freshmen to develop maturity in writing skills. Students must demonstrate adequate competence in writing on the final essay examination. Prerequisites: None.

ENG 101H Composition I Honors – 3 hrs. A course presenting an opportunity for freshmen to develop maturity in using the communication Skills. Advanced reading and writing assignments will be given. Enrollment in the Honors program is required. Prerequisites: None.

ENG 102 Composition II – 3 hrs. A course presenting a continuation of Composition I. Emphasis is placed on the research paper. Prerequisites: ENG 101.

ENG 102H Composition II Honors – 3 hrs. A course presenting a continuation of Honors Composition I. A research project is required. Enrollment in the Honors program is required. Prerequisites: 101H.

ENG 201 Survey of English Literature I – 3 hrs. A critical, historical, and appreciative study of English literature from the Old English Period through the Neo-classical Period. Masterpieces of the various literary eras are given special attention. Prerequisites: ENG 102.

ENG 202 Survey of English Literature II – 3 hrs. A critical, historical, and appreciative study of English literature from the Romantic Period through the Contemporary Period. Masterpieces of the various literary eras are given special attention. Prerequisites: ENG 201.

ENG 203 World Literature I – 3 hrs. A study of world literature from ancient Mesopotamian through the Renaissance. Prerequisites: ENG 102.

ENG 204 World Literature II – 3 hrs. A study of world literature from the Age of Reason through the modern period. Prerequisites: ENG 203.

ENG 204H World Literature II Honors – 3 hrs. An advanced study of world literature from the Age of Reason through the modern period. Honor students who enroll in this course will be expected to read an extensive number of short stories and novels and will be engaged in multiple projects connected to the literature of the period. Prerequisites: English 203 and formal admittance to the Honor's Program.

ENG 205 General Speech – 3 hrs. Presentation of the fundamentals of voice and diction implemented through the various types of speech: public speaking, group discussion, oral interpretation, debate, and informal speech. Prerequisites: ENG 102.

ENG 207 Survey of American Literature I – 3 hrs. A critical, historical, and appreciative study of American literature from the Colonial Period to 1865. The principal authors are given special attention. Prerequisites: ENG 102.

ENG 208 Survey of American Literature II – 3 hrs. A critical, historical, and appreciative study of American literature from 1865 to the Contemporary Period. The principal authors are given special attention. Prerequisites: ENG 102.

ENG 303 Technical and Professional Writing – 3 hrs. Focuses on practical writing, especially technical or scientific reports and proposals, with emphasis on organizations, research, and presentation. Prerequisites: ENG 102.

ENG 304 Advanced Composition – 3 hrs. The principles of rhetoric with supplementary readings and ample practice to develop the skills of students in expressing themselves beyond freshman competency. Prerequisites: ENG 102 or 102H.

ENG 305 Sixteenth Century English Literature – 3 hrs. A critical, historical, and appreciative study of non-dramatic literature of the Renaissance in England. Much attention is given to major authors of the period and genres that entered English literature at this time. Prerequisites: ENG 201 or 202 or 301 or 302.

ENG 306 Seventeenth Century English Literature – 3 hrs. A critical, historical, and appreciative study of the prose and poetry of the seventeenth century. Special attention is given to Donne and Milton. Prerequisites: ENG 201 or 202 or 301 or 302.

ENG 307 Shakespeare – 3 hrs. A study of selected dramas of Shakespeare - tragedies, comedies, romances, histories, and selected sonnets. Prerequisites: ENG 201 or 202 or 301 or 302.

ENG 308 Literary Criticism – 3 hrs. Close analysis of representative works in literary criticism from the ancients to the present. It includes the application of modes of criticism to various texts in a number of genres. Prerequisites: ENG 201 or 202 or 203 or 204.

ENG 309 History of the English Language – 3 hrs. The historical development of the English language from the Anglo-Saxon Period to the present, including attention to the social, political, and intellectual forces that have determined the nature of its development. Prerequisites: ENG 201 or 202 or 301 or 302.

ENG 310 Journalism Workshop – 2 hrs. This course teaches major forms of journalistic writing including report writing. Emphasis is placed on the principles and practice of news writing, editing, and layout. Prerequisites: ENG 102.

ENG 311 Creative Writing – 3 hrs. A course designed to help students interested in creative writing develop their skills as writers of poetry and prose. A workshop environment including exercises, peer criticism and writing models will be used. Prerequisites: ENG 204.

ENG 400 Discourse Analysis – 3 hrs. This course provides students with the knowledge and skills that enable them to look into the English language beyond the sentence level in spoken and written context; equip students with a critical awareness of the role language plays in social and cultural interactions; and assist then in further developing critical comprehension and thinking skills. Prerequisites: ENG 102.

ENG 401 Romantic Writers – 3 hrs. A critical, historical and appreciative study of the prose and poetry of the Romantic Movement. Special attention is given to Wordsworth, Coleridge, Byron, Shelley, and Keats. Prerequisites: ENG 201 or 202 or 301 or 302.

ENG 402 Victorian Writers – 3 hrs. A critical, historical and appreciative study of the prose and poetry of the Victorian period. Special attention is given to Tennyson, Browning, Arnold, and Carlyle. Prerequisites: ENG 201 or 202 or 301 or 302.

ENG 403 Play Production – 2 hrs. Development of the skills and techniques necessary for staging successfully an amateur dramatic production. Prerequisites: ENG 102.

ENG 404 Survey of African American Literature – 3 hrs. An introduction to African American literature from its early beginning to the present. Emphasis will be placed on the literature's historical context and the political and cultural forces that shaped the African American experience. Prerequisites: ENG 102.

ENG 405 Advanced Grammar – 3 hrs. A thorough study of traditional English grammar. It may also include structural, generative, and transformational methods. Prerequisites: ENG 102.

ENG 407 Senior Seminar – 3 hrs. A critical and contextual reading of major texts in English and American literature. Emphasis will be placed on formal presentation of well-researched papers. Prerequisites: ENG 202, 302.

ENG 408 Medieval Literature – 3 hrs. A study of major genres and works of British literature from the Anglo-Saxon period to the fifteenth century. Prerequisites: ENG 102, 203.

ENG 412 Literature on Film – 3 hrs. A study of major works of literature and film adaptations of those works, with particular attention to the interpretive choices made by such performative works. Subject matter may vary. Prerequisites: ENG 102.

ENG 420 Post-Colonial Theory and Literature – 3 hrs. A study of theories of post-coloniality and the literature produced in former British colonies. Emphasis will be placed on the literature in Africa and the West Indies. Prerequisites: ENG 204.

Entrepreneur

ETR 315 Introduction to Entrepreneurship – 3 hrs. An introductory course intended to provide students with a solid foundation in terms of the vital role played by entrepreneurs and entrepreneurship in the 21st century global economy. Emphasis is on entrepreneurship as a manageable process that can be applied in virtually any organizational setting. It is also a course that integrates a number of different disciplines, ranging from sociology and psychology to economics, finance, marketing, and human resource management. Further, it is a course that mixes theory with practice, and you will be challenged to apply principles, concepts and frameworks to real world situations.

ETR 320 Planning and Launching of New Ventures – 3 hrs. This course focuses on business plan development, especially the financial aspects of the plan. The intent is that students will use a feasibility analysis, such as the one completed in ETR 315, and turn that into a complete business plan. Additionally, students will learn about seed capital, venture, and other means of financing new ventures. Recommended background for this course is MKT 410.

ETR 430 Growing and Managing New Ventures – 3 hrs. One of the most troublesome aspects of entrepreneurship is running the business once it is started. This course focuses on techniques to grow the new venture and how to manage both the growth and operations. Considerable emphasis will be placed on expanding existing markets, finding new markets, anticipating the next generation of products, and managing cash flow. This course is the capstone course for both the Entrepreneurship Minor and the Management Minor. Recommended background for this course is ETR 320.

ETR 440 Field Studies in Entrepreneurial Firms – 3 hrs. This course involves supervised study of an organization in one of two forms. Students may work in student groups to establish a relationship, identify a strategic problem or question, design and execute a study, and report implementable recommendations to a regional firm or work in a supervised internship in an entrepreneurial business. Recommended background for this course is ETR 430.

ETR 445 Senior Portfolio: Writing the Business Plan – 3 hrs. Students will study the basic components and varied audiences for the business plan. Each student will write a business plan and will be required to present the plan to a panel of business leaders. Recommended background for this course is MKT 410.

Food & Animal Sciences

FAS 101 Foods for Life – 2 hrs. The study of most common information regarding food and its role in human society. Prerequisites: None.

FAS 102 Introduction to Food Science – 3 hrs. Food science and its relation to agriculture; opportunities in the various fields of food industry; trends in procurement, management, processing, distribution and utilization of food; food raw materials and constituents; biochemical aspects of food composition; food spoilage; and principles of food processing and preservation. Prerequisites: None.

FAS 112 Introduction to Animal Science – 3 hrs. An introduction to the total animal industry covering dairy and beef cattle, swine, poultry, sheep, goats, rabbits, and horses. The material is divided by topics such as nutrition, reproduction, breeding, genetics, milk secretion, markets, meat processing and others, which include consideration of all species. Students will develop an appreciation for animal science and the application of sound business principles. Prerequisites: None.

FAS 306 Sensory Evaluation – 3 hrs. A study of principles and methodology of sensory evaluation; application of methods; instrumentation in physical evaluation of food; and analysis of sensory and instrumental data. Prerequisites: FAS 102.

FAS 311 Fundamentals of Dairy Science – 3 hrs. Introduction to the fundamentals of dairy in the United States. Types of dairy farms, selection and breeding; raising and managing dairy calves and heifers; care and management of cows and sires; and factors influencing the quantity and quality of milk and milk products are addressed. Labor-saved devices and practices used to develop economical and efficient herd management will be presented. Prerequisites: FAS 112.

FAS 312 Food Service Health Management – 1 hr. Short course offered through Madison County Health Authorities for Food Service Managers certification with 14 hours classroom contact. Course is designed to give managers and owners the skills to find the food-borne illness hazards in their operations. Students are introduced to a system which utilizes policies, procedures and standards designed to prevent recurring problems. Basic sanitation management principles will be discussed. After completing the course, participants will be prepared to develop or upgrade their food safety program using HACCP (Hazard Analysis Critical Control Points) concepts. Prerequisites: None.

FAS 325 Fundamentals of Poultry Science – 3 hrs. Basic course in poultry science that involves principles and practices in production and marketing of poultry and poultry products in a highly specialized industry. Practice consists of hands-on application of basic skills required for efficient production and management. Prerequisites: FAS 112.

FAS 326 Poultry Production & Management – 3 hrs. A comprehensive study of various management practices, including brooding of broiler and replacement pullets, management of layers and other classes of poultry such as turkeys, geese, ducks, and so forth. Emphasis will also be given to current practices in the poultry industry through visits to area commercial operators. Nutrition and disease management will also be addressed. Prerequisites: FAS 112.

FAS 351 Nutrition and Metabolism – 3 hrs. Introduction to nutrient digestion and metabolism in monogastrics and ruminants. The students will become acquainted with physiological and biochemical mechanisms of nutrient utilization. Prerequisites: CHE 102, 102L, BIO 103, BIO 103L.

FAS 352 Feeds and Feeding – 3 hrs. Introduction to livestock feeds and their utilization in meeting the nutrient requirements of animals producing meat, milk fiber, and eggs. The student will become acquainted with ration formulation and laboratory procedures for determining feed composition. Prerequisites: FAS 112.

FAS 353 Animal Breeding & Genetics – 3 hrs. Concepts and principles of genetics applied to animal breeding, including Mendelian inheritance, gametogenesis, molecular genetics, modes of gene action, inheritability estimation, progeny testing methods, inbreeding and outbreeding systems, and recent advances in animal genetic engineering. Prerequisites: BIO 103, 103L, FAS 112.

FAS 354 Beef Cattle Production – 3 hrs. Consideration of basic principles and methods of application involved in breeding, feeding, management, diseases, and marketing of beef producing animals. Prerequisites: FAS 112.

FAS 355 Livestock Judging – 3 hrs. Theoretical and practical techniques relative to the selection of farm animals based on their physical attributes, the intent of which is to acquire the ability to recognize superior animals for breeding purposes and to recognize those animals that will be outstanding producers of meat and milk for human consumption. Prerequisites: FAS 112.

FAS 356 Swine Production – 3 hrs. Study of the basic principles and their practical application in efficient pork production. All areas of production, breeding, selection, nutrition, housing, equipment, marketing, herd health, and economic management are included. Prerequisites: FAS 112.

FAS 357 Monogastric Animal Management – 3 hrs. This course will review the basic principles and their practical application in efficient poultry and pork production. All areas of production, breeding, selection, nutrition, housing, equipment, marketing, herd health, and economic management are included. Prerequisites: FAS 112.

FAS 358 Ruminant Animal Management – 3 hrs. This is an introductory course with the purpose of providing an overview of the beef and dairy industries and the scientific principles of beef and dairy production and management. Prerequisites: FAS 112.

FAS 401L Food Microbiology – 4 hrs. A course on theoretical and practical studies of the role of microorganisms in foods pertaining to processing, preservation, quality, product development and spoilage. Also, this course acquaints students with quantitative and qualitative microbial evaluation techniques applicable to the food industry and science. Prerequisites: BIO 103 103L.

FAS 402 Meat Science & Technology – 3 hrs. Theoretical and practical aspects of slaughtering, dressing, cutting, and processing of beef, pork, and lamb. Selection, identification, and utilization of wholesale and retail cuts, as well as principles of processing and preservation of meat products are covered. Various methods of studying and evaluating meat characteristics and composition are also included. Prerequisites: FAS 102, BIO 103,103L.

FAS 403 Seminar – 1 hr. A review and discussion of current literature in food science, food and nutrition, or animal science areas. Prerequisites: Junior standing.

FAS 405 Special Problems – 1-3 hrs. A detailed experimental study of a chosen problem in food science, animal science, or related science areas. Prerequisites: Junior standing or consent of instructor.

FAS 407L Food Chemistry – 4 hrs. A course on theoretical and practical applications focusing on chemistry of foods chemical processing and interactions. Includes study of color, flavor and nutritive value. Prerequisites: FAS 102, CHE 221, 221L.

FAS 408L Food Analysis – 4 hrs. The use of physical and chemical methods of analyzing foods and their application to the food and feed industry. Students apply principles to projects in a laboratory session. Prerequisites: (FAS 102 or 112) and CHE 301, 301L.

FAS 420 Dairy Production and Management - 3 hrs. This course provides an evaluation of the complexity and dynamic nature of the dairy industry and the science of producing milk for dairy cattle, goats and sheep. This course will introduce students to the technological and genetic developments in dairy farming resulting in increased productivity. Topics of discussion will include animal breeding, reproduction, nutrition, business, health, forage utilization and marketing as related to the dairy industry. Prerequisite: BIO 103, 103L, FAS 112.

FAS 421 Biology of Lactation – 3 hrs. This is an introductory course that will provide the students with the basics and advanced knowledge of the development, growth, and function of the mammary gland of dairy animals and lactation and detailed the critical regulatory events in lactation. Prerequisites: FAS 112.

FAS 422 Poultry Products Technology – 3 hrs. Procurement, processing, packaging and distribution of poultry products, and factors affecting quality, their identification and control, quality maintenance, and storage are addressed. Prerequisites: FAS 102.

FAS 426 Public Health Significance of Zoonotic Diseases – 3 hrs. This course addresses issues and concerns of infectious disease transmissible from animal to man and from man to animal. Re-emerging zoonotic diseases and other relevant issues on communicable diseases will also be addressed. Factors contributing to the emergence of zoonotic diseases including the impact of social and demographic changes will be addressed. The etiology, incidence in man and animals, nature of the disease, course of infection, mode of transmission, role of animals in the epidemiology, diagnosis and control or eradication will be discussed. Prerequisite: BIO 103, 103L, FAS 112.

FAS 430L Physiology of Reproduction – 4 hrs. Study of early fetal development and differentiation of the gonads and secondary sex organs. Anatomy and physiology of male and female reproductive tracts, endocrinology of reproduction, fertilization, cleavage and implantation, pregnancy diagnosis and parturition, causes of reproductive failure, and the use of artificial insemination and embryo transfer to improve reproductive efficiency are addressed in this course. Prerequisites: BIO 103 and (senior standing or consent of instructor).

FAS 442 Fruits, Vegetables, & Cereal Products Technology – 4 hrs. A course to provide students with an integrated understanding of basic principles in relation to storage, preservation and utilization of fruits, vegetables, and cereals. Experience is provided in developing appropriate information and applying it to the decision making process in food industry situations. Prerequisites: FAS 102.

FAS 450 Regulations of Food Safety and Quality – 3 hrs. The study of the history of food law; steps in establishing food laws; food laws and regulation. Various agencies involved in enforcing food quality and product quality evaluation methods will be presented to set forth examples of producers', processors', consumers' and regulators' concerns in maintaining food quality levels. Prerequisites: FAS 102.

FAS 453L Agricultural Biochemistry – 4 hrs. An introduction to the fundamentals of biochemistry with emphasis on food and plant biochemistry. The laboratory deals with basic techniques in biochemical analyses. A laboratory session adds practical experience to the theory taught. Prerequisites: CHE 301, 301L.

FAS 461L Food Engineering – 4 hrs. Fundamentals of heat transfer, fluid flow, evaporation, drying, and other unit operations in food processing industries. Students will be acquainted with application of engineering principles and concepts to the processing of foods. An integrated laboratory session provides demonstration of principles. Prerequisites: PHY 103, MTH 125.

FAS 472L Food Processing – 4 hrs. A course involving the integration of basic principles and practices of unit operation for food processing and preservation. Practical experience in food processing is afforded by an integrated laboratory period. Prerequisites: FAS 102.

FAS 474 Science and Health Management of Small Ruminants – 3hrs. This course addresses specific management approaches to production medicine, herd and flock health and reproduction in sheep and goats. Basic handling techniques, body condition scoring, selection and breeding management, breeding soundness, epidemiological approaches to herd and flock health parasite management, pregnancy diagnosis and management, antibiotic residue considerations and methods of testing milk and meat, bio-safety, urolithiasis, geriatric considerations, control strategies for managing chronic diseases and nutritional impact on animal health and wellbeing for sustainable small ruminant production will be emphasized. Prerequisite: BIO 103, 103L, FAS 112.

FAS 485 Animal Physiology and Endocrinology – 3 hrs. This course will review endocrine systems, and hormonal regulation and integration of physiological function in animal domestic species, from the molecular to the whole-organism level. Prerequisites: FAS 112.

FAS 486 Food Biotechnology – 3 hrs. The course provides an introduction to the application of biotechnology of food production and processing. The topics covered will include applications of traditional biotechnology techniques, discovering the DNA molecule, study of the DNA structure and function, introduction to recombinant DNA techniques, genetically modified foods on the market and benefits, risk analysis and labeling. Prerequisites: BIO 103, 103L.

FAS 490 Food Science Capstone – 3 hrs. A senior level course which incorporates and unifies the principles of food chemistry, food microbiology, food engineering, food processing, nutrition, sensory analysis and statistics. Prerequisites: Senior standing.

FAS 492 Animal Science Capstone – 3 hrs. A senior level course incorporating and unifying the principles of animal breeding, genetics, animal nutrition, biology and chemistry with livestock production and care. Prerequisites: Senior standing.

Family & Consumer Sciences

FCS 101 Introduction to the Profession – 1 hr. General overview of Family and Consumer Sciences-its areas, its history, growth and expansion. Careers are also investigated. Prerequisites: None.

FCS 303 Career Technical/Family and Consumer Sciences Education – 3 hrs. A survey of career technical programs as taught in secondary schools with special emphasis on Family and Consumer Sciences. State required occupational practicum must be culminated during this course. Prerequisites: FCS 101.

FCS 401 Family and Consumer Sciences Education – 3 hrs. Planning and implementation of curricula in secondary schools and community programs, making use of innovations and technology in the teaching-learning process. The course also provides for the development and use of appropriate evaluation tools and techniques. Prerequisites: FCS 101, 303.

FCS 411 Honors Courses in Family and Consumer Sciences – 3 hrs. A special problems course for academically accelerated students which explores issues and trends in specialized areas, with some opportunity for research. Prerequisites: Senior standing, FCS major, GPA. of 3.3 or above.

FCS 418 Directed Field Experience – 6 credit hours. One hundred twenty (120) hours of off-campus, supervised experiential learning in the student's area of concentration. Prerequisites: (Advanced junior or senior standing) and instructor consent.
Note: This course is a capstone course for the Family & Consumer Sciences program. Therefore, students majoring in this program cannot substitute this course.

FCS 420 Senior Seminar – 1 hr. A course which assists students in fusing the various aspects of Family and Consumer Sciences into a meaningful whole through the study of relevant issues and interaction with professionals. Personal and professional skills needed for success in students' chosen careers are stressed. Prerequisites: Senior status.

FCS 495 Internship in FCS – 12 hrs. Supervised observation and teaching in a secondary school. A critical analysis of classroom problems and activities provides major topics of the seminar. Prerequisites: FCS 101, 303, 401.

Education Foundation

FED 200 Introduction to Teacher Education – 2 hrs. A general overview of teaching in public schools with a supervised practicum. The course is designed as a personalized exploration of the profession for those students interested in teaching as a possible career and anxious for an accurate picture of what is entailed in teaching in American schools today as well as the qualities and skills required for those who teach. 2-hour lab requirement for Early Childhood, Elementary, Early Childhood Special Education, and Collaborative Teacher K-6 until candidates demonstrate a passing score on Praxis II. Prerequisites: 2.5 Grade Point Average.

FED 212 Human Growth and Development – 3 hrs. A study of the ontogenesis of human growth and learning from adolescence to young adulthood. Emphasis is placed on the cause and effect interrelationship between natural growth and maturational processes and environmental forces, influences, and expectations. Prerequisites: PSY 201, 2.5 Grade Point Average.

FED 215 Instructional Technology – 3 hrs. A course designed to emphasize traditional current and emerging instructional technology in the classroom. Students will learn various techniques for designing instructional materials, applying and integrating technology in instruction, and using microcomputer and software applications to promote effective teaching and learning. The course offers pre-service teachers the opportunity to design lessons, select appropriate media formats, and conduct informal and formal evaluations on the effectiveness of selected media on the learning process. Also, students will become knowledgeable of educational applications in both microcomputer platforms Macintosh and Windows. Prerequisites: 2.5 Grade Point Average.

FED 300 Foundations of Education – 2 hrs. A study of the growth and development of education in the United States, together with a consideration of the effects of the purpose of education on organization administration curriculum, and teaching

procedures. Two hour lab requirement for Secondary Education majors until candidates demonstrate a passing score on Praxis II. Prerequisites: Formal admission to the teacher education program.

FED 404 Tests and Measurements – 3 hrs. A study of the current methods of educational measurement and evaluation, the development of a scientific attitude toward the ideas of statistics and testing, the study and selection of various tests, and the solution of individual problems through the administration and interpretation of illustrative tests. Prerequisites: Formal admission to the teacher education program.

Finance

FIN 315 Principles of Finance – 3 hrs. A study of how corporations raise and utilize funds, the kinds of securities and principles involved in the above processes, and the analytical techniques employed by financial managers to appraise the capital - raising and fund-allocation activities. Prerequisites: None.

FIN 316 Managerial Finance – 3 hrs. The financial manager's responsibilities for determining optimal policies and procedures for capital budgeting under conditions of uncertainty; long term financing, dividend distribution, mergers and acquisitions and working capital management. A problem solving and/or case study approach is used but not to the exclusion of probing theoretical questions. Prerequisites: FIN 315.

FIN 317 Computer Analysis in Finance – 3 hrs. The use of different software packages in analyzing decision making by financial managers. Emphasis will be placed on problem solving in the areas of risk and return, capital budgeting, cost of capital, capital structure, loan amortization, and time value of money. Prerequisites: FIN 315.

FIN 412 Risk and Insurance – 3 hrs. Basic ideas, problems, and principles found in all types of modern-day insurance and other methods of handling risks as well as risk management as it directly affects the family, businesses, and society as a whole. Prerequisites: FIN 315. (Offered upon sufficient demand, consult your advisor.)

FIN 432 Investment – 3 hrs. Public and corporate securities, capital markets, and analytical skills used to evaluate stocks, bonds, and may other types of investments in terms of their income and growth prospects from the standpoint of individual and institutional investors. Prerequisites: FIN 315.

FIN 433 Investment in Practice I – 1 hr. Students manage an investment portfolio. They trade stocks through a broker. This is not a game, but the management of real money. Students apply their knowledge of portfolio management and investment theory in making these decisions. Student may repeat the course one or two times. Prerequisites: FIN 315.

FIN 434 Investment in Practice II – 1 hr. Students manage an investment portfolio. They trade stocks through a broker. This is not a game, but the management of real money. Students apply their knowledge of portfolio management and investment theory in making these decisions. Student may repeat the course one or two times. Prerequisites: FIN 315.

FIN 435 Investment in Practice III – 1 hr. Students manage an investment portfolio. They trade stocks through a broker. This is not a game, but the management of real money. Students apply their knowledge of portfolio management and investment theory in making these decisions. Student may repeat the course one or two times. Prerequisites: FIN 315.

FIN 449 Money and Capital Market – 3 hrs. Financing process and the role of the financial markets, aggregate investment and savings, money and capital markets, and the flow of funds; determination of asset prices and interrelationships among them; role of financial intermediaries and the impact of their portfolio policy. Prerequisites: FIN 315.

FIN 479 Derivative Markets – 3 hrs. Functions, techniques, and the valuation of derivative securities, such as futures, forward and options markets. Primary emphasis is on pricing and methods of trading. Prerequisites: FIN 315.

FIN 484 Bank Management – 3 hrs. The financial management of banks. Emphasis is placed on deposits, loans, bond portfolios, credit analysis, analysis and interpretation of federal reserve regulations and publications. Prerequisites: FIN 315.

FIN 487 International Financial Management – 3 hrs. Optimum decision making in a global business environment. The course is multidimensional, requiring considerations of social, economic and political factors in addition to traditional (intrafirm) managerial concerns. Prerequisites: FIN 315.

FIN 489 Special Topics in Finance – 3 hrs. Current issues and problem relating to corporate finance along with computer-assisted techniques and methods used to select, administer and change the financial decisions. Prerequisites: FIN 316.

FIN 490 Internship in Economics/Finance – 3 hrs. This course integrates the theoretical knowledge in economics and finance with practical application of that knowledge. Interested students with approved placements are eligible to take this course for credit. Prerequisites: FIN 315.

French

FRE 101 Elementary French I – 3 hrs. An introduction to the fundamentals of oral-aural and reading-writing usage in the language. Grammatical structure, conversational form, and various aspects of the French culture are important parts of the course. Students learn to use the spoken language and work on production from the beginning. Prerequisites: None.

FRE 102 Elementary French II – 3 hrs. This course is a continuation of FRE 101. The basic language skills (speaking, reading, writing, and listening) introduced in FRE 101, along with some aspects of French culture, will be emphasized to complete the introductory level. Prerequisites: FRE 101.

FRE 201 Intermediate French I – 3 hrs. A continuation of the first-year course. Improved proficiencies in oral-aural and reading-writing skills and increased linguistic proficiency will be stressed. Humanistic understanding of French people will be emphasized through the reading of historical or cultural texts in French. Prerequisites: FRE 102.

FRE 202 Intermediate French II – 3 hrs. A continuation of FRE 201 which includes intensive reading of French literary and cultural texts. Emphasis is placed on vocabulary expansion, speaking and writing short compositions in French. Prerequisites: FRE 201.

FRE 301 Advanced French I – 3 hrs. A logical continuation of the second-year course. Further attention is given to oral-aural and reading-writing skills. Problems of grammar are approached at a high level. Syntactic constructions and rules, and the study of some idiomatic usage of the language are also included. Prerequisites: FRE 202.

FRE 302 Advanced French II – 3 hrs. A continuation of French 301. Students will continue to develop their audio-lingual and written skills, with reading and presentation of grammar and syntax. The course is designed to develop fluency in spoken French through guided and free conversation on topics of personal, general and current interest. Prerequisites: FRE 301.

FRE 303 Introduction to French Literature I – 3 hrs. A broad study of the historical and aesthetic evolution in literature from the earliest medieval literary monuments through the great masterworks of the Age of Enlightenment. Students will read carefully selected samples of representative works from all of the genres and important periods. Prerequisites: FRE 202.

FRE 304 Introduction to French Literature II – 3 hrs. A continuation of FRE 303. The course provides a broad study of the historical and aesthetic evolution in literature from the Age of Enlightenment through the contemporary period. The main literary currents and their historical and social backgrounds will be studied. Prerequisites: FRE 303.

Farsi

FRS 101 Basic Farsi I – 3 hrs. Teaches basic vocabulary and grammar of Farsi. Emphasis will be placed on learning the alphabet and dialogue. The course will focus on reading and speaking, with some attention to writing. Prerequisites: None.

FRS 102 Basic Farsi II – 3 hrs. A continuation of Basic vocabulary and grammar of Farsi. Some emphasis will be placed on cultural and regional issues. Prerequisites: FRS 101.

FRS 201 Intermediate Farsi I – 3 hrs. The student builds upon his or her knowledge of Farsi by acquiring additional competence in grammar and vocabulary moving beyond the 1,500 most used words. Reading, writing, and listening are emphasized. Prerequisites: FRS 102.

FRS 202 Intermediate Farsi II – 3 hrs. The student completes his or her knowledge of grammar and learns additional vocabulary including idiomatic expressions. Attention will be paid to readings about culture and literature of the Farsi speaking region. Prerequisites: FRS 201.

Geography

GEO 213 Principles of Geography – 3 hrs. An introductory course that deals with the fundamentals of geography as a science, including physical, urban, political, social, economic, and demographic aspects of geography. It also focuses on the use of maps and the geographical information system as tools of geographers. Prerequisites: None.

GEO 214 World Regional Geography – 3 hrs. A study which includes the geographical profile of world nations and major regions focusing on the relationship of cultural and environmental factors. Emphasis is given to the study of Third World countries. Prerequisites: None.

GEO 215 Global Profile – 3 hrs. A course designed to help students become aware of global realities and concerns and help them understand the gravity of the world's future problems, particularly global population, resources, urbanization and technological development. Prerequisites: None.

GEO 315 Political Geography – 3 hrs. Political Geography examines the ways in which human have arranged the territory of the earth's surface. This course examines the effects of political actions on social and economic conditions, and with the significance of geological factors behind political situations, problems, and conflicts. Prerequisites: None.

GEO 401 Urban Geography – 3 hrs. Explanation of various concepts of urban geography and the role of geographic site and location in the evolution of cities. The course includes study of global urbanization, urban hierarchy, morphology, land use patterns, classification of cities and town-country relations. A special focus on slums and squatters in developing countries is included. Prerequisites: None.

Human Development & Family Study

HDF 201 Family Relations – 3 hrs. A study of human relationships, including dating and mate selection, marriage, family life, and parenting as well as laying the foundation for a fundamental philosophy of productive human interaction. Prerequisites: None.

HDF 211 Child Growth and Development – 3 hrs. A study of the ontogenesis of human growth and learning from conception to young adulthood. Emphasis is placed on the cause and effect interrelationship between natural growth and maturational processes and environmental forces, influence, and expectations. Special emphasis is placed upon birth to age nine. Prerequisites: None.

HDF 301 Fundamentals of Family Financial Planning – 3 hrs. Introduces students to the various financial planning topics that face families, such as the financial planning process, client/planner interactions, time value of money applications, personal financial statements, cash flow and debt management, asset acquisition, and education planning. Risk management, investment planning, retirement planning, plan integration, and ethics are also discussed. Prerequisites: ECO 200 or ECO 231/232.

HDF 303 Family Theory – 3 hrs. Theory related to development and functions of families. Attention is also given to family systems that enhance or retard achievement of goals. Prerequisites: HDF 201.

HDF 304 Parenting – 3 hrs. The nature of parenthood and the task of parenting in today's culture through the various stages of the child's metamorphosis to maturity and beyond. Incorporates new knowledge, skills, and practices in effective parenting. Prerequisites: None.

HDF 305 Insurance Planning for Families – 3 hrs. Introduces students to risk management and insurance decisions in family financial planning. Topics include insurance for life, health, disability, property and liability risks, as well as annuities, group insurance, and long term care. Prerequisites: None.

HDF 306 Middle Childhood and Adolescence – 3 hrs. A study of the child between the ages of nine and eighteen, in all phases of development as the change occurs from child to adult. Prerequisites: None.

HDF 307 Motor-Perceptual Development in Early Childhood – 3 hrs. A study of how a child learns to perceive through the instrumentality of his or her body. Laboratory experience to be arranged. Prerequisites: None.

HDF 308 Guidance in Prepared Environments – 3 hrs. A study of direct and indirect guidance where the environment is arranged in such a manner that the equipment and materials facilitate each child's progress and discovery. Prerequisites: None.

HDF 310 Infant and Toddler Development – 3 hrs. Research and new insights in the field of infant and toddler development, the effects of the infant care-giver, interaction, and societal supports. Opportunities for observation and research, including a laboratory which focuses on assessing infant development are included. Prerequisites: None.

HDF 311 Theories of Child and Adolescent Development – 3 hrs. Current theories and philosophies in the field of human development which shed light on the marvels and mysteries of the human creature in his being and becoming are addressed. Prerequisites: None.

HDF 312 Family Economics and Resource Management – 3 hrs. A study of the management of family resources, including credit, buymanship, and consumer issues, augmented with supervised learning experiences. Prerequisites: None.

HDF 314 Family and Society – 3 hrs. A study of the socialization process of individuals and families in various cultures in North America and abroad, with emphasis on the humanizing or degenerating influences of the twentieth century. Prerequisites: None.

HDF 315 Income Tax Planning for Families – 3 hrs. Provides an overview of current tax laws, income tax principles, and taxation terminology. The course focuses on tax planning considerations, computations, and tax planning strategies including tax pitfalls that impact financial planning for families. Prerequisites: None.

HDF 317 Child Development Programs and the Community – 3 hrs.

HDF 318 Workshop – 3-6 hrs. Selected topics in Human Development and Family Studies. Prerequisites: None.

HDF 401 Family Financial Counseling – 3 hrs. A study of counseling techniques relevant to the financial planning and economic well-being of the family. Prerequisites: None.

HDF 402 Preschool Curriculum Development – 3 hrs. Opportunities for students to design curricula to meet the needs of preschool children. Special attention is given to language arts, mathematics, and social studies concepts. Prerequisites: HDF 211.

HDF 405 Investment Planning for Families – 3 hrs. Provides the student with an understanding of the various types of securities trades in financial markets, investment theory and practice, portfolio construction and management, and investment strategies and tactics to meet a family's investment goals. Prerequisites: None.

HDF 406 Retirement Planning for Families – 3 hrs. The intent of this course is to provide families with knowledge of both public and private retirement plans. The public plans include Social Security, Medicare, and Medicaid. The private plans include defined benefit and defined contribution plans and their regulatory provisions. The specifics of the various plans are analyzed as well as non-qualified deferred compensation plans. Finally, issues that individuals and families face in retirement, such as lifestyle choices and medical issues are discussed. Prerequisites: None.

HDF 407 Estate Planning for Families – 3hrs. The course focuses on the efficient conversation and transfer of wealth, consistent with the family's goal. It is a study of the legal, tax, financial and non-financial aspects of this process, covering topics such as trusts, wills probate, advanced directives, charitable giving, wealth transfers and related taxes. Prerequisites: None.

HDF 410 Readings and Research in Human Development and Family Studies – 3 hrs. An exploration into the writings and research of well-known contributors to the study of human development and the family. Prerequisites: Junior or senior standing

HDF 411 Infant Programs – 3 hrs. A study of the organization and implementation of infant programs with emphasis on planning for cognitive, psychomotor and social development. Prerequisites: HDF 211.

HDF 412 Independent Study – 1-3 hrs. A course providing an opportunity for students to pursue an avenue of special interest to the student and experience some creative expressions in response to the work of others. Prerequisites: None

HDF 413 Behavior Management in the School – 3 hrs. The study of the basic understanding of children's behavior, based on age/stage characteristics. Provided are theoretical understanding and practical applications of child guidance techniques in group settings. Prerequisites: PSY 201.

HDF 415 Assessment in Human Development and Family – 3 hrs. An analysis and evaluation of individual screening and assessment instruments for use with individuals and families throughout the life cycle. Prerequisites: PSY 201.

HDF 416 Program Development – 3 hrs. An emphasis on scope, organization, implementation, and evaluation of programs for community and cooperative extension. Methods and techniques of designing program materials are also included. Prerequisites: None.

Health Education

HED 101 Personal and Community Health – 2 hrs. A course designed to broaden the candidate's background regarding facts and the principles necessary in the solution of several health issues. This course surveys a number of problems affecting individual, family, and community health including infectious diseases and STD's, First Aid, alcohol and drug abuse, consumer education, and nutrition. Prerequisites: None.

HED 401 Substance Abuse & HIV/AIDS – 3 hrs. A survey of alcohol and other drugs (AOD), and HIV/AIDS facts. Information will be provided on the short-and long-term effects of AOD and HIV/AIDS on the body, incidences of AOD use/addiction and HIV/AIDS, and symptoms of AOD involvement and HIV/AIDS. Biological, social and behavioral factors affecting addiction and treatment of AOD and HIV/AIDS will be discussed. Resource information will be provided on community services for people who are addicted to AOD, and people with HIV/AIDS. Prerequisites: None.

History

HIS 101 World History I – 3 hrs. A survey of the evolution of civilization with an effort to show the interrelationship of all cultures from earliest times (Pre-History) through the 15th century. Prerequisites: None.

HIS 101H World History I Honors – 3 hrs. A survey of the evolution of civilization with an effort to show the interrelationship of all cultures from earliest times (Pre-History) through the 15th century. Prerequisites: None. Approval for enrollment in this course is required from the Director of the Honors Program and course instructor.

HIS 102 World History II – 3 hrs. A survey of the evolution of civilization with an effort to show the interrelationship of all cultures from 1500 through the present. Prerequisites: None.

HIS 102H World History II Honors – 3 hrs. A survey of the evolution of civilization with an effort to show the interrelationship of all cultures from 1500 through the present. Prerequisites: None. Approval for enrollment in this course is required from the Director of the Honors Program and course instructor.

HIS 104 Introduction to History as a Discipline – 3 hrs. A course designed to introduce students to the nature of the discipline, fields of study, and careers in history (academic and non-academic). This focus is on the essential characteristics of "history proper," historical subject matter and fields of study; the relationship of history to other disciplines; historical techniques, (i.e., how to study history, writing about history, and historical research), as well as the uses of history. Prerequisites: None.

HIS 105 Contemporary World History – 3 hrs. A course exploring major developments throughout the world from World War II to the present. It includes such topics as Cold War, African and Asian nationalism, Third World development, United Nations, economic disparity between north and south, disintegration of communist Europe, as well as technological, intellectual, and cultural developments in the period. Prerequisites: None.

HIS 201 American History I – 3 hrs. A study of the political, economic, social and religious development of the United States from the earliest settlements to 1877. Prerequisites: None.

HIS 202 American History II – 3 hrs. A study of the political, economic, social and religious development of the United States from 1877 through the present. Prerequisites: None.

HIS 203 Foundations of American History and Government – 3 hrs. A survey course designed to review the historical events which influenced the major economic, political, and social development of America. Prerequisites: None.

HIS 205 The Historical Essay: An Introduction to Creative Historical Thinking and Writing – 3 hrs. A course designed to develop historical thinking and writing skills through the use of primary documents. The core of the course involves the examination of primary documents that reflect a broad variety of history. Activities include analyzing and interpreting primary documents; writing historical background to primary documents; and constructing historical context, with emphasis on fictional and non-fictional historical events, movements and individuals. Prerequisites: None.

HIS 206 Alabama History – 3 hrs. A study of the historical development of Alabama and its relationship to the growth of the United States as a whole. Prerequisites: None.

HIS 301 English History I – 3 hrs. A survey of the political, cultural, and social development of England from pre-history through 1688. Prerequisites: None.

HIS 302 English History II – 3 hrs. A survey of the political, cultural, and social development of England, the Empire and the Commonwealth of Nations from 1689 through the present. Prerequisites: None.

HIS 303 History of Africa – 3 hrs. An introduction to African history which surveys its main periods or phases. Beginning with the geography of the continent, the origin of man and the peopling of Africa, it goes from ancient Egypt to colonization. The emphasis is on events and underlying forces impacting the development and history of Africa as a whole. Prerequisites: None.

HIS 304 African-American History – 3 hrs. An introduction to African American history which surveys the background for and the arrival of Africans in America, tracking their experience to the Post-Reconstruction Period. The emphasis is on a critical understanding of those events and situations that have had particular significance for and impact on African Americans. Prerequisites: None.

HIS 305 Modern Asia – 3 hrs. A study of the interrelationship of the Western nations with the countries of Asia. Prerequisites: None.

HIS 306 The Frontier and American Expansion – 3 hrs. A focus on the frontier and American expansion as these relate to the westward movement in American history. The emphasis is on the processes of regionalism and expansion growing out of America's general development and their impact on the life of the nation at various levels and times. Prerequisites: None.

HIS 315 Military History – 3 hrs. An introduction to the study of conflicts in arms, campaigns and battles, beginning with the colonial and European heritage. A thorough review is provided of the American Revolution, the War of 1812, the Mexican War, the Civil War, the Army and the Indian Wars, World War I, World War II, the Korean War, the U.S. Army in Vietnam and later conflicts. Prerequisites: None.

HIS 397 Program Seminar I – 0.5 hr. Bi-weekly sessions involving presentations/discussions which address issues, research, and concepts of interest to departmental majors. Prerequisites: None.

HIS 398 Program Seminar II – 0.5 hr. Bi-weekly sessions involving presentations/discussions which address issues, research, and concepts of interest to departmental majors. Prerequisites: None.

HIS 402 History of Latin America – 3 hrs. An introduction to Latin American history starting with the geography of the cultural region and its earliest people and going to the national period. The focus is on those events impacting the development and institutions of the region as a whole. Prerequisites: None.

HIS 403 Modern Europe – 3 hrs. The history of modern Europe from World War I to the present, with emphasis on the Treaty of Versailles, League of Nations, rise and fall of totalitarian governments, World War II, United Nations, the Cold War and the confrontation between East and West. Prerequisites: None.

HIS 405 American Diplomacy – 3 hrs. A study of the forces which have influenced decisions in the United States' relationships with other peoples. The colonial background, federalist, and republican leadership, territorial expansion, the Civil War, Seward, Fish, and Blaine, the rise of imperialism, the Far East, Latin America, World Wars I and II, and the Cold War are all covered. Prerequisites: None.

HIS 406 20th Century U.S. – 3 hrs. The historic development of the United States as it moved into the ranks of the great world powers. Concentrates on social and economic reform and foreign policy. Prerequisites: None.

HIS 407 Constitutional History of the U.S. – 3 hrs. An analysis of the growth and development of the American constitutional system, with particular emphasis upon the post-World War II period. Prerequisites: None.

HIS 408 History of the South Since 1865 – 3 hrs. An emphasis on Reconstruction Redemption, the New South, the Populist and Progressive Movements, the impact of two world wars, the Depression, the Intellectual Renaissance, TVA, Civil Rights, the Black Movements, the Labor Movement, and the South and the nation. Prerequisites: None.

HIS 409 U.S. Reconstruction – 3 hrs. The transformation of American society and government during the post-Civil War years with special emphasis on the problems of the South. Prerequisites: None.

HIS 496 History Internship and Co-op Program – 3-6 hrs. An emphasis on the application of historical research methods and principles of public history to non-academic careers through observation and practical experience. Prerequisites: Completion of 21 semester hours in upper level history courses.

HIS 497 Program Seminar I – 0.5 hr. Bi-weekly sessions involving presentations/discussions which address issues, research, and concepts of interest to program majors. Prerequisites: None.

HIS 498 Program Seminar II – 0.5 hrs. Bi-weekly sessions involving presentations/discussions which address issues, research, and concepts of interest to program majors. Prerequisites: None.

HIS 499 Senior History Seminar – 3 hrs. An investigation of the problems and methods of historical research and writing. Prerequisites: Completion of 21 semester hours in upper level history courses.

Health & Physical Education

HPE 300 Knowledge Content for Teaching Health and Physical Education – 2 hrs. This is a capstone course that is required for, and restricted to, Health and Physical Education majors that are in the teaching field for physical education. Teacher candidates must take this course at any time after their freshman year but prior to, their senior year. The course consists of two 1-hour meetings each week. Sections are limited to 30 students.

HPE 301 Administration in Health and Physical Education– 3 hrs. A course designed to assist students in developing an insight into the meaning and organizational skills required for organizing and administering programs of physical education and/or other related programs. Specific strategies for selection, supervision, and evaluation of personnel, budgeting, and space utilization are included. The conduct of programs within legal limits is given significant consideration.

HPE 304 Kinesiology – 3 hrs. A course providing a broad background regarding mechanical and muscular aspects of human motion. In addition, the course provides the student with a laboratory component to ensure a means for application and analysis. Prerequisites: BIO 101, 101L, 221, 221L, HED 101.

HPE 312 Tests and Measurements in HPER – 3 hrs. A study of the use of tests, measurements, and evaluation techniques for the formative and summative assessment of fitness development, skill development, cognitive learning, and affective behaviors in physical education and sports, and other related fields. Laboratory experiences and computerized assessment strategies will be included. Knowledge and use of Bloom's Taxonomy are also expected. Prerequisites: None.

HPE 325 Emergency Response – 3 hrs. Development of the knowledge and skills necessary to work as a first responder in an emergency to help sustain life, reduce pain, and minimize the consequences of injury or sudden illness until more advanced medical help can arrive.

HPE 420 Research in Health and Physical Education – 3 hrs. A comprehensive based description of teaching research in Physical Education. This course brings to bear the important principles connected to teaching activity and movement in education. Its focus is on understanding and grasping the unique variables, which makes for effective and efficient teaching in the gym.

Humanities

HUM 301 Film and Culture – 3 hrs. In this course, students view, discuss, and write about films which focus on life style and cultural themes from selected less known non-western regions. Special emphasis will be placed on areas of social conflict including gender, freedom of expression, perceptions about the West, and attitudes towards the past. Prerequisites: ENG 203 or 204.

HUM 310 Middle Eastern Literature in Translation – 3 hrs. A survey of selected major literary texts from the Middle East with focus on contemporary literature in translation, special attention will be paid to how these texts reflect and respond to challenges that the region has been historically facing. Prerequisites: ENG 203 or 204.

HUM 311 Islamic Mysticism – 3 hrs. Study the literary and philosophic writing of prominent mystic poets of the Middle East and adjacent regions. Special emphasis will be placed on the pervasive influence of Sufi poetry on popular culture and its complex relationship with the political and clerical establishment. Prerequisites: ENG 203 or 204.

HUM 407 Senior Seminar – 3 hrs. Provide in-depth exploration and discussion of selected theoretical and critical topics. Every participant focuses on one particular theoretical and geographical area. The course serves as a capstone for the Cultural Studies major. Prerequisites: ENG 203 or 204.

Industrial Technology

INT 101 Printing History and Typography – 3 hrs. This course places emphasis on the study and practice of type and typography combined with a rich social and technological evolution. Prerequisites: None.

INT 102 Introduction to Industrial Technology – 3 hrs. This course emphasizes the four basic technology systems (manufacturing, construction, communication, transportation) and emerging concepts and principles in bio-related technologies. Prerequisites: None.

INT 105L Principles of Graphic Communications – 3 hrs. This course provides a thorough introduction to graphic communications, printing processes and focuses on digital printing and electronic pre-press systems. Prerequisites: None.

INT 106 Image Conversion – 3 hrs. This course places emphasis on the process of photographic processing for black and white copy; introduction to color applications, film assembly, platemaking, and quality control. Prerequisite: None.

INT 107 Industrial Materials and Processes I – 3hrs. A basic course in machining technology and metallurgy. Step by step procedures used to provide instruction on how to turn raw metallic materials into useful products. Prerequisites: None.

INT 108 Industrial Materials and Processes II – 3 hrs. Continuation of INT 107. Prerequisites: INT 107.

INT 201 Printing History &Typography – 3 hrs. This course places emphasis on the study and practice of type and typography combined with a rich social and technological evolution. Prerequisite: None.

INT 205 Power and Energy Systems – 3hrs. A basic study of energy sources. Means of harnessing and transmitting energy and the effects of power systems. Prerequisites: PHY 103, 103L.

INT 206 Computer Applications in Technology Management – 3 hrs. This course is designed to introduce students to the computer and its use in industrial technology, technical education, and technology education. Emphasis is placed on the computer and its terminology, applications, networking, troubleshooting, ethics, trends, and safe handling/operation of hardware, software and supplies. Students gain hands-on experience in the use of the computer application software, with emphasis on word processing, PowerPoint presentation, and Excel spreadsheet applications as problem solving tools in technology management. Prerequisites: MTH 113.

INT 207 CAD/CAM – 3hrs. This a basic course in computer-aided design and manufacturing. Topics include geometric modeling, computer graphics, product design and development, product manufacturing and management. Use of the computer is required. Prerequisites: INT 102.

INT 210 Manufacturing and Machine Tools Operation – 3hrs. A laboratory-based course covering precision measurement, screw threads, cutting tool materials, cutting fluids, machinability of metals, the selection and production of metals, basic metallurgical theory, and heat treatment. Prerequisites: INT108.

INT 213 Offset Image Transfer – 3 hrs. Fundamentals of offset presswork; preparation of the press, one color presswork; methods of offset presswork, including press preparation, film assembly, platemaking, make-ready, press running; mechanism and upkeep; running difficult papers and forms; and multi-color work. Prerequisites: INT 105, [(CHE 101, 101L) or (CHE 111, 111L)].

INT 214 Advanced Offset Image Transfer – 3 hrs. This course includes all aspects of printing production using conventional and digital printing. Covers silk screen printing on various substrates. Prerequisites: INT 213.

INT 217 Graphic Design & Planning – 3 hrs. This course places emphasis on four main goals; first to provide students with a comprehensive foundation in design; second, to address basic problems and applications in the graphic design and advertising; third, to encourage students to explore the disciplining to graphic design; and fourth, to explore various graphic design applications such as CDs, packages, logos, posters, and etc. Students will utilize magazines, the computer lab, and other printed materials in this class for the various projects. Prerequisites: INT 206.

INT 301 Printing Estimating – 3 hrs. A study of the responsibility of the estimator in the printing plant and the importance of estimating; estimating various kinds of composition, presswork, paper, and other cost elements which enter into the production of typical jobs. Prerequisites: Junior standing.

INT 303 Transportation Systems Technologies – 3 hrs. An investigation of transportation systems. Emphasis is placed on air, land, water, and space travel and power/energy systems employed in transportation technology. Careers, concepts, processes and applications relating to transportation, power and energy are explored. Prerequisites: INT 205 or MET 200.

INT 304 Manufacturing Organization and Management – 3 hrs. A study of the organization and management of resources and systems in the manufacturing industry. Prerequisites: Junior standing.

INT 305 Bio-Related Systems Technology – 2 hrs. An exploratory study of the developments in the field of bio-related technologies with emphasis on health-related, medical, ergonomics, agri-bio-technologies, and environmental management technologies. The perspective of issues on the environment, individual, society and an analysis of innovations are investigated. Prerequisites: Junior standing.

INT 306 Multimedia and Communication Technologies – 3 hrs. The course covers subjects related to the transmission of information via various communication modes to include audio and visual, computer multimedia and animation, and data communication. A laboratory-based course designed to provide persons interested in teaching technology education a working knowledge of various modes of communication. Prerequisites: INT 105, 206.

INT 307 Printing Management – 3 hrs. This course places emphasis in leadership, planning, organizing, and maintaining a printing plant or any other production plant, including organization and operations of various departments, layout of a shop, equipment selection, materials and location. Also, it focuses on the analysis of printing cost procedures. A breakdown of how to determine the cost of materials, equipment and human activity. Prerequisites: INT 217.

INT 308 Printing Inks & Substrates – 3hrs. The study of the relationship of inks, papers and other substrates use to produce the printed image. Emphasis is on types of paper used in the printing and production processes, ink colors and mixing color combinations. Prerequisites: INT 314, [(CHE 101, 101L) or (CHE 111, 111L)].

INT 309 Product Design and Development – 3 hrs. A study of processes, procedures and techniques of designing and developing consumer products. Prerequisites: INT 107 or 108.

INT 310 Production Cost Analysis – 3hrs. Theory and principles of financial project analyses for making financial decisions on technical projects and alternatives. Topics include time value of money and investments, cash flow equivalence techniques, depreciation and income taxes, break-even analysis. Emphasis is placed on contemporary computer-oriented decision-making tools and the application of cost information to the production of manufactured goods. Use of computer is required. Prerequisites: MTH 113.

INT 311 Properties of Materials – 3hrs. A study of mechanical and physical properties of ferrous and nonferrous metals and nonmetallic materials. Prediction of failure mechanisms, including corrosion, fatigue, and fracture. Students will gain experience in the use of laboratory testing machines. Prerequisites: CHE 101, 101L.

INT 312 Internet Foundation – 3 hrs. Internet and World Wide Web technologies. Development and maintenance of web sites and web applications. Prerequisites: INT 206.

INT 316 Introduction to Computer Numerical Control – 3 hrs. Computer programming and manual programming for both NC mills and lathes. The transfer of part descriptions into a detailed process plan, tool selection and finally into NC machine code. Verification accomplished through computer graphics and laboratory work. Prerequisites: INT 207.

INT 317 Industrial Robotics – 3 hrs. A study of the principles, techniques, and applications of industrial robotics and automated systems. Prerequisites: INT 316.

INT 320 Construction Systems Technologies – 3 Hrs. A study of the construction industry with regard to concepts of construction technology through experiences in planning, organizing, and controlling of all available resources to produce constructed products on and off-site. Students are expected to complete a construction project in the laboratory. Prerequisites: Junior standing.

INT 326 Applied Statistics in Technology Management – 3hrs. Course introduces students to the applications of statistics in technology management with emphasis on designing experiments, descriptive statistics, correlation and regression,

probability and sampling, and tests of significance. Use of Minitab statistical software is emphasized. Prerequisites: INT 206.

INT 327 Statistical Quality Control – 3 hrs. Methods and tools for analyzing and controlling variations in industrial processes. Topics include frequency distributions, process data modeling, variables and attributes control charts, and process capability. Use of Minitab statistical software is emphasized. Prerequisites: INT 326.

INT 328 Methods, Standards, and Measurement – 3 hrs. This course covers the basic concepts and techniques of work methods and measurement. The focus of this course is on workplace design, ergonomics of workplace design, performance measurement, study of operations and process analysis, and methods analysis in manufacturing and service industries. Prerequisites: INT 326.

INT 360 (MET/EET 360) Project Management – 3 hrs. Theory and practice of managing projects including the application of modern project management software to efficiently plan, schedule, and control project activities. Topics include work breakdown structures, precedence grids, precedence node diagrams, analytical methods for network solutions, resource scheduling, leveling and allocation, time-cost tradeoffs, and project-scheduling stimulation. Prerequisites: INT 206.

INT 409 Plastics Processing – 3 hrs. A basic course in plastics, structure, composition, and processing, extrusion, injection, and blow molding. Prerequisites: INT 311.

INT 412 Technology, Society, and the Environment – 2 hrs. This course examines the development of technology and its effects upon the economy, environment, individual, and society. Prerequisites: Senior standing.

INT 415 Senior Project I – 1 hr. This course is designed for technology students in Electrical Engineering Technology, Industrial Technology, and Mechanical Engineering Technology disciplines with a project environment to practice and integrate what they learned throughout their respective programs. It is a culminating experience in the application of technical, managerial, communications, leadership, team-building, and interpersonal skills to realistically solve a real-world technical problem in a team environment. Each interdisciplinary team will develop a project schedule and costs required to complete the project in INT 416 (Senior Project II). Prerequisite: Senior standing.

INT 416 Senior Project II – 2 hrs. This course is designed for technology students in Electrical Engineering Technology, Industrial Technology, and Mechanical Engineering Technology disciplines with a project environment to practice and integrate what they learned throughout their respective programs. It is a culminating experience in the application of technical, managerial, communications, leadership, team-building, and interpersonal skills to realistically solve a real-world technical problem in a team environment. Each interdisciplinary team will complete the project proposed in INT 415 (Senior Project I). A final report, including a project poster will be represented to the faculty and the Industrial Advisor Board. Prerequisite: INT 415.

INT 417 Electronic Publishing I – 3hrs. This course is an official training course of Adobe Illustrator CS3. Students learn to design, create, and manipulate text and other graphic elements on the computer screen. Exercises are generated with the aid of the student knowledge of the program itself after completing computer lab activities and/or imported text and graphic for print and online graphics. Prerequisites: INT 206, 217.

INT 418 Electronic Publishing II – 3hrs. This course is an official training course of Adobe Illustrator CS3. Students learn how to plan, create and enhance an illustration, work with paths, layers, and tools, and edit artwork using advanced features for print and for the web. Exercises are generated with the aid of the Project Illustrator itself along with other programs in Adobe CS3. Prerequisites: INT 417.

INT 419 Quality in the Printing Industry – 3hrs. An analysis of industrial standards and methods of quality controls in the printing industry. Prerequisites: INT 326.

INT 437 Facilities Planning – 3hrs. Techniques and procedures for developing an efficient facility layout. The course focuses on systematic and methodical approach that will lead students through the collection, analysis and development of information to produce a quality functional plant layout. Prerequisites: Senior Standing.

INT 441 Design of Experiments – 3hrs. This course covers destructive and non-destructive testing procedures and equipment for determining mechanical, physical, and other properties of industrial materials. Students is required to use various research tools and techniques to construct and analyze experiments for process improvements to include Randomized

blocks, Latin squares, and related designs, factorial design, regression models, response surface models, and analysis of variance. Use of Minitab statistical software is emphasized. Prerequisites: INT 326.

INT 484 Computer-Integrated Manufacturing – 3hrs. A laboratory-based course designed to integrate the total manufacturing system. Topics include flow line production, materials handling, group technology, and flexible and computer integrated manufacturing. Prerequisites: INT 210.

INT 490 Internship I (Technical) – 3hrs. Practical technical experience in the work environment in which the student is required to observe, shadow, interview, and participate in actual tasks performed in the occupation. Prior approval from the internship coordinator is required one semester in advance of the semester of enrollment. Prerequisites: Junior standing.

INT 491 Internship II (Management) – 3hrs. Practical management experience in the work environment in which the student is required to observe, shadow, interview, and participate in actual tasks performed in the occupation. Prior approval from the internship coordinator is required one semester in advance of the semester of enrollment. Prerequisites: Junior standing.

Industrial Technology

IT 200 Occupational Safety and Health – 3 hrs. An introductory study of the significance of maintaining quality occupational safety and health standards in the workplace; safety education and promotion; and occupational safety and health requirements. Prerequisites: None.

IT 333 Plant Layout and Material Handling – 3hrs. Techniques and procedures for developing an efficient facility layout. The course focuses on systematic and methodical approach that will lead students through the collection, analysis and development of information to produce a quality functional plant layout. Prerequisites: Senior standing.

IT 334 Production and Inventory Control – 3 hrs. Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling materials, parts, subassemblies, and final assembles for a manufacturing system. Prerequisite: Junior standing.

IT 341 Fire Protection and Prevention – 3 hrs. An analysis of equipment, principles, standards and systems essential to an effective fire protection and prevention program in industrial factories and plants. Prerequisites: IT 200.

IT 342 Industrial Safety: Management and Technology – 3 hrs. Based on sound safety management and quality and performance technology principles, this course will help manage employees and/or projects in safety and health efforts. Prerequisites: IT 200.

IT 400 Quality Assurance – 3 hrs. Tools and techniques to control quality of products and services and improve enterprise performance by ensuring quality of processes, systems, organization, and leadership. Prerequisites: INT 326.

IT 404 Improving Manufacturing Systems – 3 hrs. Methodology for improving efficiency, productivity and quality of products and services in an organization. Includes strategic tools for eliminating or minimizing waste or non-value-added activities and processes and product variations. Prerequisites: INT 326.

IT 405 Industrial Supervision – 3 hrs. Modern industrial supervision techniques with respect to interpersonal relations, societal changes, and effects of technological developments and impacts on duties, roles, and responsibilities of the supervisor. Prerequisites: Senior standing.

IT 408 Manufacturing and Ergonomics – 3 hrs. Survey of human factor engineering theory, research and applications with particular reference to quality assurance and safety. Systems framework with specific emphasis on relationships among systems components. Emphasis on operator constraints in the design of work processes, work stations, and instrumentation. Prerequisites: IT 200.

IT 410 Industrial Management – 3 hrs. A survey course that focuses on the business environment, including sociological and psychological principles pertinent to effective human relations in business and industry; work ethics, values, and leadership skills; methods, concepts, and techniques appropriate to industrial organization and management; and labor relations, regulations, and laws affecting employer-employee relations. Prerequisites: Senior standing.

IT 420 Industrial Hygiene – 3 hrs. This course covers federal, state, and professional standards applicable to health and environmental controls, and personal protection equipment in factories and plants. Prerequisites: IT 200.

IT 422 Industrial Hazardous Materials Management – 3 hrs. Specific OSH, NRS, ANSI and other standards as applied to usage, storage, transportation and disposal of industrial hazardous materials. Prerequisites: IT 200.

IT 425 Industrial Safety Standards I – 3 hrs. Specific federal and state OSH standards as applied to building and facilities, materials handling and storage, machine guarding, welding, electrical hazards, construction, and transportation in factories and plants. Prerequisites: IT 200.

IT 426 Industrial Safety Standards II – 3 hrs. Continuation of IT 425. Prerequisites: IT 425.

Logistics & Supply Chain Management

LSM 201 Introduction to Logistics and Supply Chain Management – 3 hrs. An introduction to the fundamentals of logistics and supply chain management. It will include discussions of the effective and efficient integration of supply chain management activities such as transportation, customer service, purchasing, inventory management, warehousing, and supplier management. Prerequisites: Sophomore standing.

LSM 305 Purchasing and Supply Management – 3 hrs. A detailed analysis of the interrelationships of military and industrial supply with other major logistics functions of maintenance, procurement, transportation, and marketing. Prerequisites: LSM 201.

LSM 323 Transportation Management – 3 hrs. An overview of transportation, emphasizing its role, environmental and sociological aspects, economic characteristics, carrier services, regulations and policy goals. Prerequisites: LSM 201.

LSM 324 Contract Law – 3 hrs. A course on federal contracting, as well as commercial contracting which is essential even to government employees engaged in contracting activities. This course is designed to provide knowledge and application of the legal principles governing government contracts as they evolved from common law, statutes, regulations, and court and board decisions. Application of law to each step of the federal procurement and federal assistance process, to include: formal advertising procurement by negotiation, inspection, acceptance, delivery, warranties, modification of contracts, equitable adjustment, government furnished property, and disputes. Prerequisites: None.

LSM 334 Maintenance Management/Engineering Design – 3 hrs. A detailed analysis of the interrelationships of military and industrial supply with other major logistics functions of maintenance, procurement, transportation, and marketing. This course also covers all aspects of design of maintenance systems and concurrent engineering systems. Additionally, it evaluates plans, programs, and budgets as they relate to maintenance, maintenance control systems and techniques, and the relationship of maintenance to other logistics functions. Prerequisites: LSM 201.

LSM 335 Configuration and Technology Management – 3 hrs. A study of the process by which the complete and functional characteristics of a manufactured item are identified. A detail analysis of the interrelationships of military and industry supply with other major logistics functions of maintenance, procurement, transportation, and personnel. Prerequisites: LSM 201.

LSM 340 Advanced Logistics and Supply Chain Management – 3 hrs. The challenges of effectively managing logistics and supply chains, and the integration of information, product, and financial flows across supply chains. Topics covered also include enterprise resource planning, customer relationship management, supplier relationship management, collaborative logistics and supply chain management, and reverse logistics. Prerequisites: LSM 201.

LSM 409 International Logistics and Supply Chain Management – 3 hrs. Examines the management of logistics and supply chain activities in the global arena. Topics include managing global sourcing and procurement, manufacturing, warehousing, inventory management, and transportation. Export-import activities in a dynamic global environment will be emphasized. Prerequisites: LSM 201.

LSM 411 Procurement and Contract Management – 3 hrs. An exploration of the primary aspects of the procurement and management. It includes materials management, contract administration functions and responsibilities starting from contract award to contract completion. It includes consideration of the role of small businesses and sub-contractors. Prerequisites: LSM 305 or concurrent.

LSM 415 Logistics Support Analysis and Material Acquisition Life Cycle Cost Analysis RCM – 3 hrs. Engineering management as it applies to the development, direction, and control of the design, performance, and reliability of a system. Concentration on life cycle cost modeling and logistics support analysis. Prerequisites: LSM 335.

LSM 422 Negotiation Techniques and Supply Chain Management – 3 hrs. A course designed to discuss the principle and techniques of effective negotiations in supply chain management, in order to build up partnerships and lasting relationships with internal and external customers, suppliers, and other supply chain members. Topics covered will include tactics and strategies for negotiations, contract types, and supplier relationships. Prerequisites: None.

LSM 426 Contract Cost and Price Analysis – 3 hrs. A course to present the tools and techniques available to the student for cost-price estimating, cost/price analysis, projection techniques, factors affecting profits or fees, the weighted guidelines technique of profit analysis, and application of the learning curve theory. After cost/price analysis has been performed, negotiation strategies and techniques are developed. Prerequisites: LSM 201.

LSM 427 Quality Management – 3 hrs. An overview of the total quality management function, including organization, management, process control, and product reliability and maintainability. Prerequisites: ECO 271, MGT 315.

LSM 428 Strategic Logistics and Supply Chain Management – 3 hrs. A capstone course integrating diverse areas of logistics and supply chain management, including transportation, customer service, supply chain risks management, inventory management, life cycle management and other supply chain management activities. Prerequisites: LSM 305, 323, 340.

LSM 435 Supply Chain Risk Management – 3 hrs. This course examines sources of supply chain risk, the potential impact of supply disruptions, and business continuity/contingency planning. Mitigating supply chain risks by identifying, analyzing, controlling, and managing risk sources along the chain. Prerequisites: LSM 305.

LSM 451 Inventory Management and Production Control – 3 hrs. A study of the management techniques associated with material management as an element of integrated logistics support in the system/ product life cycle management concept. Management of assets from acquisitions through final disposition is considered from cost effectiveness and customer satisfaction viewpoints. Prerequisites: LSM 305.

LSM 490 Field Experience in Logistics & Supply Chain Management – 3 hrs. A course designed for Logistics and Supply Chain Management majors who secure positions in industry, governmental, nonprofit organizations in order to obtain "hands-on" training in the field. Job training/experience will vary depending on the position assigned and specific tasks. Prerequisites: Junior or senior standing and consent of instructor.

Mechanical Drafting Technology

MDT 111L Technical Drafting – 3 hrs. An introductory study of technical drawing theory and practice, including lettering, use of drafting instruments, orthographic projection, sections, auxiliary views, pictorial sketching, and dimensioning. An introduction to computer-aided-drafting (CAD) is included. Prerequisites: None

MDT 112L Machine and Tool Drafting – 3 hrs A continuation of MDT 111L. Includes shop processes, theory and practice of dimensioning and tolerances, an introduction to detail and working drawings, pictorial drawing, reproduction of drawings, machine shop blueprint reading, and a continuation of CAD. Prerequisites: MDT 111L.

MDT 204L Electrical/Electronics Drafting – 3 hrs. A study of specialized electronic drafting theory, practice of dimensions and tolerances. Detail and working drawings, pictorial drawing, and reproduction of drawings are covered. Prerequisites: MDT 111L.

MDT 206 Architectural Drafting – 3 hrs. An overall study of architectural working drawings including blueprint reading, representation of buildings, and construction detailing. Perspective drawing, shades and shadowing, and rendering are included. Prerequisites: MDT 111L.

MDT 210 Piping and Sheet Metal Drafting – 3 hrs. A course on designing and drafting pipe systems. It includes symbols, methods of representing pipe and pipe fittings, specification of parts and language of piping, layout, and drafting of sheet metal ducts. All work is done using CAD. Prerequisites: MDT 111L.

MDT 213 Computer Graphics – 3 hrs. A first course in the use of AutoCAD™ software. Students are taught methods of computer graphical representation in two dimensions. Prerequisites: MDT 111L.

MDT 252 AutoCAD™ for Apparel – 3 hrs (2 two-hour lecture/lab periods per week). An introductory study of AutoCAD™ for apparel design and the basic principles of computer-assisted drafting. Offers the students hands-on practical training for drafting applications. Not for Engineering Technology majors. Prerequisites: none.

MDT 302L Technical Design Principles – 3 hrs. A study of power drives including gear, chain, and V-belt drives; shafts; keys, splines, and snap rings; springs; power screws; rolling and journal bearings; and brakes, clutches, flywheels, and couplings. Use of the computer is required. Prerequisites: Junior standing.

MDT 306 Structural Drafting – 3 hrs. A study of the drafting and design of structural systems in steel, wood, and concrete with emphasis on the composition characteristics of the material. Prerequisites: TGC 218 and MDT 111L.

MDT 313 Computer-Aided Drafting and Design I – 3 hrs. A course offering hands-on training in two- and three-dimensional computer-aided design software. Prerequisites: MDT 213.

MDT 407 Mechanical Design I – 3 hrs. A continuation of MDT 302L. The emphasis is on a design project using the principles covered in MDT 302L. Prerequisites: MDT 302L.

MDT 414 Computer-Aided Drafting and Design II – 3 hrs. A continuation of MDT 313. Creation of a full-scale three-dimensional computer model design; various checks, such as corridor clearance, and horizontal and vertical layout schemes that can be carried out using a model; and error-reduction design methods, not possible with two-dimensional modeling techniques. Prerequisites: MDT 313.

Mechanical Engineering

ME 101 Introduction to Mechanical Engineering – 1 hr. A one hour lecture class. Brief review of mechanical engineering as a practice is reviewed briefly. Students are required to develop a basic engineering project to include: Market outlook, basic production techniques, economic assessment, planning and design, manufacturing, testing, and product evaluation. A final technical report is required. The report includes an oral presentation and documentation in writing. Emphasis is placed on team development, consistent use of engineering units, and computer usage. Project selection is under the approval of the instructor. Co-requisites: ME 101L.

ME 101L Introduction. to Mechanical Engineering Lab – 1 hr. A three hour lab class. Laboratory required to develop the project/s associated with ME 101. Co-requisites: ME 101.

ME 103 Computer-Aided Design I – 2 hrs. A two hour lecture and a one hour lab class. Introduction to computer graphics user interface (GUI) for Computer-Aided Design (CAD), Graphics visualization and interpretation; creating engineering drawings in two and three dimensions, solid modeling utilities, assembly for manufacturing fundamentals, manufacturing process definition and implementation. Topics include basics on solid modeling, sweeps and blends, Interaction with automated manufacturing devices and basics of Computer Aided Manufacturing (CAD). Prerequisites: none. Co-requisites: None.

ME 104 Engineering Programming I – 3 hrs. Introduction to problem solving techniques in engineering using digital computers and Fortran programming. Topics include flow charting and emphasis on analysis and solutions of science problems in fluid dynamics, materials, structures and energy systems. Fundamentals of linear algebra are discussed. Prerequisites: None.

ME 204 Engineering Analysis – 3 hrs. The goal of the course is to impart the concepts and techniques of modern linear algebra including, but not limited to, systems of linear equations and matrices, Gaussian elimination, Gauss-Jordan elimination, homogenous systems, matrix algebra, elementary matrices, inverses, determinants. Introduction to statistics and data analysis, probability and sampling distributions, error analysis, estimation and statistical intervals, the analysis of variance, experimental data, and linear regression. Prerequisites: MTH 126.

ME 205 Statics – 3 hrs. Principles of equilibrium, governing equations, free-body diagrams. Topics include statics and the design problem, vectorial representation of forces, analysis of mechanical systems in equilibrium, properties of forces, equivalent systems, moments, couples, and resultants. Applied problems in friction, centroids and area moments of inertia and an introduction to computer simulation techniques. Prerequisites: MTH 126. Co-requisites: PHY 106.

ME 206 Dynamics – 3 hrs. Principles of systems in motion, fundamental governing equations for particles and rigid bodies, dynamics and the design problem, vectorial representation of velocity and acceleration, relative motion, work, energy, impulse, and momentum, along with an introduction to computer simulation techniques. Prerequisites: ME 205. (Offered Spring or as needed.)

ME 210 Material Science – 3 hrs. Structure of matter. Physical and mechanical properties of materials including metals, polymers, ceramics, composites, and electronic materials. Equilibrium diagrams and heat treatments, material selection for manufacturing and corrosion problems are also included. Prerequisites: CHE 101, PHY 105. (Offered Spring or as needed.)

ME 231 Strength of Materials – 3 hrs. A study of the mechanics of deformable materials, durability, chalk propagation, performance, and life-cycle analysis; theory of stress and strain; deformations under simplified loads (axial, torsional, bending); analysis of columns, buckling loads; review of data acquisition and instrumentation for testing; material selection for design. Prerequisites: ME 205, 210.

ME 300 Mathematical Methods in Mechanical Engineering – 3 hrs. A study of solution methods for nonlinear algebraic equations, sets of linear algebraic equations, eigenvalue problems, interpolation and curve fitting, numerical integration, numerical differentiation, and or commonly, and polynomial equations. Applications in fluid mechanics, heat and mass transfer, thermodynamics, kinematics, and design are covered. Prerequisites: MTH 227 and ME 104.

ME 301 Analysis and Instrumentation of Physical Systems – 2 hrs. A two hour lecture class. A unified introduction to dynamic engineering systems, including those with electrical, mechanical, and fluid elements. Mathematical modeling techniques subdivided in topics and used to gain insight in engineering systems and analytical as well as experimental techniques of general importance in engineering problems are presented. Basic concepts and the use of modern instrumentation, including digital systems, are covered in the lab. Prerequisites: EE 201, ME 205 and MTH 227. Co-requisites: ME 301L.

ME 301L Analysis and Instrumentation of Physical Systems Lab – 1 hr. Laboratory supporting the required practices for ME 301. Co-requisites: ME 301.

ME 307 (EE 307) Fundamentals of Nuclear Engineering – 3 hrs. Introduction to topics and issues in nuclear engineering, with scientific and technical topics interspersed with discussions about policy, lifelong learning and professional responsibility/ethics. Fundamentals of radiation, nuclear chemistry, and physics that are needed to understand concepts of nuclear reactions, including fission and fusion. Introduction to the concepts of nuclear reactor theory and analysis needed to understand nuclear power engineering. Technical and policy aspects associated with nuclear (non) proliferation and the nuclear fuel cycle, most specifically involving the management of spent nuclear fuel. Introduction to the interactions of nuclear radiation with matter in terms of understanding concepts of radiation protection, radiation detection, and health physics. Prerequisites: PHY 106, MTH 227.

ME 310 Thermodynamics – 3 hrs. A study of basic thermodynamic properties; pressure, temperature, work, specific volume, and energy. The first and second laws of thermodynamics, closed and open systems, enthalpy, and entropy; properties of gas mixtures and air-vapor mixtures; as well as basic applications are covered. Prerequisites: PHY 105.

ME 311 Power Systems Integration – 3 hrs. Analysis of the elements and the processes of power systems and their integration. Topics covered are: energy utilization, combustion, energy cycles, steam power plants, fuel beds and suspension firing, heat exchangers, pumps, pipes, water supply and conditioning, power system performance, variable loads, station performance and energy cost. Prerequisites: ME 310, 360.

ME 312 Heat and Mass Transfer – 3 hrs. A two hour lecture class. Fundamentals of heat transfer by conduction, convection, and radiation, and mass transfer by convection. Relevance to engineering applications is also addressed. Prerequisites: ME 310, 360. Co-requisites: ME 312L.

ME 312L Heat and Mass Transfer Lab – 1 hr. A three hour lab class. Laboratory to support the practices and projects of ME 312. Co-requisites: ME 312.

ME 313L Experimental Mechanics Lab – 1 hr. Introduction to experimental stress analysis; measurement of tensile, compressive, bending and shear stresses; impact and hardness tests; vibration measurements, modal analysis; structural dynamics; Strain Gages. Prerequisites: ME 231.

ME 320 Kinematics and Dynamics of Machines – 3 hrs. Kinematics and dynamics of machine elements, vector loop approach, numerical methods and graphical techniques, kinematics coefficients, newton formulation, power equation, gears and cams, static and dynamic balancing, critical speeds of shafts. Prerequisites: ME 206.

ME 360 Fluid Mechanics I – 3 hrs. Fundamentals of fluid mechanics, covered are Newtonian fluids, review of systems of units, the perfect gas equation, incompressible flow, Bernoulli's equation, channel flow, boundary layers, subsonic flow, flow through converging-diverging passages, compressible flow, potential theory, flow through turbo machinery, and relevance to engineering applications. Prerequisites: ME 206, MTH 227. Co-requisites: ME 360L.

ME 360L Fluid Mechanics I Lab – 1 hr. A three hour lab class. Supports projects/practices of ME 360. Co-requisites: ME 360.

ME 380 Computer-Aided Design II – 3 hrs. Introduction to the fundamentals of structural finite element modeling. Geometry creation, element types, material specification, problem solution and results post-processing. A focus is placed on modeling techniques and guidelines using a commercially available software (ANSYS/HyperWorks). Applications to problems including structural mechanics, heat transfer, fluid mechanics, dynamics, stress concentrations, fatigue life, and thermal stressed. Projects in creative mechanical design and optimization. Prerequisites: ME 231.

ME 390 Directed Study – 1-3 hrs. This course covers topics of the mechanical engineering junior level curricula that incorporate independent research and independent study. It can be taken as individual work within campus facilities and it may include work at off-campus research laboratories. The work requires the supervision and approval of instructor. Course credit/s can be used for substitution of appropriate 300-level junior class or laboratory in the ME program. Prerequisites: Junior standing and consent of instructor.

ME 412 Analysis and Synthesis of Gas Turbines and Components – 3 hrs. A review of aerothermodynamics of propulsion systems, characterization of power plant utilization, and operation cycle analysis. On-off design performance, component characterization, component design, component matching, optimization, and introduction to power plant integration systems in a fixed or moving architecture are also covered. Prerequisites: ME 310. Co-requisites: ME 412L.

ME 412L Analysis and Synthesis of Gas Turbines and Components Lab – 1 hr. A three hour lab class. Laboratory supporting projects/practices of ME 412. Co-requisites: ME 412.

ME 413 Rocket Propulsion – 3 hrs. A study of propulsion system requirements for terrestrial and interplanetary flight. Basic principles and performance of both solid and liquid chemical rocket propulsion systems, elements of nuclear rockets, nuclear-electrical power systems, and electrical propulsion systems are addressed. Prerequisites: ME 310.

ME 414 Gas Turbine Engine Design and Manufacture – 3 hrs. A study of synthesis of gas turbine design under the constraints of power plant system integration or airframe integration. Definitions of system requirements, preliminary configuration analysis and engine sizing; inlet preliminary design; compressor, combustor, turbine and nozzle design; co-generation and heat recovery considered for stationary power plants.; engine on and off design performance simulation; installed thrust and system interference effects; noise sources and noise control are covered. Prerequisites: ME 310, 360.

ME 415 Heating, Ventilating, Air Conditioning, Refrigeration – 3 hrs. A study of refrigeration cycles, psychrometrics, thermal comfort, ventilation, duct design, equipment sizing, energy recovery, and solar design concepts. Prerequisites: ME 310, 312.

ME 416 Gas Dynamics – 3 hrs. A study of the fundamental theory of one-dimensional gas dynamics: Isentropic flow, flow in converging-diverging nozzles, shock propagation, normal and oblique shock theory, Prandtl-Meyer expansions, Fanno line flow, and measurement methods. Prerequisites: ME 310, 360.

ME 417 Power Systems Integration and Performance – 3 hrs. A study of the fundamentals of aerothermodynamics of propulsion systems. Analysis of the elements and the processes of power systems and their integration. Ideal Brayton air cycle, and real turbojet and turbofan performance. Topics include: energy utilization, combustion, energy cycles, steam power plants, heat exchangers, compressors, economy parameters, performance simulation, and prediction. Introduction to power plant/airframe integration will be discussed. Prerequisites: ME 310, 360.

ME 425 Design of Machine Elements – 3 hrs. Application of engineering mechanics and strength of materials to the analysis. Synthesis, and design of machine elements (design of screws, fasteners, and connections; design of welded, brazed, and bonded joints; mechanical springs; bearings; gears; shafts; design of clutches, brakes, couplings, and flywheels); theories

of failure, stress concentrations, fatigue life, and thermal stresses; consideration of economics and safety; projects in creative mechanical design; design case studies. Prerequisites: ME 231.

ME 432 Design for Manufacture and Reliability – 3 hrs. A study of the design synthesis and methods; strength design of mechanical structures and components; optimization and reliability principles; and computer-aided design techniques. Emphasis is on modeling synergistic processes for manufacture. Prerequisites: ME 103. Co-requisites: ME 432L.

ME 432L Design for Manufacture and Reliability – 1 hr. A three hour lab class. Laboratory supporting design work for ME 432. Co-requisites: ME 432.

ME 441 Renewable Energy – 3 hrs. A study of the fundamentals of renewable energy technologies and their applications. Emphasis will be placed on energy sources such as active and passive solar energy, photovoltaic systems, hydropower, wind energy, biomass, geothermal energy, and ocean energy. Technological readiness, efficiency and sustainability of renewable energy alternatives will be discussed. Prerequisites: ME 310 or consent of instructor.

ME 442 Solar Thermal Engineering – 3 hrs.

ME 451 Automatic Control Systems – 3 hrs. Amplification of knowledge of linear system properties gained from previous courses to accomplish modeling, identification, and feedback control of dynamic systems. Both classical and state feedback control concepts are developed in this course. Digital control theory and analysis are also applied to systems composed of linear elements. Laboratory experiments are hardware applications that verify these concepts using both analog and digital computers as appropriate. Prerequisites: MTH 238.

ME 460 (EE 460) Nuclear Reactor Engineering I – 3 hrs. Heat generation and removal from reactors; steady- and unsteady-state conduction mechanisms in the reactor elements; single and two-phases, and liquid metal cooling, core thermal design. Prerequisites: ME 307.

ME 461 (EE 461) Nuclear Reactor Engineering II – 3 hrs. Heat generation and removal studies from reactors; reactor-specific issues; heat transfer calculations; heat flux calculations and core thermal design; major safety issues. Prerequisites: ME 460.

ME 470 Mechanical Engineering Design Project – 2 hrs. A one hour lecture class and a one hour lab class. Design or comprehensive analysis and development of an engineering product or process. The student is required to give an oral presentation of his work and submit an approved typewritten technical report. Prerequisites: Senior Standing and ME 425.

ME 471 Systems Engineering – 3 hrs. The systems engineering process is defined and investigated in this course. Among the topics introduced and studied are conceptual, preliminary, and detail design concepts using modern tools such as CAD, optimization, and systems test and evaluation in completing designs built for increased reliability, maintainability, and supportability. Environmental and social impact and life-cycle costs are also introduced. Prerequisites: ME 300.

ME 472 Economic Evaluation of Design – 3 hrs. The concepts of life-cycle costs and optimization of alternatives are investigated. The formal study of decision-making and economic theory are applied to engineering projects. Case studies are used. Prerequisites: ECO 231 or 232, ME 231.

ME 473 Logistics – 3 hrs. A study of the initial distribution and the subsequent sustaining life-cycle maintenance and support of a system of products throughout the consumer use phase. Systems design will be re-evaluated with emphasis placed on maintenance and support, taking into consideration reliability, maintainability, human factors, and life cycle cost factors. Prerequisites: ME 300**.**

ME 475 Mechanical Engineering Design Project Continuation – 2 hrs. A one hour lecture class and a two hour lab class. A continuation of ME 470. Prerequisites: ME 470.

ME 481 Quality and Reliability Assurance – 3 hrs. An introduction to probability and statistics. Quantitative techniques for establishing product specifications and process controls for quality assurance, ISO 9000; the role of reliability in manufacturing operations; and so forth, are covered. Prerequisites: MTH 227 and senior standing.

ME 482 Operations Planning and Scheduling – 3 hrs. Analysis and design of production and control systems for both intermittent and continuous manufacturing, inventory effects on production, and production control techniques review of Just In Time

manufacturing. Emphasis is given to extending concurrent engineering techniques and methods for manufacturing and product development. Prerequisites: MTH 227 and senior standing

ME 485 Computer Aided Manufacturing – 2 hrs. A study of the use of CAD/CAM/CIM technology and the minimization of the overall manufacturing operation, including product design, product modification, areas, and economy. Prerequisites: ME 432. Co-requisites: ME 485L.

ME 485L Computer Aided Manufacturing Lab – 1 hrs. A three hour lab class. Laboratory supporting projects and practices of ME 485. Co-requisites: ME 485.

ME 490 Special Topics – 1-3 hrs. A course covering, in additional depth, topics on Mechanical Engineering. It can be taken as individual work under the supervision of instructor. This course can be taken multiple times with students receiving additional credit each time. The specifics of each course will be identified at the beginning of each semester. Prerequisites: Senior standing and consent of instructor.

Mechanical Engineering Technology

MET 103 Introduction to Engineering Technology – 3 hrs. A course providing a broad view of the many specialties in engineering and technology and discussing the differences between engineering science and engineering technology. This course acquaints the beginning student with the fundamental mathematical & physical concepts, tools, equipment, and language of the electrical and mechanical fields. Scheduling, planning, and time management skills are developed.

MET 200 Electromechanical Principles – 3 hrs. A survey of the principles of DC circuits, AC circuits, and electronics These principles will then be applied to the design of electromechanical devices such as motors, transducers, solenoids, and controls. This course is designed for non-EET majors who need a knowledge of electromechanical devices and measuring instruments. Prerequisite: MTH 113.

MET 304 Fluid Mechanics and Hydraulics – 3 hrs. A study of the fundamentals of fluid mechanics including fluid properties, fluid statics and dynamics, continuity and energy principles. Fluid flow in piping systems is covered, as well as open channel flow, pneumatics, and hydraulics. Use of the computer is required. Prerequisites: MTH 113.

MET 306 Thermodynamics and Heat Transfer – 3 hrs. A study of the basic laws of thermodynamics, the thermodynamic properties of fluids, and the flow of heat energy by conduction, convection, and radiation. Applications include power plants, internal combustion engines, compressors, turbines, Refrigeration, and heat exchangers. Use of the computer is required. Prerequisites: MET 304.

MET 312 Methods of Engineering Analysis – 3 hrs. The application of algebra, trigonometry and calculus to engineering problems. Microsoft Excel™ is used for curve fitting, solving single and simultaneous algebraic. A special emphasis is placed on differential equations, probability, and statistics. Prerequisites: MTH 113.

MET 315 Mechatronics – 3 hrs. Integration of electrical, mechanical, and computer technology in the design, manufacture, and maintenance of a wide range of engineering products and processes. It gives a framework of knowledge that allows engineers to develop an interdisciplinary understanding and integrated approach to engineering. Prerequisites: MDT 302L or EET 310L.

MET 330L Mechanical Engineering Technology Lab I – 1 hr. Laboratory projects in statics, fluid mechanics, and hydraulics. Lab preparation sessions will review theory before each project. Computer generated reports will be turned in by each student for each project and some oral presentations will be required. A specific lab report format will be adhered to. Prerequisites: TBC 102.

MET 331L Mechanical Engineering Technology Lab II – 1 hr. Laboratory projects in thermodynamics, heat transfer, and electro-mechanics. Lab preparation sessions will review theory before each project. Computer generated reports will be turned in by each student for each project and some oral presentations will be required. A specific lab report format will be adhered to. Prerequisites: MET 330L.

MET 360 (INT/EET 360) Project Management – 3 hrs. Theory and practice of managing projects including the application of modern project management software to efficiently plan, schedule, and control project activities. Topics include work breakdown structures, precedence grids, precedence node diagrams, analytical methods for network solutions, resource scheduling, leveling and allocation, time-cost tradeoffs, and project-scheduling stimulation. Prerequisites: INT 206.

MET 405 Hydraulic Power – 3 hrs. A course in the design and analysis of hydraulic power systems. Topics include: hydraulic system analysis using the energy equation; design configurations for controlling flow and pressure; operating characteristics of pumps, valves, heat exchangers, accumulators, and accessories; design and analysis of hydraulic systems for some typical applications. Prerequisites: MET 304, MET 306.

MET 407 Fundamentals of Heating, Ventilating, and Air Conditioning – 3 hrs. Study of the basic principles of commercial and residential air conditioning and heating systems. The calculation of heating and cooling loads and the use of the psychometric chart are covered. Use of the computer is required. Prerequisites: MET 306.

MET 408 Thermal Design – 3 hrs. A review and advanced study of the principles of heat transfer. Practical systems involving thermal energy utilization and transfer will be designed. Use of the computer is required. Prerequisites: MET 306.

MET 409 Mechanical Vibration – 3 hrs. A study of the response of structures to vibrational motion, including free and forced motion, and damped and undamped systems. Concepts of natural mode, natural frequency, and resonance phenomena are covered. Use of the computer is required. Prerequisites: TGC 218.

MET 410 Propulsion Technology – 3 hrs. Study of power generation through the internal combustion process. Included in the study are engines, the turbine, and the rocket engine concept. Use of the computer is required. Prerequisites: MET 306.

MET 412 Control Systems – 3 hrs. A combined study of controlling methods and equipment for power transfer devices. Prerequisites: MET 312, MET 126.

MET 413 Quality Control and Reliability – 3 hrs. Fundamental working concepts and methods of measuring, evaluating and interpreting industrial data to insure product quality, emphasizing compatibility analysis and statistical control charts. Reliability theory is also covered. Prerequisites: Use of the computer is required. Prerequisites: Senior standing or consent of instructor. (Offered Fall).

MET 414 Operations Planning and Scheduling – 3 hrs. Production and control systems for both intermittent and continuous manufacturing are studied. Inventory control is treated as an integral part of the production control system using MRP and JIT techniques. Emphasis is placed on the role of concurrent engineering situations in these manufacturing situations. Use of the computer is required. Prerequisites: Senior standing or consent of instructor.

MET 415 Design of Manufacturing Facilities – 3 hrs. Methods for developing optimal plant layout and materials handling systems are studied. Emphasis is placed on the interrelationship of materials handling systems and equipment location for smooth product flow. A term project provides experience in an actual manufacturing facilities design. Use of the computer is required. Prerequisites: Senior standing or consent of instructor.

MET 416 Operations Research – 3 hrs. Quantitative techniques used in the solution of manufacturing operations problems are studied. Topics include planning and control methods (CPM and PERT), linear programming, queuing theory, and simulation. Use of the computer is required. Prerequisites: Senior standing or consent of instructor.

MET 421 Numerical Control of Machines – 3 hrs. An introduction to numerical control as applied to drilling, milling, and turning operations. Mathematical methods for computer numerical control are presented. Includes cutter center line programming, tool offsets, cutter diameter compensation TNR compensation, and tool length compensation. Experience is provided in operation of an automated manufacturing machine. Prerequisites: Senior standing.

MET 428 MET Capstone Phase I – 1 hr. Development of proficiency in analysis, layout, and completion of a mechanical project. This first course is provided to facilitate project selection, project planning/scheduling, literature survey, patent searching, and proposal writing. Prerequisites: MET 315.

MET 429 MET Capstone Phase II – 1 hr. A continuation of MET 428, focusing on the completion of the project and presentation of the final results. The course is conducted to simulate the procedures utilized by local industries to conduct engineering projects. An objective of the course is to demonstrate and practice the diverse skills and teamwork required in the modern workplace. Prerequisites: MET 428.

MET 430L Mechanical Engineering Technology Lab III – 1 hr. Laboratory projects in manufacturing processes, strength of materials, and properties of materials. Lab preparation sessions will review theory before each project. Computer generated reports

will be turned in by each student for each project and some oral presentations will be required. A specific lab report format will be adhered to. Prerequisites: TGC 218.

MET 431L Mechanical Engineering Technology Lab IV – 1 hr. Laboratory projects in quality control and machine design. Lab preparation sessions will review theory before each project. Computer generated reports will be turned in by each student for each project and some oral presentations will be required. A specific lab report format will be adhered to. Prerequisites: MET 330.

MET 490 Special Topics in Mechanical Engineering Technology – 1-4 hrs. Topics based on modern trends in mechanical engineering technology. This course can be taken multiple times (in different topics) with students receiving additional credit each time. The specifics of each course will be identified at the beginning of each semester. Prerequisites: Junior or Senior Standing.

Management

MGT 207 Legal Environment and Ethics – 3 hrs. A study of the legal environment as it pertains to profit and/or nonprofit organizations, along with ethical considerations, including social and political influence, as they affect such organization. Prerequisites: None.

MGT 315 Principles of Management – 3 hrs. A study of the functions of management, which includes planning, organizing, leading and controlling, and the application of management principles in organizations. Prerequisites: None.

MGT 318 Business Law – 3 hrs. This course is designed to cover the following subject matter: professional ethics and legal responsibility of accountants; debtor-creditor relations; government regulation of business; (UCC) uniform commercial code; business organizations, contracts and property. Prerequisites: MGT 207.

MGT 320 Planning and Launching New Ventures – 3 hrs. This course focuses on business plan development, especially the financial aspects of the plan. The intent is that students will use a feasibility analysis, such as the one completed in ETR 3910, and turn that into a complete business plan. Additionally, students will learn about seed capital, venture, and other means of financing new ventures. Prerequisites: None. Recommended background for this course consists of: MGT 330 and MKT 410.

MGT 330 Introduction to Entrepreneurship – 3 hrs. An introductory course intended to provide students with a solid foundation in terms of the vital role played by entrepreneurs and entrepreneurship in the 21st century global economy. Emphasis is on entrepreneurship as a manageable process that can be applied in virtually any organizational setting. It is also a course that integrates a number of different disciplines, ranging from sociology and physiology to economics, finance, marketing, and human recourse management. Further, it is a course that mixes theory with practice, and you will be challenged to apply principles, concepts and framework to real world situations. Prerequisites: None.

MGT 332 Organizational Behavior and Theory – 3 hrs. A study of the behavior of individuals and groups within organizations. The course also examines organizational design and processes. Prerequisites: MGT 315.

MGT 350 Managerial Communication – 3 hrs. This class provides an interdisciplinary study and practice of the fundamental communication principles for memoranda, letter, and report writing. Emphasis is placed on clear, accurate, and concise writing in a variety of professional settings. The course also addresses the fundamentals of communication such as the communication process, interpersonal communication, intercultural communication, conflict management, nonverbal communication, listening, managing meetings, workplace interactions, and more. Prerequisites: ENG 101, 102.

MGT 352 Entrepreneurship – 3 hrs. An overview of entrepreneurship, primarily focusing on the creation and management of small businesses. Several critical functions necessary for their operations such as planning, organizing, directing, controlling, purchasing, production, marketing, and finance are examined. Prerequisites: MGT 315, FIN 315, MKT 315.

MGT 397 Management Science – 3 hrs. This course introduces the students to quantitative techniques in management sciences that are applicable to business. Topics include: Decision Analysis, Linear Programming, Transportation & Assignment Models, Network Models, Integer Programming, Goal Programming, and Project Management. Prerequisites: ECO 271, MTH 120.

MGT 402 Independent Study – 1-3 hrs. A research project accomplished under the supervision of a member of the College of Business and Public Affairs faculty. Such projects will involve the detailed study of a topic of particular interest to the

business profession, and the results of the study will be documented by a research report. Prerequisites: Senior standing and consent of instructor.

MGT 412 Principles of Insurance – 3 hrs. A survey of basic principles, problems and terminology associated with individual, group and organizational risk management as it relates to the following: the legal aspects of insurance, the risk management process, types of coverage, the insurance market, operating an insurance business and governmental regulation of the profession. Prerequisites: MGT 315.

MGT 413 Production/Operations Management – 3 hrs. An examination of the tools and theory of production/operations management. Focus is on the issues related to the planning, controlling and designing of production/operations systems. Prerequisites: MTH 120 and ECO 271.

MGT 427 Quality Management – 3 hrs. An overview of the total quality management function; including organization, management, process control, and product reliability and maintainability. Prerequisites: ECO 271, MGT 315.

MGT 430 Advanced Management Seminar – 3 hrs. An in-depth exploration of current issues and special topics in management. Contents will vary depending on the current status of management practices and methods, and the needs of the students. Prerequisites: MGT 315 and consent of instructor.

MGT 431 Growing and Managing New Ventures – 3 hrs. One of the most troublesome aspects of entrepreneurship is running the business once it is started. This course focuses on techniques to grow the new venture and how to manage both the growth and operations. Considerable emphasis will be placed on expanding existing markets, finding new markets, anticipating the next generation of products, and managing cash flow. This course is the capstone course for both the Entrepreneurship Minor and the Management Minor. Prerequisites: None. Recommended background for this course consists of: MGT 320.

MGT 433 Human Resource Management – 3 hrs. An examination of the activities and practices related to effective and efficient utilization of human resources in organizations. Prerequisites: MGT 315.

MGT 440 Field Studies in Entrepreneurial Firms – 3 hrs. This course involves supervised study of an organization in one of two forms. Students may work in student groups to establish a relationship, identify a strategic problem or question, design and execute a study, and report implementable recommendations to a regional firm or work in a supervised internship in an entrepreneurial business. Prerequisites: None.

MGT 442 Strategic Management and Policy – 3 hrs. A study in developing an understanding of policy formation and decision-making as related to the current business environment. The course objectives are attained through integrating business fundamentals (marketing, production, finance, economics, statistics, etc.) into methods of resolving business problems. The instructional methods including lectures, discussions, and case analysis. Prerequisites: ACC 204, FIN 315, MGT 315,, MKT 315.

MGT 445 Senior Portfolio: Writing the Business Plan – 3 hrs. Students will study the basic components and varied audiences for the business plan. Each student will write a business plan and will be required to present the plan to a panel of business leaders. Prerequisites: None. Recommended background for this course consists of: MGT 330, MKT 410.

MGT 450 Principles of Real Estate – 3 hrs. A study of the economic and legal environment within which real estate is transferred and used. Includes the real estate market; contracts; property ownership; financing; brokerage, valuation and government operations. Prerequisites: None.

MGT 458 International Business – 3 hrs. This course examines the organizational, administrative, marketing, and financial aspects of business-based operations; political, and the legal and economic factors influencing international business, including community relations, business climate, and human resource management issues. Prerequisites: MGT 315 or 332.

MGT 465 International Management – 3 hrs. This course examines the international dimensions of management. Includes internationalization of the firm, globalization of industry, international strategy frameworks, strategy implementation requirements, management of relationships with host nations, cross-cultural management and international human resource management. Prerequisites: MGT 315.

MGT 473 Small Business Counseling – 3 hrs. A practical exposure to the problems and opportunities of small business firms. Student teams are assigned as a counseling unit to assist local business managers in the identification of problems and the formulation of alternative solutions, as well as the identification of areas of opportunity within the participating organizations. Prerequisites: MGT 352, senior standing and consent of instructor.

MGT 490 Management Internship – 3-6 hrs. A practical course in integrating classroom theories with actual business practices. Prerequisites: consent of instructor.

Management Information Systems

MIS 213 Computer Applications in Business – 3 hrs. A practical application of user-friendly software packages in processing personal and business documents using microcomputers. Using application programs in word processing, electronic spreadsheet, database management, personal information management, presentation graphics and multimedia. Students will create, manipulate and hyperlink documents. This course also explores basic computer concepts and techniques. Prerequisites: None.

MIS 315 Principles of Management Information Systems – 3 hrs. A language-independent, introductory course on management information systems. It involves design and development of business systems. Students are exposed to an overview of a process, or a structured approach to the definition of needs, creation of specification, and implementation of new systems. This process overview encompasses an historic summary of the traditional life cycle methodology used for system development. Prerequisites: MIS 213 or consent of instructor.

MIS 331 Information Systems and Analysis and Design – 3 hrs. Techniques and philosophies of systems analysis are addressed. Included are: traditional versus structured design methods, computer-based tools for systems analysis, workbenches, design and analysis of database systems, maintenance of existing information systems, human/machine interfaces, and security and control. System design, implementation, and methods of systems installation and operation are presented. A system development project is required. Prerequisites: MIS 315.

MIS 345 Database Management Systems – 3 hrs. This course provides an introduction to the design and use of databases in meeting business information needs. Topics include database planning conceptual design, and data administration. The concepts are studies with projects involving the use of a current database management system. Prerequisites: MIS 315.

MIS 356 Data Communications and Networking – 3 hrs. The technical and managerial aspects of telecommunications as they apply to the business environment are discussed. Issues include: communications components and services, local area network architecture, managerial implementations, organizations issues and cost/benefits analysis. Prerequisites: MIS 213.

MIS 390 Electronic Commerce – 3 hrs. This course provides complete coverage of the key business and technology elements of electronic commerce. It introduces readers to both the theory and practice of conducting business over the Internet and World Wide Web. Prerequisites: MIS 315.

MIS 410 Seminar in Management Information Systems – 3 hrs. An in-depth coverage of a variety of contemporary issues in management information systems. Prerequisites: MIS 315 and consent of instructor.

MIS 478 Network Security – 3 hrs. This course introduces the basic concepts of network security. It addresses security issues and practical applications related to network and web risk threats and countermeasures, system access points, hardware and software defense methods and organizational security policies. It also examines the problems and concerns related to computer abuse, fraud and investigation. The course makes use of lecture and discussion, cases, research and team projects. Prerequisites: MIS 315, 356.

MIS 479 Introduction to Object Oriented Programming – 3 hrs. This course provides a study of the C++ programming language as they pertain to managerial applications. In addition, the course will introduce the use of object-oriented programming methodologies. Prerequisites: MIS 315.

MIS 489 Systems Development Project – 3 hrs. This course provides the student with an opportunity to apply the knowledge and skills acquired in other MIS courses towards the development of effective and efficient management information systems. Prerequisites: MIS 331, 345, senior standing and consent of instructor.

Marketing

MKT 315 Principles of Marketing – 3 hrs. General survey of interactive business activities related to planning product/service offer, price, promotion, and distribution in domestic and global market. Prerequisites: ECO 200 or 232.

MKT 316 Buyer Behavior – 3 hrs. Interdisciplinary approach to the analysis and interpretation of the buying process as it relates to the development of market strategies. Prerequisites: MKT 315.

MKT 317 Retail Management – 3 hrs. Essential principles and practices used in retail management involving environmental analysis, store location, layout, buying, pricing, and merchandising. Prerequisites: MKT 315.

MKT 323 Promotion Management – 3 hrs. Analysis of strategic promotional decisions through integrated marketing communication activities and tools. Prerequisites: MKT 315.

MKT 324 Personal Selling – 3 hrs. Analysis of the principles and practices of selling, the sales process, and sales management. Prerequisites: MKT 315.

MKT 325 Product and Pricing Management – 3 hrs. Intensive and analytical approach to product management, price determination, and profit models. Prerequisites: MKT 315, MTH 112.

MKT 330 Principles of Electronic Commerce – 3 hrs. An introduction and basic overview of e-commerce, including building and maintaining the electronic store front and business interface, electronic shopping, electronic distribution, order processing, payment, and customer relationship maintenance. Prerequisites: MGT 213 or its equivalent.

MKT 332 Merchandising Techniques – 3 hrs. Analysis of the principles and practices of retail buying and selling operations. Prerequisites: MKT 315, 317, ACC 203, MTH 112.

MKT 341 Business-to-Business Marketing – 3 hrs. Analysis of the principles and practices used in industrial markets with emphasis on the purchasing function and business-to-business relationships. Prerequisites: MKT 315.

MKT 351 Marketing Channels – 3 hrs. Analysis of the principles and practices used in the management of marketing intermediaries with emphasis on physical distribution, storage, and handling of finished goods. Prerequisites: MKT 315.

MKT 410 Marketing Research – 3 hrs. Principles of scientific research methods in marketing and their application to problem solving and decision-making. Prerequisites: MKT 315, MTH 112, ECO 271.

MKT 411 Advanced Marketing Research – 3 hrs. A continuation of MKT 410; focuses on the implementation of the marking research proposal, measurement instrument selection/design, data collection and analysis, and preparation of the research report. Prerequisites: MKT 410.

MKT 423 Public Relations – 3 hrs. Study of PR principles used in marketing to enhance brand equity and protect corporate image. Focus on crisis management. Prerequisites: MKT 315, 323.

MKT 441 Marketing Internship – 3 hrs. Students are selected for assignment in approved business or public sector organizations under the supervision of marketing faculty. Prerequisites: Marketing major/minor and consent of instructor.

MKT 450 Services Marketing – 3 hrs. A course designed to introduce both the theories and practices of services marketing. Emphasis is placed on the planning and management of customer-satisfaction-winning marketing activities in the services sector and in general. Prerequisites: MKT 315.

MKT 455 Health Care Marketing – 3 hrs. The purpose is to provide a thorough understanding of the principles and concepts of marketing as they apply to health care organizations. Students will be exposed to markets composed of varying degrees of managed care, and application from both a traditional fee-for-service approach and a managed care framework will be discussed. The course will examine the application of marketing tools and strategies in today's dynamic health care environment. Prerequisites: MKT 315.

MKT 464 Global Marketing and its Environment – 3 hrs. Analysis of the adaptation and integration of the marketing process in the development of marketing strategies by domestic firms with global operations. Special focus on the impact of the cultural, economic, financial, and political/legal environments on marketing decisions. Prerequisites: MKT 315.

MKT 477 Marketing Management – 3 hrs. Managerial approach to marketing decision-making focusing on the analysis and interpretation of quantitative and qualitative marketing data. Prerequisites: MKT 315 and senior standing.

MKT 487 Strategic Marketing – 3 hrs. Integration capstone course focusing on the strategic planning of all marketing elements. Prerequisites: MKT 315, 316, 323, 410, 477.

Military Science

MSC 101 Military Science I-A – 2 hrs. A broad overview of the history of ROTC, the ROTC program and its benefits to the student. The positive aspects of a career as an Army officer include information on pay and allowances, the military retirement system, advancement, and travel opportunities. Military customs and traditions are discussed along with the role of the Army, the Army Reserves and the National Guard. Students receive instruction on land navigation, principles of leadership and traits of a leader. Prerequisites: None.

MSC 102 Military Science I-B – 2 hrs. A continuation of MSC 101. Prerequisites: MSC 101.

MSC 201 Military Science II-A – 2 hrs. (Two, 2-hour class periods). The course consists of Instructions on the rules, techniques, and formats of effective military communications through military correspondence and briefings. The course covers the mission and functions of the various military branches. Students receive instruction on the organization, mission and weapons of the rifle squad, platoon, and company, along with being familiarized with the organization of the battalion, brigade, and divisional size units. The principles of war are analyzed to determine their proper employment. The confluence and interaction of military affairs with diplomatic, political, social, economic, and intellectual trends in society are addressed. Students are also provided instruction in map reading, which includes grid, scale and distance, direction, azimuth and back azimuth, elevation and relief. Prerequisites: MSC 101, 102.

MSC 202 Military Science II-B – 2 hrs. A continuation of MSC 202. Prerequisites: MSC 20l.

MSC 206 Basic Camp – 6 hrs. A course designed to provide an orientation to students without military training background and also giving students an opportunity to examine military life. Successful completion of a six-week summer camp experience at Fort Knox, Kentucky, entitles the student completing the sophomore year to receive two years placement credit. There is no obligation or commitment to military service beyond the basic camp for students who elect not to enter the advanced program. Basic camp students earn more than $700.00 while participating in the summer training at Fort Knox. Registration for academic credit for ROTC basic camp is optional. Students who have no desire to receive academic credit for MSC 206 are not required to register for basic camp. However, prior registration and tuition payment are required for those who wish to receive academic credit for successful completion of basic camp. Prerequisites: None.

MSC 301 Military Science III-A – 3 hrs. (Two, 3-hour classroom sessions, one 1-hour leadership development laboratory, and Leader Development and Assessment Course of five (5) weeks duration). The course consists of instruction in reference to platoon and squad level training, counseling, communication skills, human relations and various other topics. Additionally, students receive instruction on the fundamentals of map reading which encompasses grid, scale and distance, direction, elevation and relief, intersection and resection. Students are introduced to the fundamentals of tactical operations, to include writing of combat orders, command and staff organizations, command/staff actions, command relationships, communication systems, intelligence gathering, and the role of the various branches of the Army. Students are taught first Aid and selected other subjects to prepare them for attendance at LDAC. Prerequisites: MSC 101, 102, 201, 202, or their equivalents.

MSC 302 Military Science III-B – 3 hrs. A continuation of MSC 301. Prerequisites: MSC 301.

MSC 401 Military Science IV-A – 3 hrs. (Three, 1-hour classroom sessions and one 2-hour leadership development laboratory.) Students receive instruction on the analysis of selected leadership and management topics in the area of training, logistics and personnel management. Instruction encompasses military correspondence, information and decision papers, after action reports, briefings, Army personnel Management System, and post/installment support. Students are presented instruction on the Military Justice System which includes search and seizure, non-punitive disciplinary measures and non-judicial punishment. Additionally, students receive instruction on military professional ethics. The course concludes with selected pre-commissioning seminars dealing with topics of interest for the newly commissioned Army officer. Prerequisites: PMS approval, MSC 301, 302.

MSC 402 Military Science IV-B – 3 hrs. A continuation of MSC 401. Prerequisites: MSC 401.

MSC 501 Military Science V-A – 2 hrs. Students receive instruction encompassing briefings and selected military topics as well as physical training. Prerequisites: Extension of scholarship benefits for approved cadets. Prerequisites: MSC 301, 302, 401, 402.

MSC 502 Military Science V-B – 2 hrs. A continuation of MSC 501. Prerequisites: MSC 501.

Mathematics

MTH 100 Developmental Mathematics – 3 hrs. Basic arithmetic, basic algebra and basic geometry concepts. Included in its content are the four fundamental operations involving positive and negative real numbers, rational numbers, and percent; solving linear equations and inequalities; and pertinent application problems. Credit hours for this course may not be counted toward any degree requirement. However, the grade for this course is calculated in the cumulative GPA. Placement in this course is determined by performance on a placement test. Prerequisites: None.

MTH 101 Fundamentals of Mathematics – 3 hrs. Graphing and linear systems, exponents and polynomials, factoring, rational expressions, roots and radicals, solving quadratic equations, compound inequalities, linear inequalities in two variables, variation, functions, and pertinent application problems. Credit hours for this course may not be counted toward any degree requirement. However, the grade for this course is calculated in the cumulative GPA. Prerequisites: MTH 100 or a satisfactory score on the Mathematics component of the COMPASS.

MTH 105 Intermediate Algebra – 3 hrs. This course covers exponents, roots and radicals, polynomial and rational expressions, functions and graphing, transformations of functions, quadratic and inverse functions, and linear and non-linear systems of equations. Credit hours for this course may not be counted toward any degree requirement. However, the grade for this course is calculated in the cumulative GPA. Note: MTH 105 is an intensive intermediate algebra course designed for students in science programs, technology, engineering and mathematics (STEM) degree where MTH 125, Calculus I, is the initial course in their curriculum. This course is designed to prepare students for MTH 115.

MTH 107 Modern Mathematics – 3 hrs. The metric system, sets, base numeration systems, systems of whole numbers, systems of integers, elementary number theory, elementary logic, relations, and functions. Prerequisites: MTH 101 or a satisfactory score on a placement test.

MTH 110 Finite Mathematics – 3 hrs. Sets, counting, permutations, combinations, basic probability theory (including Baye's Theorem), statistical concepts (including binomial distributions and normal distribution), matrices and their applications to Markov chains and decision theory. Additional topics may include symbolic logic, linear models, linear programming, the simplex method and applications. This course is designed for students who are not majoring in science, engineering, commerce, or mathematics. Prerequisites: MTH 101 or satisfactory placement test scores.

MTH 112 (Formerly MTH 103) Pre-Calculus Algebra – 3 hrs. The algebra of polynomial, rational, exponential and logarithmic functions; algebraic equations; linear and quadratic equations; linear and quadratic inequalities; systems of equations and inequalities; and the binomial theorem. Additional topics may include matrices, Cramer's rule, and mathematical induction. Prerequisites: MTH 101 or a satisfactory score on a placement exam.

MTH 113 (Formerly MTH 104) Pre-Calculus Trigonometry – 3 hrs. The study of (circular) trigonometric functions; inverse trigonometric functions; trigonometric identities; and trigonometric equations. The course also covers vectors, complex numbers, DeMoivre's Theorem, and polar coordinates. Additional topics may include conic sections, sequences, and using matrices to solve linear systems. Prerequisites: MTH 112 or a satisfactory score on a placement exam.

MTH 115 Pre-Calculus Algebra and Trigonometry – 4 hrs. This course covers functions, logarithms and exponentials, trigonometric functions and inverse trigonometric functions, trigonometric identities and equations, vectors, complex numbers, polar coordinates, systems of linear and quadratic equations/inequalities and the binomial theorem. MTH 115 is an intensive pre-calculus preparatory course designed for students in science, technology, engineering, and mathematics (STEM) degree programs where MTH 125, Calculus I, is the initial course of their degree program.

MTH 120 (Formerly MTH 130) Calculus and Its Applications – 3 hrs. A broad overview of calculus taken primarily by students majoring in commerce and business. The course includes differentiation and integration of algebraic, exponential, and logarithmic functions and applications to business and economics. The course also includes functions of several variables, partial derivatives with applications, LaGrange multipliers, L'Hopital's rule, and multiple integration with applications. This course does not substitute for MTH 125 or MTH 126. Prerequisites: MTH 112.

MTH 125 (Formerly MTH 171) Calculus I – 4 hrs. Limits; derivatives of algebraic, trigonometric, exponential, and logarithmic functions; applications of the derivative; differentials; maximum and minimum problems; curve sketching using calculus; and the definite integral and its applications to area. This is the first of three courses in the basic calculus sequence taken primarily by students in science, engineering and mathematics. Prerequisites: MTH 113 or satisfactory placement test scores for all students except Engineering majors. The prerequisite for Engineering majors is MTH 115.

MTH 126 (Formerly MTH 172) Calculus II – 4 hrs. Applications of integration including volume, arc length and work; techniques of integration; infinite series; polar coordinates and polar graphs; vectors in the plane and in space, parametric equations; curves in the plane and in space; and lines and planes in space. This is the second of three courses in the basic calculus sequence. Prerequisites: MTH 125 or 145.

MTH 145 (Formerly MTH 171H) Calculus I Honors – 4 hrs. The content of MTH 125 at an accelerated pace including a major application project. This course covers limits; derivatives of algebraic, trigonometric, exponential, and logarithmic functions; applications of the derivative; differentials; maximum and minimum problems; curve sketching using calculus; and the definite integral and its applications to area. Prerequisites: MTH 113 or satisfactory placement test scores.

MTH 146 (Formerly MTH 172H) Calculus II Honors – 4 hrs. Content of MTH 126 at an accelerated pace including a major application project. This course covers applications of integration including volume, arc length, and work; techniques of integration; infinite series; polar coordinates and polar graphs; vectors; parametric equations; curves in the plane and in space; and lines and planes in space. Prerequisites: MTH 125 or 145.

MTH 200 Mathematical Computations – 1 hr. A comprehensive study of the interrelation of topics from Pre-Calculus Algebra and Trigonometry, Calculus I and II, and Linear Algebra. This course may not be used as a designated Mathematics elective in any degree program; however it may be used to fulfill, in part, elective credits (free electives) required in degree programs in the Department of Mathematics.

MTH 227 (Formerly MTH 201) Calculus III – 4 hrs. Vector-valued functions; functions of several variables, partial derivatives and their applications; quadric surfaces, multiple integration, and vector calculus, including line and surface integrals; curl and divergence, Green's Theorem, and Stoke's Theorem. This is the third of three courses in the basic calculus sequence. Prerequisites: MTH 126 or 146.

MTH 237 (Formerly MTH 203) Introduction to Linear Algebra – 3 hrs. Introduction to theory of matrices, determinants, methods of solving the linear system $\mathbf{Ax} = \mathbf{b}$ via Gaussian elimination, Gauss-Jordan elimination, eigenvalues and eigenvectors, diagonalization of matrices, real vector spaces, bases and dimension, linear transformations and inner product spaces. Additional topics may include quadratic forms and applications of matrix theory in solving differential equations. Prerequisites: MTH 126 or 146.

MTH 238 (Formerly MTH 202) Applied Differential Equations – 3 hrs. An introduction to numerical methods, qualitative behavior of first order differential equations, techniques for solving separable and linear equations analytically, and applications to various models, including populations, motions and chemical mixtures. Also taught are techniques for solving higher order linear differential equations with constant coefficients, including the general theory and the method of undetermined coefficients, reduction of order, and variation of parameters. Discussions include interpretation of the behavior of solutions, and applications to physical models with higher order governing equations. The Laplace transform as a tool for solving initial value problems with discontinuous inhomogeneous terms. Prerequisites: MTH 126 or 146.

MTH 301 Abstract Algebra I – 3 hrs. Sets, relations, and functions; properties of integers and induction; permutations; groups, group homomorphisms, and quotient groups; Cartesian and direct products. Prerequisites: MTH 237.

MTH 302 Abstract Algebra II – 3 hrs. A continuation of MTH 301. Rings, ring homomorphisms, ideals, quotient rings; integral domains; fields and polynomial extensions of fields. Prerequisites: MTH 301.

MTH 303 (PHY 303) Methods of Mathematical Physics – 4 hrs. Vector calculus; partial differential equations; boundary value problems. Also included are the Fourier series, Laplace transforms, and Green's function methods. Prerequisites: MTH 227.

MTH 304 Mathematics for Elementary Teachers – 3 hrs. Topics in the K-6 mathematics curriculum: counting, integers, the fundamental operations of arithmetic, ratio and proportion, elementary geometry, uncertainty and data interpretation.

Problem solving, investigation, reasoning, communication, and the use of technology are integral parts of this course. This course is not open to Mathematics or Secondary Education Mathematics majors. Prerequisites: MTH 112 or 107.

MTH 305 Applied Mathematics – 3 hrs. Functions of several variables, partial derivatives, differentials, power series, binomial series, Maclaurin and Taylor series, and solution of elementary first order and second order differential equations. Applications for engineering technology are included. This course is not open to Mathematics or Secondary Education Mathematics majors. Prerequisites: MTH 126 or 146.

MTH 307 Geometry – 3 hrs. A study of plane and solid Euclidean geometry from the modern viewpoint; relationships of Euclidean and non-Euclidean geometry, selected topics of affine and projective geometry. This course is open to Elementary and Secondary Education majors; this course is not open to Mathematics majors. Prerequisites: MTH 112.

MTH 324 (ST 324) Applied Statistical Computing – 3 hrs. An introduction to computer-assisted data analysis with emphasis on the interpretation of results generated by such software packages as SAS, SPSS, STATPAK and others. Topics include descriptive statistics; contingency tables, correlation; two-group comparisons; simple, polynomial and multiple linear regression; and analysis of variance. Prerequisites: MTH 112 or consent of instructor.

MTH 327 (ST 327) Applied Regression Analysis – 3 hrs. A study of least squares; simple, polynomial and multiple linear regression including residual and lack-of-fit analysis; simple multiple, partial, and multiple-partial correlation; analysis of covariance; model building algorithms, analysis of variance, and computer-assisted data analysis. Prerequisites: ST 324, MTH 125.

MTH 344 (ST 344) Design and Analysis of Experiments I – 3 hrs. A study of the fundamental concepts and basic principles of design, construction and analysis of experimental designs. Designs to be included are completely randomized complete block, Latin square, Greco-Latin square, split-plot, multiple comparison, and factorial. Prerequisites: ST 327.

MTH 351 Introduction to Real Analysis I – 3 hrs. Logical connectives; quantifiers, inductive and deductive methods of proof; negation; contrapositive; sets; relations and functions. Topics include the completeness axiom, topology of the real line, compact sets, sequences, subsequences, Cauchy sequences, limits, continuity, and uniform continuity. Prerequisites: MTH 227.

MTH 352 Introduction to Real Analysis II – 3 hrs. Continuation of MTH 351 which includes discussions of differentiation, Riemann integral, derivatives of integrals, infinite series, absolute and conditional convergence, power series, Taylor series, sequences and series of functions, and modes of convergence. Prerequisites: MTH 351.

MTH 355 (ST 355) Applied Statistics – 3 hrs. Collection and presentation of data; measures of central tendency and variability; skewness, binomial, normal, Chi-square, t-and F-distributions; estimation; confidence intervals and hypothesis testing; correlation coefficient; and analysis of variance. This course includes laboratory activities. This course is designed for majors in biology, zoology, botany, medical technology, pre-veterinary medicine, and pre-nursing. This course is not open to mathematics majors or applied statistics minors. Prerequisites: MTH 112.

MTH 357 Computers and the Teaching of Mathematics – 3 hrs. Introduction to computer usage and applications of technology in mathematics instruction, development of curriculum materials using mathematical software packages; laboratory demonstrations and projects. This course is open to Secondary Education Mathematics majors. This course is not open to Mathematics majors. Prerequisites: MTH 125.

MTH 371 Number Theory – 3 hrs. An introduction to the theory of numbers through a study of divisibility; congruencies; quadratic reciprocity; Diophantine equations; factorization; algebraic numbers. Prerequisites: MTH 237.

MTH 383 Numerical Analysis – 3 hrs. Introduction to numerical methods for interpolation; evaluating roots of polynomials, systems of equations; integration; differentiation; differential equations; approximation and error. Prerequisites: MTH 227 and CS 102.

MTH 401 History of Mathematics – 1 hr. A course designed to explore and study topics in the history of mathematics. Prerequisites: MTH 125.

MTH 444 (ST 444) Design and Analysis of Experiments II – 3 hrs. A continuation of ST 344. Topics include incomplete block designs, analysis of covariance; regression approach to the analysis of selected design such as two-way unequal cells, factorial confounding techniques, fractional replication, response surface methodology, evolutionary operations, cross-

over and repeated measure designs; and selected transformations and heterogeneity of variance techniques. Prerequisites: MTH 344 or ST 344.

MTH 452 Complex Analysis – 3 hrs. The complex numbers, functions, continuity of complex variables, differentiability, Cauchy-Riemann conditions, contour integral theorem, sequences and series, and the calculus of residues. Prerequisites: MTH 227.

MTH 453 (ST 453) Probability and Statistics – 3 hrs. Probability axioms, methods of enumeration; conditional probability, independence, empirical frequency distribution, discrete and continuous random variables, expectation, moment generating functions, joint distributions, sums of random variables, and limit theorems. Prerequisites: MTH 126 or 146.

MTH 454 Advanced Calculus – 3 hrs. Topics of advanced nature in differential and integral calculus. Emphasis is placed on the understanding of concepts and on the basic principles of analysis. Prerequisites: MTH 227.

MTH 473 (ST 473) Statistics – 3 hrs. An introduction to the theory of statistics. Topics include sampling distributions, estimation, hypothesis testing, linear models, analysis of variance, nonparametric and distribution-free procedures. Prerequisites: ST 453.

MTH 480 Selected Topics in Mathematics – 3 hrs. Discussion of current topics in algebra and/or analysis. Prerequisites: MTH 301 or 351 or consent of instructor.

MTH 481 Senior Project – 3 hrs. A course designed for mathematics majors who are conducting a senior mathematics project under the direction of a mentor. This course is open only to Mathematics majors. Prerequisites: MTH 301 or 351 or consent of instructor

MTH 482 Independent Study – 1 hr. A course designed for investigative study in an area of contemporary mathematics under the supervision of a senior mathematics instructor. Prerequisites: MTH 237 or consent of instructor.

Music

MUS 101 Music Appreciation – 3 hrs. A study in the fundamentals of music such as melody, harmony, rhythm, form meter, and notation. The biographies of selected composers and some of their compositions are highlighted so as to enhance musical understanding. Literary and graphic arts are integrated to assist the student in correlating various cultural influences with music in certain times and places. Music listening is stressed and classroom activities are often coordinated with out-of-class assignments like television programs, lyceum attractions, student recitals and community concerts. Prerequisites: None.

MUS 102 Fundamentals of Music – 3 hrs. An introductory course that covers the rudimentary fundamentals of music theory, including the basic properties of notation, scales, intervals, triads, and rhythmic notation. Prerequisites: None.

MUS 103 Music Theory I – 3 hrs. A course designed to provide training in music theory and fundamentals of sight singing. Melodic and rhythmic dictation and keyboard are administered to further provide laboratory experiences for musical growth. Prerequisites: None.

MUS 104 Music Theory II – 3 hrs. A continuation of MUS 103. More advanced aural, visual, and theoretical subjects are studied. Prerequisites: MUS 103.

MUS 113 The Male Glee Club – 1 hr. This organization is comprised of selected male voices from the University Choir and the University at large. A male quartet is usually lifted from this group. Prerequisites: MUS 123 or 124.

MUS 114 The Male Glee Club II – 1 hr. This organization is comprised of selected male voices from the University Choir and the University at large. A male quartet is usually lifted from this group. Prerequisites: MUS 123 or 124.

MUS 115 Vocal Jazz Ensemble I – 1 hr. The study and performance of jazz and popular vocal music. Ensemble may include choreography, performance with larger ensembles, and off-campus concerts. Prerequisites: Audition.

MUS 116 Vocal Jazz Ensemble II – 1 hr. The study and performance of jazz and popular vocal music. Ensemble may include choreography, performance with larger ensembles, and off-campus concerts. Prerequisites: Audition.

MUS 117 The Female Ensemble I – 1 hr. Selected voices with music-reading aptitude and a willingness to adhere to the highest standards of musical interpretation and preparation will be admitted to membership in this group.

MUS 118 Voice Class – 1 hr. Instruction of elementary vocal techniques, methods and procedures for choral and solo singing. Focus will be given to the essentials of voice production, breath control, sight-singing, diction, and performance. A competency-based approach to instruction is used. Prerequisites: None.

MUS 120 Piano Ensemble I – 1 hr. Learning and exploring piano ensemble literature including compositions for 4-hand, 6-hand, or piano/keyboard ensembles for two of more piano/keyboard instruments depending on instrument availability and enrollment.

MUS 121 Piano Ensemble II – 1 hr. Continuation of skills begun in MUS 120, Piano Ensemble I. Learning and exploring piano ensemble literature including compositions for 4-hand, 6-hand, or piano/keyboard ensembles for two of more piano/keyboard instruments depending on instrument availability and enrollment.

MUS 122 The University Choir I – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 123 The University Choir II – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 124 Percussion Ensemble – 1 hr. The study and performance of ensemble literature for percussion. Prerequisites: Consent of instructor.

MUS 126 The Stage Band – 1 hr. The study and performance of jazz band literature. Prerequisites: Consent of instructor.

MUS 128 The Woodwind Ensemble – 1 hr. The study and performance of ensemble literature for woodwinds. Prerequisites: Consent of instructor.

MUS 131 Brasswind Ensemble – 1 hr. The study and performance of ensemble literature for brasses. Prerequisites: Consent of instructor.

MUS 133 Applied Music I, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 134 Applied Music II, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 135 Applied Music I, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 136 Applied Music II, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 137 Applied Music I, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 138 Applied Music II, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 139 Applied Music I, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 140 Applied Music II, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 141 Applied Music I, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 142 Applied Music II, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 143 Applied Music I, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 144 Applied Music II, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 145 Applied Music I, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 146 Applied Music II, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 149 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 150 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 151 Applied Music I, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 152 Applied Music II, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 153 University Marching Band – 1 hr. A course designed to give students training and experience in playing various instruments in marching formation techniques and field pageantry. The Marching Band makes frequent public appearances on and off campus. The Band also participates in national and state observances and often shares its talents with adjacent communities during holiday periods. Prerequisites: Audition.

MUS 154 Symphonic Band – 1 hr. The organization strives for superb musicianship and is presented in several concerts during the second semester on and off-campus. Prerequisites: Audition during the first semester.

MUS 155 Applied Music I, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 156 Applied Music II, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 159 Applied Music I, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 160 Applied Music II, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 161 Applied Music I, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 162 Applied Music II, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 171 Applied Music I, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 172 Applied Music II, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 173 Guitar Ensemble – 1 hr. Guitar Ensemble is designed to give students training and exercise in guitar ensemble literature. The ensemble performs on and off campus.

MUS 174 Independent Music Study – 3 hrs. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 181 Applied Music I, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 182 Applied Music II, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 183 Applied Music I, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 184 Applied Music II, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 187 Applied Music I, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 188 Applied Music II, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 189 Applied Music I, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 190 Applied Music II, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 191 Applied Music I, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 192 Applied Music II, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 205 Music Theory III – 3 hrs. A study of diatonic seventh chords and their inversions, harmonization of melodies and figured bass lines, and the use of dominant sevenths in four-parts writing. Melodic, harmonic and dictation is included. Analytic techniques are studied through various Classical and Romantic compositions. Prerequisites: MUS 103, 104.

MUS 206 Music Theory IV – 3 hrs. A thorough study of borrowed chords, secondary dominants, and other chromatic harmonies Other topics include fundamentals of orchestration, ninths, elevenths and thirteenths, non-tertian harmonies, and serial music. Dictation, keyboard harmony and analysis are included. Prerequisites: MUS 205.

MUS 208 Upper Brasswinds Class – 1 hr. A course that focuses on sight reading, technique, tone and other factors necessary for competency and pedagogy with upper brasswinds. (Laboratory fee). Prerequisites: None.

MUS 210 Lower Brasswinds Class – 1 hr. The study of instruments which fall into the general category of lower brasses. The class is intended to give the student broad experiences with developing knowledge and pedagogy. (Laboratory fee). Prerequisites: MUS 208.

MUS 212 Percussion Class – 1 hr. An introduction to snare drumming rudiments. Tympani fundamentals such as pedal and hand tuning, and other matters related to percussion techniques, are covered in this course. (Laboratory Fee). Prerequisites: None.

MUS 219 Vocal Diction – 1 hr.

MUS 220 Piano Ensemble III – 1 hr. Continuation of skills begun in MUS 121, Piano Ensemble II. Learning and exploring piano ensemble literature including compositions for 4-hand, 6-hand, or piano/keyboard ensembles for two of more piano/keyboard instruments depending on instrument availability and enrollment.

MUS 221 Piano Ensemble IV – 1 hr. Continuation of skills begun in MUS 220, Piano Ensemble III. Learning and exploring piano ensemble literature including compositions for 4-hand, 6-hand, or piano/keyboard ensembles for two of more piano/keyboard instruments depending on instrument availability and enrollment.

MUS 222 The University Choir I – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 223 The University Choir II – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 226 The Stage Band – 1 hr. Stage Band member is confined to music majors and minors; or in special instances, to persons who are performing members in one of the large musical organizations. This group is established to provide students with laboratory exposure to jazz, standard literature in the popular music field and some varieties of rock music. However, good musicianship is never sacrificed.

MUS 230 Brasswind Ensemble – 1 hr. Persons who play in this ensemble are selected on the basis of musical competence, which includes music-reading and playing skills. In addition, it is expected that all players will meet their responsibilities with punctuality and maturity.

MUS 231 Brasswind Ensemble – 1 hr. Persons who play in this ensemble are selected on the basis of musical competence, which includes music-reading and playing skills. In addition, it is expected that all players will meet their responsibilities with punctuality and maturity.

MUS 233 Applied Music III, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 234 Applied Music IV, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 235 Applied Music III, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 236 Applied Music IV, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence

developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 237 Applied Music III, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 238 Applied Music IV, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 239 Applied Music III, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 240 Applied Music IV, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 241 Applied Music III, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 242 Applied Music IV, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 243 Applied Music III, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 244 Applied Music IV, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 245 Applied Music III, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 246 Applied Music IV, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 249 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 250 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 251 Applied Music III, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 252 Applied Music IV, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 253 University Marching Band – 1 hr. A course designed to give students training and experience in playing various instruments in marching formation techniques and field pageantry. The Marching Band makes frequent public appearances on and off campus. The Band also participates in national and state observances and often shares its talents with adjacent communities during holiday periods. Prerequisites: Audition.

MUS 254 Symphonic Band – 1 hr. The organization strives for superb musicianship and is presented in several concerts during the second semester on and off-campus. Prerequisites: Audition.

MUS 255 Applied Music III, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 256 Applied Music IV, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 259 Applied Music III, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 260 Applied Music IV, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 261 Applied Music III, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 262 Applied Music VI, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 263 Piano Skills I – 2 hrs. Experience in sight-reading, playing by ear, modulation, open score reading, transposition, and improvisation at the keyboard.

MUS 264 Piano Skills II – 2 hrs. Continuation of skills begun in Piano Skills I: Experience in sight-reading, playing by ear, modulation, open score reading, transposition, and improvisation at the keyboard.

MUS 271 Applied Music III, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 272 Applied Music IV, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 273 Guitar Ensemble – 1 hr. Guitar Ensemble is designed to give students training and exercise in guitar ensemble literature. The ensemble performs on and off campus.

MUS 274 Independent Music Study – 3 hrs. Prerequisites: None.

MUS 281 Applied Music III, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 282 Applied Music IV, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 283 Applied Music III, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 284 Applied Music IV, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 287 Applied Music III, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 288 Applied Music IV, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 289 Applied Music III, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 290 Applied Music IV, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 291 Applied Music III, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 292 Applied Music IV, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence

developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 300 Junior Recital – 1 hr. The Junior Recital is a course for music majors with a Performance Concentration and usually comes in the Junior Year of an applied voice or Instrumental study. The recital demonstrates representative works from various musical periods and represents the culmination of five to six semesters of applied music study.

MUS 301 Music for Elementary Schools – 2 hrs. This course provides students with basic knowledge and experience necessary for handling music activities at the upper and lower grade elementary school levels as well as at the middle school level. Songs, singing, games, rhythmic and creative activities, dramatizations and suitable recordings are stressed. Students are afforded the opportunity to develop skills with melody and chording instruments. Attention is given to developing skills with melodies and chording instruments and to special instructional approaches for providing musical learning to atypical children. (For music majors and minors only). Prerequisites: None.

MUS 303 Music History and Literature I – 2 hrs. A general survey of music history from the tenth century to the Baroque era. Social and political data, art, and literature are correlated with certain phases of the course. Listening is a very significant part of the course. Prerequisites: MUS 103, 104, 205, 206.

MUS 304 Music History and Literature II – 2 hrs. Special emphasis is placed on contributions from the Classical, Romantic and Contemporary eras. Listening is a major component of the course also. Prerequisites: MUS 303.

MUS 305 Composition with Computers – 2 hrs. Composition and production original or arranged scores using digital audio production software and MIDI hardware for digital signal processing and control of synthesizers. Prerequisites: MUS 206.

MUS 309 Opera Studies – 2 hrs. The study of all phases of operatic and musical theatre production, with emphasis on and participation in staged operatic and musical theatre excerpts. Prerequisites: Consent of instructor.

MUS 310 Keyboard Literature and Pedagogy – 3 hrs. A study of keyboard literature from Baroque to the present. Additionally, current and expanded pedagogy concepts and materials for teaching students.

MUS 312 Woodwinds Class (Single Reeds) – 1 hr. The student is introduced to single-reed woodwinds, along with applicable pedagogy and literature. (Laboratory fee). Prerequisites: Junior status.

MUS 313 Woodwinds Class (Double Reeds) – 1 hr. Introduction to double-reed woodwinds, along with applicable pedagogy and literature. (Laboratory fee). Prerequisites: MUS 312.

MUS 314 Strings Class I – 1 hr. A practical performance course in string instruments. Elementary performing ability on violin, viola, cello, and string bass will be emphasized. Fundamentals of string playing and pedagogy are also taught. Prerequisites: For music majors only.

MUS 315 Strings Class II – 1 hr. A practical performance course in string instruments. Intermediate performing ability on violin, viola, cello, and string bass will be emphasized. Fundamentals of string playing and pedagogy are also taught. Prerequisites: MUS 314.

MUS 316 Conducting I – 1 hr. A study of the details of expression, score reading (choral and instrumental), words and symbols, technique, program building, and other factors. Prerequisites: None.

MUS 317 Conducting II – 1 hr. Serious attention to the more practical aspects of conducting as students are granted opportunities to direct various ensembles during rehearsals and public performances. Prerequisites: MUS 316.

MUS 318 Survey of Band Instruments – 2 hrs. An opportunity for the student who concentrates on vocal music to develop in this course to develop a basic knowledge of band instruments. He/she learns to use finger charts, and is given other important and useful information. Where possible, a "hands-on" approach is adopted. Some attention is given to fretted instruments. (Laboratory fee). Prerequisites: None.

MUS 319 Vocal Diction and Pedagogy – 2 hrs. Introduction to International Phonetic Alphabet (IPA); study and practice of Italian, French, and German diction. Prerequisites: MUS 151, 152.

MUS 320 Form and Analysis – 3 hrs. An intense study of musical structure and design in Baroque, Classical, Romantic, and Contemporary compositions. Students analyze and compare small and large forms. Prerequisites: MUS 205, 206.

MUS 322 The University Choir I – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 323 The University Choir II – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 326 The Stage Band – 1 hr. Stage Band member is confined to music majors and minors; or in special instances, to persons who are performing members in one of the large musical organizations. This group is established to provide students with laboratory exposure to jazz, standard literature in the popular music field and some varieties of rock music. However, good musicianship is never sacrificed.

MUS 327 Music Fundamentals for Classroom Teachers – 2 hrs. In this course, the student will acquire the basic knowledge and experience necessary for handling music activities at the upper and lower grade elementary school levels as well as at the middle school level. Special emphasis is placed on piano skills, conducting, developing skills with melody and chording instruments as well as fretted instruments. (Early Childhood, Elementary, and Special Education Majors only). Prerequisites: None.

MUS 329 The Record Company – 3 hrs.

MUS 330 Brasswind Ensemble – 1 hr. Persons who play in this ensemble are selected on the basis of musical competence, which includes music-reading and playing skills. In addition, it is expected that all players will meet their responsibilities with punctuality and maturity.

MUS 331 Brasswind Ensemble – 1 hr. Persons who play in this ensemble are selected on the basis of musical competence, which includes music-reading and playing skills. In addition, it is expected that all players will meet their responsibilities with punctuality and maturity.

MUS 333 Applied Music V, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 334 Applied Music VI, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 335 Applied Music V, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 336 Applied Music VI, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 337 Applied Music V, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 338 Applied Music VI, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence

developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 339 Applied Music VI, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 340 Applied Music VII, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 341 Applied Music V, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 342 Applied Music VI, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 343 Applied Music V, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 344 Applied Music VI, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 345 Applied Music V, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 346 Applied Music VI, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 347 Collaborative Piano I – 1 hr. One hour per week of assigned piano collaboration in vocal and/or instrumental teaching studios and one hour per week class meeting with the collaborative piano teacher for collaborative piano instruction and coaching.

MUS 348 Collaborative Piano II – 1 hr. Continuation of skills begun in MUS 347 Collaborative Piano I: One hour per week of assigned piano collaboration in vocal and/or instrumental teaching studios, one hour per week class meeting with the collaborative piano teacher for instruction and coaching.

MUS 349 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 350 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 351 Applied Music V, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence

developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 352 Applied Music VI, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 353 University Marching Band – 1 hr. A course designed to give students training and experience in playing various instruments in marching formation techniques and field pageantry. The Marching Band makes frequent public appearances on and off campus. The Band also participates in national and state observances and often shares its talents with adjacent communities during holiday periods. Prerequisites: Audition.

MUS 354 Symphonic Band – 1 hr. The organization strives for superb musicianship and is presented in several concerts during the second semester on and off-campus. Prerequisites: Audition.

MUS 355 Applied Music V, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 356 Applied Music VI, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 357 Piano Literature I – 3 hrs. A detailed study of compositional styles, idioms and trends in music written for the piano and its predecessors during the Renaissance, Baroque, and Classical Eras.

MUS 358 Piano Literature II – 3 hrs. A detailed study of compositional styles, idioms, and trends in music written for the piano from the Romantic Era to the present.

MUS 359 Applied Music V, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 360 Applied Music VI, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 361 Applied Music V, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 362 Applied Music VI, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 363 Piano Pedagogy 1 – 3 hrs. Fundamentals of professional piano teaching. Basic study of concepts necessary for successful individual & group piano teaching from pre-school through the elementary level. Detailed Examination of method books, graduated piano curricula, and piano technique curricula and methods. Observation and student teaching required.

MUS 364 Piano Pedagogy II – 3 hrs. Continuation of skills begun in Piano Pedagogy I. Teaching beginning, intermediate, and/or advanced level piano to students of all ages. Overview of the history of Piano Pedagogy and career possibilities for piano

teachers. Detailed examination of teaching methods and literature. Students will learn to identify/resolve musical/interpretative and technical challenges in literature and develop strategies for sequencing teaching literature. Observation and student teaching required.

MUS 371 Applied Music V, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 372 Applied Music VI, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 373 Guitar Ensemble – 1 hr. Guitar Ensemble is designed to give students training and exercise in guitar ensemble literature. The ensemble performs on and off campus.

MUS 374 Independent Music Study – 3 hrs. Prerequisites: None.

MUS 381 Applied Music V, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 382 Applied Music VI, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 383 Applied Music V, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 384 Applied Music VI, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 387 Applied Music V, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 388 Applied Music VI, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 389 Applied Music V, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 390 Applied Music VI, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 391 Applied Music V, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 392 Applied Music VI, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 400 Senior Recital – 3 hrs. The Senior Recital is a course for music majors with a music-teaching or performance concentration. The culminating performance represents musical works from various musical eras and occurs after eight semesters of applied music study on an instrument or voice.

MUS 401 Music for Secondary Schools – 2 hrs. A course that focuses on techniques and methods for teaching music activities at the secondary level. Choral and instrumental repertoire, media techniques, the matter of public performance and the various essentials allied with them, as well as activities for the general music class are stressed. Attention is also given to the history, philosophy, curriculum and administration of music education in the secondary school.

MUS 403 Counterpoint – 2 hrs. A general course in the study and writing of 18th century counterpoint. Score analysis and listening are included. Prerequisites: MUS 205.

MUS 405 Choral Arranging – 2 hrs. An introduction to the process of arranging music in various styles and for various vocal combinations. Prerequisites: MUS 206.

MUS 406 Instrumental Arranging – 2 hrs. An introduction to the process of arranging music for various instrumental combinations and styles. Prerequisites: MUS 206.

MUS 408 Survey of Black Music – 2 hrs. Chronological survey of origins, traditions, practices, and development of black music. Open to all students. Prerequisites: None.

MUS 418 Jazz Theory I – 2 hrs. A course designed to promote skills in arranging for the jazz ensemble. Prerequisites: MUS 206.

MUS 419 Jazz Theory II – 2 hrs. Advanced skills in arranging for the jazz ensemble. Prerequisites: MUS 418.

MUS 422 The University Choir I – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 423 The University Choir II – 1 hr. The study and performance of works representative of a wide spectrum of choral literature for mixed voices. Open to all university students. Prerequisites: Consent of instructor.

MUS 426 The Stage Band – 1 hr. Stage Band member is confined to music majors and minors; or in special instances, to persons who are performing members in one of the large musical organizations. This group is established to provide students with laboratory exposure to jazz, standard literature in the popular music field and some varieties of rock music. However, good musicianship is never sacrificed.

MUS 430 Brasswind Ensemble – 1 hr. Persons who play in this ensemble are selected on the basis of musical competence, which includes music-reading and playing skills. In addition, it is expected that all players will meet their responsibilities with punctuality and maturity.

MUS 431 Brasswind Ensemble – 1 hr. Persons who play in this ensemble are selected on the basis of musical competence, which includes music-reading and playing skills. In addition, it is expected that all players will meet their responsibilities with punctuality and maturity.

MUS 433 Applied Music VII, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence

developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 434 Applied Music VIII, Violin – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 435 Applied Music VII, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 436 Applied Music VIII, Viola – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 437 Applied Music VII, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 438 Applied Music VIII, Cello – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 439 Applied Music VII, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 440 Applied Music VIII, Double Bass – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 441 Applied Music VII, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 442 Applied Music VIII, Piano – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 443 Applied Music VII, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 444 Applied Music VIII, Euphonium – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 445 Applied Music VII, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 446 Applied Music VIII, Flute – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 449 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 450 String Ensemble. – 1 hr. The study and performance of ensemble literature for strings. Prerequisites: Consent of instructor.

MUS 451 Applied Music VII, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 452 Applied Music VIII, Voice – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 453 University Marching Band – 1 hr. A course designed to give students training and experience in playing various instruments in marching formation techniques and field pageantry. The Marching Band makes frequent public appearances on and off campus. The Band also participates in national and state observances and often shares its talents with adjacent communities during holiday periods. Prerequisites: Audition.

MUS 454 Symphonic Band – 1 hr. The organization strives for superb musicianship and is presented in several concerts during the second semester on and off-campus. Prerequisites: Audition.

MUS 455 Applied Music VII, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 456 Applied Music VIII, Saxophone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 459 Applied Music VII, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 460 Applied Music VIII, French Horn – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 461 Applied Music VII, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 462 Applied Music VIII, Trumpet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 463 Internship in Piano Pedagogy I – 2 hrs. Teaching of adult beginners and/or children from pre-school through high school in private lessons and/or groups under faculty supervision.

MUS 464 Internship in Piano Pedagogy II – 2 hrs. Continuation of skills begun in Internship in Piano Pedagogy I. Teaching of adult beginners and/or children from pre-school through high school in private lessons and/or groups under faculty supervision.

MUS 470 Music Business Internship – 3 hrs. This course occurs in the senior year of a music major with a concentration in business. The student along with the university supervisor selects a business in radio, television or a production company/studio and spends several weeks learning and practicing and applying skills learned in music and business classes.

MUS 471 Applied Music VII, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 472 Applied Music VIII, Clarinet – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 473 Guitar Ensemble – 1 hr. Guitar Ensemble is designed to give students training and exercise in guitar ensemble literature. The ensemble performs on and off campus.

MUS 474 Independent Music Study – 3 hrs. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 481 Applied Music VII, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 482 Applied Music VIII, Percussion – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 483 Applied Music VII, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 484 Applied Music VIII, Tuba – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 487 Applied Music VII, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 488 Applied Music VIII, Bassoon – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 489 Applied Music VII, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 490 Applied Music VIII, Trombone – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 491 Applied Music VII, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 492 Applied Music VIII, Guitar – 1 hr. In the applied music courses, basic technical principles are stress in accordance with the student's current performance ability. Strategies are chosen or designed thereafter to escalate technical competence developmentally, to maximize the student's growth and technical proficiency, musical understanding, expressive performance and musical taste. Prerequisites: None.

MUS 495 Internship – 12 hrs. Students majoring in music-teaching must complete an internship in a public school approved by the Music/Teacher Education Program. Prerequisites: SED 409, passing PRAXIS II score.

Nutrition & Hospitality Management

NHM 102 Principles of Nutrition – 3 hrs. Two, 1-hour lectures and one, 2-hour lab per week A study of nutrients and their application in the selection of food to meet the nutritional needs of family members. Prerequisites: None.

NHM 103 Nutrition Today – 2 hrs. A study of nutrients and their application to the selection of food to meet the nutritional needs of the individual. Emphasis is placed on nutrition, food, general health concerns, and wellness as related to the consumer. Prerequisites: None.

NHM 201L Science of Food Preparation – 4 hrs. Three, 1-hour lectures and one, 2-hour lab per week. Scientific concepts of basic food cookery integrated into menu planning, preparation, and service of meals. Nutrition and economy of time and cost are emphasized. Prerequisites: NHM 102L.

NHM 202 Introduction to Hospitality Management – 3 hrs. An introduction to the history of the hotel/motel, restaurant, travel, and tourism industry. The overview will cover the historical development of the industry and three major functions in the various types of establishments or operations. Prerequisites: None.

NHM 206L Facilities Planning – 1-3 hrs. Two, 1-hour lectures and one, 2-hour lab per week. Planning of food service facilities with an emphasis on human engineering, layout, design, selection of equipment, and management planning decisions. Prerequisites: None

NHM 301L Food Service Operations I – 3 hrs. Two, 1-hour lectures and one, 3-hour lab per week. Basic principles of purchasing food and beverages, as well as non-food items, with particular attention to product identification and to the receiving, storing, and issuing sequence. Planning, selling, producing, and serving a weekly meal employing learned information is an integral part of this course. Prerequisites: NHM 201L.

NHM 302L Food Service Operations II – 3 hrs. Two, 1-hour lectures and one, 3-hour lab per week. A continuation of NHM 301L with management of production and service for various types of food service operations included. Prerequisites: NHM 301L.

NHM 304 Professional Beverage Management – 3 hrs. A study of beverage systems, procurement, handling, and controls of beverages, related legislation and beverage accounting. Course will also include familiarization with equipment, design of facilities, and mixology. Prerequisites: None.

NHM 306L Maternal and Child Nutrition – 3 hrs. Three, 1-hour lectures and one, 1-hour lab per week. Application of the basic principles of nutrition to the dietaries for the child and mother from conception through the adolescent period. Emphasis is placed on the relationship of diet to the growth and development of the infant and child. Prerequisites: NHM 102L.

NHM 309L Professional Baking – 3 hrs. Two, 1-hour lectures and one, 3-hour lab per week. Emphasis upon the basic principles and techniques of professional baking will be emphasized throughout the course. The skills acquired will prepare students for the field of baking. Prerequisites: NHM 201L.

NHM 310 Travel, Tourism, and Resort Management – 3 hrs. A study of travel, tourism and resort management with emphasis on concepts, terminology, demographics, financial significance, and current trends. The course will also evaluate the economic, social, and political impact of travel and tourism. Prerequisites: None.

NHM 312L Buffets and Banquets – 3 hrs. Two, 1-hour lectures and one, 3-hour lab per week. An exploration of the sophisticated world of buffets and banquets, including planning, preparation, and service. Prerequisites: None.

NHM 401 Dietetics Capstone – 3 credit hours. This course reviews the key concepts in food and nutrition sciences; the nutrition care for individuals and groups; food service systems; and management of food and nutrition programs and services. Critical thinking skills and concepts of professionalism will be taught through an integrative case based approach. Foundation knowledge and skills to assist students in preparing for the Registered Dietitian credentialing exam will be reviewed including mathematical concepts and equations, test taking and preparation strategies. Prerequisites: NHM 302, NHM 407L.

NHM 403 Quantity Food Management – 3 hrs. A study of quantity food cookery and management problems as they pertain to commercial, industrial, and other institutional food services. Merchandising menus, variety in menu planning, and food preferences of customers will be included. Students will have an opportunity for study and laboratory experiences in management of food preparation and services in a cafeteria. Prerequisites: None.

NHM 404L Nutrition for Early and Middle Childhood – 3 hrs. Two, 1-hour lectures and one, 2-hour lab per week. A course designed to acquaint teachers of young children with basic nutritional principles and their applications for nutrition education. Emphasis is placed on methods and techniques for teaching nutrition to young children. Prerequisites: None.

NHM 405L Advanced Human Nutrition – 3 hrs. Two, 1-hour lectures and one, 2-hour lab per week. A study of the physiological and chemical factors involved in the absorption and metabolism of food nutrients. Prerequisites: CHE 302, 302L, BIO 221, 221L, BIO 222, 222L, NHM 102.

NHM 406L International Cuisine and Catering – 3 hrs. Two one-hour lectures and one three-hour lab per week. An introduction to special foods of various countries and the techniques used to prepare authentic menus. Preparation and management of catering will also be covered in the course. Prerequisites: None.

NHM 407 Medical Nutrition Therapy I – 3 hrs. A study of the modification of normal diets in the applications of nutrition and medical therapy. Prerequisites: NHM 405L.

NHM 408L Medical Nutrition Therapy II – 3 hrs. Two, 1-hour lectures and one, 3-hour lab per week. Practical experience in nutrition and medical therapy dietetics and in the community, (i.e., hospitals, dialysis units, nursing homes, etc.) Prerequisites: NHM 407.

NHM 409L Experimental Foods – 3 hrs. Two one-hour lectures and one, three-hour lab per week. A senior level course designed to acquaint the students with the experimental study of foods, relative to why food is handled and prepared in a certain manner, the significance of the effects of variations in treatments on food quality, and use of this knowledge can be used to improve the quality of food products. Prerequisites: NHM 201L.

NHM 410 Community Nutrition – 3 hrs. Two one-hour lectures and one, three-hour lab per week. A study of the nutritional needs of a community and the exploration, identification, and analysis of nutritional needs of various target groups such as schools, elderly, income, etc. Prerequisites: NHM 102L.

NHM 411 Housekeeping Operations – 3 hrs. A course designed in three parts: (1) managing within the housekeeping profession, (2) planning, organizing, and staffing new organizations, and (3) directing and controlling ongoing housekeeping operations. Prerequisites: None.

NHM 412 Special Problems – 1-3 hrs. A detailed advanced study selected from the field of nutrition, food service, or the lodging industry which requires students to identify and complete research or independent study under the guidance of an advisor. Prerequisites: None.

NHM 414 Hospitality Management Seminar – 1 hr. A study and discussion of current trends and problems in the hospitality industry. Prerequisites: Senior classification.

Natural Resources & Environmental Sciences

NRE 101 Introduction to Plant Science – 4 hrs. Study of the fundamental principles of science as related to the basic aspects of plant growth, morphology, physiology, ecology, propagation, and utilization. Prerequisites: None.

NRE 170 Introduction to Environmental Science – 3 hrs. A study of man both as a dominant force and as an inseparable part of the ecosphere. Basic ecological concepts, pollution and pollution control, resources and resource use, human manipulation of ecosystems, the law and environmental problems, the urban environment, problems of population growth, and discussion of other specific environmental issues. Prerequisites: None.

NRE 223 Introduction to Environmental Health Science – 3 hrs. The fundamental of environmental health, covering environmental control agencies, elements of the environment suffering from pollution, environmental pollutants and their sources, effects of environmental pollution, and methods of pollution control. Prerequisites: (NRE 170, BIO 101, 101L, CHE 101, 101L) or consent of instructor.

NRE 251 Introduction to Soil Science – 4 hrs. Fundamental principles of soil science, a comprehensive study of physical, chemical, and biological properties of soils and their applications to crop production and other land uses. (Audio-tutorial). Prerequisites: None.

NRE 281 Introduction to Forestry – 3 hrs. Principles and practices of forestry. Brief treatment of forest tree biology, dendrology, forest ecology, hydrology, insects and diseases, mensuration, silvicultural methods, products, economics, and management. Prerequisites: None.

NRE 282 Dendrology – 3 hrs. Identification, classification, and silvics of commercially and ecologically important forest plants in the United States. Prerequisites: NRE 281.

NRE 286 Wildlife Biology and Identification – 3 hrs. Identification, distribution, life history, and behavior of North American amphibians, reptiles, birds and mammals. Emphasis on ecological and zoological aspects of special relevance to management. A laboratory and field course in species identification, techniques of age and sex determination, and behavior analysis. Prerequisites: None.

NRE 350 Soil Morphology, Genesis, and Classification – 4 hrs. Soil characteristics used in soil survey and identification, factors and processes of soil formation and principles of soil classification systems are addressed. Prerequisites: NRE 251.

NRE 351 Soil and Water Conservation – 3 hrs. A study of soil and water conservation principles as related to wind and water erosion control, water utilization and runoff control, irrigation and drainage principles relating to crop production. Prerequisites: NRE 251 and junior or senior standing.

NRE 360 Cooperative Education – 1-6 hrs. Relevant job-related experiences are arranged with federal and state government or with private industry. Prior approval by student's advisor is required. Prerequisites: None.

NRE 365 Introduction to Geographic Information Systems – 3 hrs. An introduction to computer-assisted geographic analysis technology used in the management, assessment, and inventory of natural resources. Prerequisites: None.

NRE 366 Climate and Global Change – 4 hrs. Climate and global change; relationships between the sun and the earth; the global structure and variations of the atmosphere and oceans; and the influence of humans and natural processes on the climate system and its variability.

NRE 370 Natural Resource Conservation and Management – 3 hrs. An ecological approach to basic conservation principles and techniques. Introduction to policies and techniques for intelligent management and utilization of forests and other natural resources. Prerequisites: None.

NRE 371 Forest Mensuration – 4 hrs. An applied approach to forest measurements, including log, tree and stand measurements, as well as data analysis. Training in commonly used measuring devices is included during a weekly field laboratory. Prerequisites: NRE 281. Co-requisites: NRE 375.

NRE 372 Forest Fire Ecology and Management – 2 hrs. This course will describe the impacts of fire on various forested ecosystems and describe tools for prediction of both the effects and behavior of forest fires. Fire prevention and management techniques will also be discussed. Prerequisites: NRE 281, 282.

NRE 375 Silviculture – 4 hrs. A study of ecosystem-based sustainable and adaptive forest management silvicultural systems, regeneration methods and intermediate treatments. Prerequisites: NRE 281, 282, 379, 380. Co-requisites: NRE 371.

NRE 376 Forest Pest Management – 3 hrs. An introductory course on the biology, ecology and management of forest pests, with particular emphasis on insects and tree disease pathogens. The course includes a weekly three-hour laboratory, where students develop skills in insect and pathogen identification and learn to recognize pest problems via associated host tree symptoms. Prerequisites: NRE 281, 379.

NRE 379 Forest Ecology – 3 hrs. An introductory course on the interaction between forest trees and their environment. The course covers basic concepts and theories concerning forest structure, function and dynamics and their application for sustainable forest management. Prerequisites: NRE 281, 282.

NRE 380 Forestry Field Techniques – 6 hrs. A six-week, full-time summer course including timber harvesting techniques, field mensuration, and silvicultural practices. Prerequisites: NRE 281.

NRE 381 Wood Products – 3 hrs. A study of the physical and chemical composition of wood and the products derived from wood. Prerequisites: NRE 281.

NRE 384 Forest Operations Systems and Management – 3hrs. Valuation procedures, market forces harvesting and transportation activities, and processing systems that supply human demands for forest products. Prerequisites: NRE 281, junior or senior standing.

NRE 385 Forest Recreation – 3 hrs. An introduction to forest recreation from the planning, policy, legal, and technical standpoints. Campgrounds, picnic areas, trail construction, visitor, and operations management are a few of the major areas covered. Specific information and recommendations on how to perform forest recreation jobs at the technical level are also provided. Prerequisites: NRE 281 or sophomore standing.

NRE 386 Principles of Wildlife Management – 3 hrs. An introduction to the life history requirements, behavioral adaptations, habitat selection, population dynamics, community relationships, and management strategies of terrestrial vertebrates in North America. History of wildlife management, current wildlife policies, and survey of wildlife field techniques are also included. Prerequisites: BIO 101 or 103.

NRE 387 Wildlife-Forestry Relationships – 3 hrs. An in-depth course on the relationships between forest habitat conditions and the abundance, diversity, and physiological condition of wildlife. Examination of wildlife effects on forest regeneration and management practices with consideration of vertebrate pest control strategies. Discussion of wildlife-habitat relationships models, habitat suitability models, and assessment of beneficial and detrimental impacts of forest management on wildlife conservation. Prerequisites: NRE 281.

NRE 388 Principles of Fisheries Science – 3 hrs. Hands-on introduction to fisheries science. Overview of the nature of fisheries, brief introduction to the physiological ecology of aquatic organisms, methods in the capture and identification of local fishes, introduction to trophic interactions, bioassessment, and habitat and water quality assessment. Prerequisite: None.

NRE 389 Fisheries Management and Aquaculture – 3 hrs. Hands-on introduction to the practice of fisheries management and aquaculture. Overview of common and experimental aquaculture methods. Examination of basic fisheries management techniques and experience in fisheries assessment. Prerequisite: None.

NRE 400 Fundamentals of Epidemiology – 3 hrs. Students will learn the fundamentals of epidemiology. Areas of emphasis include epidemiology definitions and practical applications, measures of morbidity and mortality, descriptive epidemiology, observational and experimental study designs, data interpretation issues, infectious disease epidemiology, environmental epidemiology, and chronic disease epidemiology. Prerequisites: CHE 101, 101L.

NRE 401 Floral and Garden Center Management (formerly Nursery and Greenhouse Management) – 4 hrs. Management of garden centers, including financing, selecting a location, designing of facilities, greenhouse construction, selection of plant materials, personnel management, selling and advertising, and maintaining plant materials. Principles and practices of establishment and management of a retail flower shop, including store location, buying, floral design, pricing and merchandise control. Prerequisites: NRE 101 or consent of instructor.

NRE 406 Soil Microbiology – 4 hrs. A study of the properties and classes of microorganisms as related to soil and crop production. Effects of microorganisms on the fertility, and chemical, and physical properties of soil, are emphasized. Prerequisites: BIO 101, 101L, 102, 102L, 330, 330L. Seniors and graduate students only.

NRE 410 Forage Management – 3 hrs. A study of the soil - plant - animal complex as it relates to the morphology, physiology, and utilization of forages. Emphasis will be on agronomic practices and physiological considerations in forage management in Alabama. Prerequisites: NRE 101 or (BIO 204, 204L)

NRE 411 Weed Science and Herbicide Technology – 3 hrs. Phenology of weeds, habitat management by cultural, mechanical, biological and chemical means, dissipation and phytotoxicity of herbicides. Application and physiological relationships of herbicides and recent advances in weed control problems. Prerequisites: NRE 101 or BIO 204, 204L.

NRE 417 Sustainable Crop Production – 3 hrs. Principles of sustainable agriculture with modern crop production practices, management of biological, physical, and human resources to optimize field crop production in a sustainable and cost-effective manner. Emerging biotechnologies, precision agriculture, etc. are highlighted. Prerequisites: NRE 101.

NRE 421 Plant Propagation – 3 hrs. A study of the principles, processes, methods, and materials involved in sexual and asexual propagation of plants. Prerequisites: NRE 101 or consent of instructor.

NRE 422 Landscape Design and Construction – 4 hrs. A study of the principles of landscape design, including symbols, styles, finished drawings, selection and arrangement of plants, sections and elevations design of construction features and computer-aided drawing. Prerequisites: NRE 423.

NRE 423 Ornamentals I – Trees and Shrubs – 3 hrs. Type, characteristics, adaptation, maintenance, and functional uses of ornamental plants used in landscape design, with a special emphasis on trees, shrubs, vines, and groundcovers. Prerequisites: NRE 101 or consent of instructor.

NRE 425 Lawn and Turf Management – 3 hrs. Methods and principles of establishing and maintaining residential lawns as well as special-purpose turf grasses for commercial landscapes, golf courses or athletic fields, including weed and pest control. Prerequisites: NRE 101.

NRE 427 Ornamentals II – Flowers and Foliage Plants – 3 hrs. Identification, culture, and use of herbaceous annuals and perennials, bulbs, herbs and ornamental grasses. Flower bed and border preparation and maintenance; selection, installation, and care of tropical foliage plants in interior settings; use of light, plant acclimatization, growing media, fertilizers, containers, and pest control. Prerequisites: NRE 101 or consent of instructor.

NRE 428 Fruit and Vegetable Production – 3 hrs. Commercial fruit and vegetable culture, including site selection and preparation, classes of vegetables, species of fruits, establishment, pest control, and harvesting are emphasized in this course. Prerequisites: NRE 101 or consent of instructor.

NRE 430 Biometry – 3 hrs. Introductory statistics, with emphasis on the biological sciences. Includes a study of natural distribution systems, sampling techniques, data arrangement, tests of significance, and logical inferences. Prerequisites: MTH 112, 113.

NRE 431 Principles of Plant Breeding – 3 hrs. Principles, methods, and techniques involved in plant breeding, and their application to field crops. Prerequisites: BIO 204, 204L, 311 311L.

NRE 432 Plant Disease Diagnosis – 4 hrs. A study of the general principles and methods applied in identification, epidemiology, etiology, and control of major plant diseases Prerequisites: None.

NRE 433 Introduction to Molecular Genetics – 3 hrs. The study of prokaryotic DNA structure and replication, restriction analysis, sequencing, transcription, translation, gene regulation and gene expression. Prerequisites: Consent of instructor.

NRE 433L Introduction to Molecular Genetics Laboratory – 1 hr. This course emphasizes the basic techniques used in molecular genetics and provides a step-by-step approach and hands-on experience in the field of recombinant DNA technology. Co-requisites: NRE 433.

NRE 435 Introduction to Bioinformatics – 4 hrs. An interdisciplinary course melding information and biological sciences. Structure and function of proteins and nucleic acids; retrieval and interpretation of bioinformation, algorithms and software for sequence alignment, similarity searching of sequence databases. Prerequisites: General Biology/ Biochemistry, some familiarity with computer programming.

NRE 440 Seed Production Practices – 4 hrs. A study of the principles and practices in the production of pure seeds, with emphasis on harvesting, drying and storage; crop and weed seed identification and laboratory practices in seed testing; and official rules for testing seeds and seed laws or marketing. Prerequisites: NRE 101 or 310.

NRE 441 Phyto-physiology – 4 hrs. A study of the environment-plant growth interaction in the physiology of plants with emphasis on whole plant processes. Prerequisites: NRE 101.

NRE 445 Bioinformatics Applications – 3 hrs. This course covers the translation and analysis of nucleic acid and protein sequences, with an emphasis on the application of algorithms to biological problems. Discussions include applications to genome and proteome sequences, protein structure, and sequence-structure analysis. Instructions, step by step tutorials and links for each application are provided.

NRE 450 Earth Science – 3 hrs. An advanced level overview of earth science concepts, processes, and categories, with emphasis on plate tectonics, volcanism, weathering and erosion, global weather and climate, vegetation, and soil. Emphasis on human interactions and relationships with the physical environment and resulting public policy and management conflicts, (e.g., biodiversity as an issue) as well as management strategies are addressed. Prerequisites: None.

NRE 451 Environmental Toxicology – 3 hrs. Toxic effects of environmental chemicals on living systems, the chemical and biological characteristics of major pollutants, their origins and uses, and the exposure, transformation and elimination of toxic substances by biological systems. Prerequisites: (CHE 102, 302) or consent of instructor.

NRE 452 Soil Fertility and Fertilizers – 3 hrs. A study of the relationship of soil chemistry, forms of nutrients in soils, and role of plant nutrients in crop production, as well as other factors associated with soil productivity; and basic concepts of fertilizer application and manufacturing. Prerequisites: CHE 102, NRE 251.

NRE 453 Hazardous Waste Management – 3 hrs. The impact, technologies, problems and issues associated with hazardous wastes, and management practices are emphasized in this course. Case studies of hazardous waste spills, risk assessments, and remediation techniques are included. Prerequisites: None.

NRE 460 Soil Chemistry – 3 hrs. Chemical and mineralogical composition of soil; fundamental chemical properties of soils; nature and properties of soil colloids; cation exchange phenomena in soils; soil reaction, and soil acidity are addressed in this course. Prerequisites: CHE 101, l0lL, 102, 102L, NRE 251.

NRE 461 Soil Physics – 4 hrs. A study of physical make-up and properties of soil, including structure, thermal relationships, consistency, plasticity, water and their interrelatedness. Prerequisites: PHY 103, NRE 251.

NRE 465 Applications of Geostatistics – 3 hrs. Use of geostatistical models in sampling experimental design, mapping contaminant concentration, risk analysis, remediation, planning and probability analyses. Conceptual development of theory and action in managing natural resources. Prerequisites: MTH 112, 113, (NRE 430 or equivalent statistics).

NRE 470 Soil, Plant, and Water Analysis – 4 hrs. Chemical and instrumental methods in the analysis of soil, plant, and water samples; experimental and descriptive inorganic and organic analyses; atomic and molecular absorption and emission

spectroscopy, mass spectrometry, X-ray diffraction and fluorescence, gas and ion chromatography, and ion-selective electrodes. Prerequisites: CHE 102, 202, NRE 251.

NRE 471 Aerial Photo-Interpretation – 3 hrs. Detection, identification and analysis of objects or features from aerial photographs. Sensing devices and other equipment related to photogrammetry application are utilized. Interpretation of terrain, vegetation, and cultural features is emphasized. Prerequisites: MTH 112, 113.

NRE 472 Soil, Water and Air Pollution – 3 hrs. The fate of chemical fertilizers, pesticides, and other agricultural and industrial pollutants in relation to environmental quality as well as the effects of these factors on checks and balances of natural terrestrial and aquatic ecosystems. Prerequisites: CHE 102, 102L, NRE 251.

NRE 474 Forest Ecological Management – 2 hrs. A study of the integrated management of forest resources including plant, site and landscape processes, as well as interrelationships of forestry practices, wildlife and range management, hydrology, recreation, and other demands. Prerequisite: NRE 281, 282, 365, 371, 375, 376, 379, 380, 387, 430.

NRE 475 Principles of Wetlands – 3 hrs. The importance of wetlands for wildlife, waste treatment, flood control, and water quality is emphasized. Biological, chemical, and physical processes, which occur in natural and constructed wetlands, are addressed. Field trips are required. Prerequisites: CHE 102, 102L, NRE 251.

NRE 476 Remote Sensing of the Environment I – 4 hrs. The principles of remote sensor systems and their utility, natural resource inventory and management, land use planning, and environmental monitoring, as well as, interpretation of color infrared photos, multispectral and thermal scanners, and radar imagery are emphasized in this course. Prerequisites: Consent of instructor.

NRE 477 Insect Biology and Pest Management – 3 hrs. Biology of insects, taxonomy, basic structure and function, ecology and the management of insect pest populations. The course includes a weekly three-hour laboratory, where students develop insect identification and collecting skills. Prerequisites: None.

NRE 478 GIS, Spatial Analysis, and Modeling – 4 hrs. This intermediate Geographic Information Systems course prepares students for advanced principles of GIS class. Principles and methods of spatial analysis and their application to different disciplines such as urban planning, environmental science, and natural resource management. Integrate geographic concepts and techniques used in spatial analysis, network analysis and 3D analysis with both raster and vector data structures. Prerequisites: NRE 365.

NRE 480 Natural Resource Policy – 3 hrs. Evaluation of land and forest problems and policies in the United States, including an analysis of current social and resource characteristics that have shaped policy in the United States. Prerequisites: NRE 281.

NRE 481 Hydrology and Watershed Management – 3 hrs. This course addresses the occurrence and movement of water over the earth's surface. The hydrologic cycle, surface runoff relations, relationship of precipitation to stream flow with frequency analysis, unit hydrograph theory, flood routing, probability in hydrology, hydrologic simulation and stochastic methods in hydrology are covered. Prerequisites: Consent of instructor.

NRE 483 Forest Resources Economics – 3 hrs. A discussion of the market, price, and cost affecting factors as they relate to timber-harvesting techniques used for determining the best economic alternative. Seniors only. Prerequisites: NRE 281, ECO 232.

NRE 484 Ecological Processes – 3 hrs. A review of ecological concepts and processes. Investigations into the ecological role of fire and wetlands are also included. Prerequisites: None.

NRE 486 Environmental Policy and Law – 3 hrs. An understanding of the environmental law system by examining various laws, policies, and cases within the U.S. legal system that are used to minimize, prevent, or remedy the consequences of actions which damage or threaten the environment, public health or safety. Prerequisites: None..

NRE 488 Wildlife Techniques – 3 hrs. Field and lab procedures for determining sex and age, capture and marking, physiological indices, harvest surveys, population estimation procedures, and habitat evaluation. Includes mapping with geographic information systems, orienteering and field safety. Introduce students to a broad range of methods and equipment used by wildlife professionals to gather information on wild animals and their habitat. In addition, this course will emphasize the characteristics of a particular technique that might make it superior to others in practical situations. Prerequisites: None.

NRE 490 Special Problems – 1-3 hrs. The student selects a problem within his or her major interest that is planned and executed under the supervision of a faculty member. Prerequisites: Consent of instructor.

NRE 491 Seminar – 1 hr. A course designed to help students develop skills and techniques associated with data gathering and presentation by using audio-visual equipment. Guest speakers will also present topics of general interest in agriculture and environmental science. Prerequisites: Senior classification and consent of instructor.

NRE 493 International Exchange and Study Abroad – 1-12 hrs. Students entering into this program will register for 6-16 credit hours at the home institution and pay fees at the home institution, but actually take a load equivalent to the credit hours for which they registered at one of the cooperating international institutions. Courses will be determined between home institution advisor, student, and host institution mentor. Prerequisites: None.

NRE 494 Irrigation and Drainage Systems – 4 hrs. Students will learn designing and construction of irrigation and drainage structures. This course integrates soil and water physics; irrigation development; crop water requirements & scheduling; irrigation planning and design; drainage criteria; design discharges; surface/sub-surface drainage systems design; irrigation drainage structures; land grading and excavation; lab and field exercises and measurements. Prerequisites: For NRES students – NRE 351. For Civil Engineering students – (EGC 305; CE 305) or consent of instructor.

NRE 495 Soil and Water Conservation Applications – 3 hrs. Advanced theory and practice of soil and water conservation engineering. Applications of soil and water conservation theory and practice. Design and construction of effective soil and water conservation structures.

NRE 496 Environmental Health Internships – 3 hrs. Those students enrolled in Environmental Health Science program will gain additional field experience, career mentoring, and research opportunities through summer employment/internships with partners such as state and local Departments of Public Health, Environmental Protection Agency (EPA), the Centers for Disease Control (CDC), National Institutes of Environmental Health Sciences (NIEHS), and biotech industries involved in biomedical research, etc. Prerequisites: Must have completed all course requirements and consent of instructor.

NRE 497 Forest Ecological Management Project – 4 hrs. Capstone course with teams of students applying their accumulated knowledge to identify, analyze, and solve real forest ecosystem management problems. Student teams prepare a written management plan for a property, taking into account ecological economic, social, and legal constraints. Senior standing and major in Forestry required. Prerequisite: Senior standing, NRE 281, 282, 365, 371, 375, 376, 379, 380, 387, 430, 474, 483.

First Year Experience

ORI 101 First Year Experience – 1 hr. This course assists new students in making a satisfactory adjustment to the collegiate environment. Topics include, but are not limited to, the history of AAMU, academic policies and procedures, study skills, test-taking strategies, time management, coping with stress, career exploration, student life, financial aid, money management, and University College exit requirements. Prerequisites: None.

ORI 101H First Year Experience Honors – 1 hr.

ORI 102 First Year Experience – 1 hr. A continuation of ORI 101.

Physical Education

PED 102 Fitness for Life – 1 hr. A course acquainting all age groups with cardiovascular fitness, facts and fallacies regarding exercise and health and a number of evaluation techniques as each of these relate to physical and total conditioning. Candidates will develop and participate in personal fitness programs. Prerequisites: None.

PED 107 Gymnastics & Rhythms – 1 hr. A course designed to assist students with developing the skill necessary to teach rhythmic activities/dance and gymnastics. Performance and safety will also be objectives. The students will learn to organize materials and develop techniques that are essential to utilizing personal and general space. The student will develop coordination, self-expression, creativity and endurance. Various concepts associated with basic locomotion and non-locomotion movements are examined and experienced in detail. Prerequisites: None.

PED 110 Flag Football Weight Training – 1 hr.

PED 111 Tennis – 1 hr. Methods, procedures, techniques, and safety. Terminology, scoring, and skill development will be included. Prerequisites: None.

PED 113 Badminton, Table Tennis, and Shuffleboard – 1 hr. This course is designed to teach the methods, procedures, techniques, rules and applications of these sports. Prerequisites: None.

PED 114 Aerobics/Weight Training – 1 hr. This course is designed to introduce candidates to correct techniques and principles related to building personal fitness using weight training. Candidates will also study the effects of aerobic conditioning, techniques for measuring aerobic capacity, participate in aerobic activities, and design a personal aerobic conditioning program. Prerequisites: None.

PED 122 Soccer – 1 hr. This course is designed to provide instruction in the fundamental skills, regulations, playing strategies, safety procedures and care and selection of equipment for the sport of soccer.

PED 132 Beginning Swimming/Aquatics – 1 hr. Introduction beginning level swimming class. History, theory, and basic stroke mechanics will be covered, on both lectures and skill instruction sessions. Prerequisites: None.

PED 133 Intermediate Swimming – 1 hr. This course is designed to both educate the student on the theories and mechanics of swimming, while offering an emphasis in training. This course will be an introduction to swimming as a lifetime fitness activity. History, theory, and basic stroke mechanics will be covered, on both lectures and skill instruction sessions. Prerequisites: None.

PED 137 Golf – 1 hr. Basic principles, rules, history, etiquette, terminology, skill development, safety hints, playing strategies and courtesies of the game. This course teaches students not only how to enjoy the game, but also how to use it as a business tool as well. Prerequisites: None.

PED 202 Officiating – 2 hrs. Introduction to the art and professional requirements of officiating intramural and athletic contests. The traditional fall/spring sports of flag football, basketball, wrestling, volleyball, soccer, baseball, softball, T-ball, track and field, and tennis are activities covered in this course. A weekly schedule for developing the necessary skills required of each sport is included. Prerequisites: None.

PED 207 First Aid/CPR – 3 hrs.

PED 225 Individual Sports Skills – 3 hrs. Focus on the skill development, organizational strategies, instructional techniques and techniques for evaluating performance in a variety of individual, dual, and team sports. The activities covered in track and field, handball, and aerobics and weight training. Prerequisites: None.

PED 226 Team Sports Skills – 3 hrs. Focus on the skill development, organizational strategies, instructional techniques and techniques for evaluating performance in a variety of individual, dual, and team sports. The activities covered in this course are: volleyball, basketball, flag football, soccer, softball, pickle ball and field hockey. Prerequisites: None.

PED 250 Foundations of HPER – 2 hrs. A course designed to assist students in developing a historical perspective of events and developments prior to and after 1885 in physical education. The course includes the development of a personal philosophy of education and physical education through analysis of aims, goals and principles. Prerequisites: None.

PED 300 Teaching Activity Sports – 2 hrs. This course is designed for the purpose of providing Physical Education majors with an opportunity to increase their knowledge and understanding of basic sport skills. Emphasis will be given to strategies for organizing, teaching and assessing student progress in each sport. Prerequisites: None.

PED 305 Methods and Materials in Elementary Physical Education – 3 hrs. A course designed to prepare students to teach physical education to children in grades K-6. It will use a developmental approach and stress exploratory methods of teaching young children a variety of games, dance, gymnastics, and health-related fitness activities. Practicum required. Prerequisites: PED 225, 226, admitted to Teacher Education.

PED 306 Materials and Methods in Secondary Physical Education – 3 hrs. Development of skills necessary to teach secondary school physical education. The student will learn to organize materials and develop teaching techniques that are essential to the educational growth and development of each individual, through a guided program of physical activities. Practicum required. Prerequisites: PED 107, 111, 137, 225, 226, admitted to Teacher Education.

PED 308 Prevention and Care/Treatment of Sports Injuries – 2 hrs. Fundamental concepts of kinesiology and physiology. A practical approach to physical conditioning, weight training and the care of injuries common to athletic contestants and physical activity participants are also included. As part of the course, the student will be involved in several planned activities for treating specific simulated injuries. Prerequisites: BIO 101, 101L.

PED 310 Advanced Strength and Conditioning – 3 hrs. Health-related fitness assessments, weight training techniques, plyometrics, aerobic training, nutrition, ergogenic aids, and flexibility training. Prerequisites: None.

PED 315 Teaching Activity Sports – 2 hrs. This course is designed for the purpose of providing physical education majors with an opportunity to increase their knowledge and understanding of basic sport skills. Emphasis will be given to strategies for organizing, teaching and assessing student progress in each sport. Prerequisites: None.

PED 409 Exercise Physiology – 3 hrs. A course is providing the student with a broad background regarding the physiological effects of physical activity on the human body. The course also includes a laboratory component to ensure a means for application and analysis by the student. Prerequisites: BIO 101, 101L.

PED 412 Motor Behavior – 3 hrs. A study of neuromuscular development, perceptual motor skill development, and motor patterns which result in proficient movement in a variety of specific motor behaviors. The measurement, analysis, and evaluation of motor behavior will also be emphasized. Prerequisites: None.

PED 420 Research in Physical Education – 3 hrs.

PED 422 Principles of Coaching/Intramurals – 3 hrs. A comprehensive approach to organizing and administering an intramural program. The course emphasizes the key elements of historical development, organizational structure, budgeting, and tournament designed seasonal activities. Also included is an intense study of the specific aspects of coaching as a person and as a professional, based on sound theories and practices pertaining to athletic performance, athletic management, and relationships which are necessary for successful coaching. Prerequisites: None.

PED 427 Adaptive Physical Education – 3 hrs. An examination of the role of physical education in meeting the special needs, interest and abilities of students with various physical, social, mental, and emotional differences. Also provided is in-depth information regarding how to record medical histories, growth patterns, levels of motor learning, and designing individualized physical education programs. Prerequisites: None.

PED 430 Exercise Testing and Prescription – 3 hrs. Application of exercise testing and prescription in an array of patient/client populations and development of proficiency in using testing equipment and evaluating results. Prerequisites: None.

PED 445 Externship – 12 hrs. An opportunity for students to participate in the complex dynamics of an educational environment and at the same time prepare them for a multiplicity of careers in industrial recreation programs, and public and private recreation-related programs, including Boy Scouts, Girls Scouts, fitness centers, handicap centers, hospitals, YMCA's, YWCA's and other similarly related agencies. Prerequisites: None.

PED 450 Sport Management – 3 hrs. An overview of the fundamental principles of sport management programs combining theory and practice related to legal and ethical issues, marketing and organizational structure of recreational and sport related services and facilities. Also, the course provides insights as to the principal avenues of sport management careers, intercollegiate and professional sport, the sport and recreation industries, and the health and fitness industries. Prerequisites: None.

PED 492 Professional Leadership in Physical Education – 3 hrs A course designed to help participants understand the history and philosophy of physical education programs, teaching concepts, leadership training programs, safety guidelines and resources needed as to the physical education profession. Prerequisites: None.

PED 494 Prac Aquatics Administration/Exercise Science – 3 hrs.

PED 495 Internship in Physical Education – 12 hrs. One full semester of full-time teaching under the immediate direction of supervising teachers in off-campus public schools. Upon return to the campus, students share their experiences, discuss problems, and develop new techniques in a professional seminar. Prerequisites: Senior classification; official admission

to Teacher Education Program; minimum cumulative average of 2.5, "C" in all coursework completed, with no grade less than a "C" for professional courses; completion of all coursework in the program. Prerequisites: None.

Philosophy

PHL 201 Introduction to Philosophy – 3 hrs. A study of the intellectual problems human beings face in their quest for understanding of themselves and the world. Basic problems in metaphysics, epistemology, ethics, and logic are stressed. Prerequisites: None.

PHL 203 Logic and Philosophy of Science – 3 hrs. An introduction to deductive and inductive reasoning with special reference to the nature of science. Prerequisites: None.

PHL 206 Ethics – 3 hrs. A study of the nature of the good, moral obligation, and judgment, illustrated by reference to contemporary social and political problems. Prerequisites: PHL 201.

PHL 301 History of Western Philosophy I – 3 hrs. A survey of major philosophical concerns, with emphasis upon their origin and subsequent development. The course is organized by cultural contexts and/or periods from the Pre-Socratics through the Renaissance. Prerequisites: PHL 201.

PHL 302 History of Western Philosophy II – 3 hrs. A survey of major philosophical concerns, with emphasis upon their origin and subsequent development. The course is organized by cultural contexts and/or periods from 1600 through the present. Prerequisites: PHL 201.

PHL 303 Applied Advanced Reasoning – 3 hrs. This course uses texts from the philosophy of science to learn and apply rules of syntax, semantics, logical implication and equivalence to analyze and construct arguments in scientific and other academic languages. Scientific and academic writings will be analyzed for two purposes: to understand precisely the writings' content and claims, and to identify and critique the support offered for those claims. The course will seek to teach students to use the rules of logic, syntax, and argument to address reasoning problems based on these academic writings and to solve such problems in scientific and academic discourse and on standardized tests. Prerequisites: None.

PHL 304 Oriental Philosophy and Religion – 3 hrs. A survey of concepts in Oriental philosophy, with emphasis upon their origin and, where applicable, subsequent development. Prerequisites: None.

PHL 305 African Philosophy – 3 hrs. A survey of the major concepts in African philosophy, with emphasis upon their origin and, where applicable, subsequent development. Prerequisites: None.

PHL 401 Philosophy of Religion – 3 hrs. A critical examination of fundamental religious problems: the nature and existence of God, the relation between faith and reason, and the cognitive significance of religious language. Prerequisites: PHL 201.

PHL 404 Aesthetics – 3 hrs. A study of the expressiveness of objects and actions with reference to the theories of various philosophers and artists concerning the nature of beauty and the criteria of art. Prerequisites: PHL 201.

Physics

PHY 101 Physical Science I – 3 hrs. A course covering force, motion, gravitation, energy, energy in action, electricity and magnetism, waves, the nucleus, and the atom. Prerequisites: MTH 101. Co-requisite: PHY 101 L.

PHY 101H Honors Physical Science I – 3 hrs.

PHY 101L Physical Sciences Lab I – 1 hr. A laboratory course to accompany PHY 101, Survey of Physical Sciences I. This hands-on experience illustrates basic principles of measurements, kinematics & dynamics of motion, fluids, heat and thermodynamics, electricity and magnetism, optics, and matter. Prerequisites: None. Co-requisite: PHY 101.

PHY 102 Physical Science II – 3 hrs. A course encompassing selected topics in the field of chemistry, geology, meteorology, and astronomy. Topics to be covered include: the periodic law, crystals, ions, solutions, chemical reactions, the atmosphere and hydrosphere, earth materials, the changing crust, earth and the sky, the solar system, the stars, and the structure and evolution of the universe. Prerequisites: None. Co-requisite: PHY 102L.

PHY 102 L Physical Sciences Lab II – 1 hr. The laboratory course to accompany PHY 102 Survey of Physical Sciences. This hands-on experience illustrates basic principles of chemistry, geology, astronomy, and weather. Prerequisites: None. Co-requisite: PHY 102.

PHY 103 General Physics I – 4 hrs. An Algebra based Physics course designed for majors in agriculture, family and consumer sciences, food science, and environmental science. Its emphasis is on particle motion with uniform acceleration, Newton's Laws of motion, force, work, power and energy, mechanical energy, collision, laws of conservation of energy, circular motion, angular velocity, angular momentum, centripetal force, Hook's law, simple harmonic motion, fluid statics, pressure, law of flotation, heat, concept of temperature and heat transfer, specific heat, and gas laws. At least ten experiments will be performed in the laboratory. Prerequisites: MTH 112, 113.

PHY 104 General Physics II – 4 hrs. The second part of an algebra based physics course covering static electricity, Coulomb's law, potential, electrical field, Gauss's law, current electricity, Ohm's law, simple circuits, Kirchoff's law, heating effect, Joule's law, magnetic effect, Ampere's law, induction, magnetic properties of materials, electrolysis, geometrical optics, reflection at plane and spherical boundaries, thin lenses, lens maker's equation, optical instruments, speed of light, and light as a wave. At least ten experiments will be performed in the laboratory. Prerequisites: PHY 103.

PHY 105 Physics I – 4 hrs. This is the first part of a calculus-based physics course designed for sciences, engineering and technical majors. The goal is to acquaint students with the language, notation, and nature of physics. The approach to the mathematical solution of physics problems is strongly emphasized throughout the course. Topics to be covered will include mechanics, fluid heat, and thermodynamics. At least ten experiments will be performed by the student. Prerequisites: None. Co-requisite: MTH 125.

PHY 106 Physics II – 4 hrs. The second part of a calculus–based physics course designed for sciences, engineering and technical majors. The goal is the same as for Physics 1. Topics to be covered will include electricity, magnetism, and light. At least ten experiments will be performed by the student. Prerequisites: PHY 105. Co-requisite: MTH 126.

PHY 201 Introduction to Modern Physics – 3 hrs. A study of space and time, conservation laws, classical relativity, Galilean and Lorentz Transformation, Michelson-Morley Experiment, relativistic mechanics, black-body radiation, photoelectric effect, x-rays, Bragg's Law and Compton effect, atomic structure, atomic spectra, Bohr model, hydrogen atom and singly ionized helium atom, Stark effect, and Zeeman effect. Prerequisites: PHY 105, 106.

PHY 252L Modern Physics Lab – 3 hrs. An experimental course consisting of at least ten experiments selected from advanced topics in physics. The purpose of this course is to provide general insight into advanced experimental techniques involving refined electronic equipment and other sensitive apparatus. The experiments chosen each time the course is offered will be announced in advance. Prerequisites: PHY 201.

PHY 303 (MTH 303) Methods of Mathematical Physics – 4 hrs. A course consisting of three hours of lecture; topics covered will include vector calculus, partial differential equations, boundary value problems, Fourier Series, Laplace transforms, and Green's function methods. The course is so oriented as to fulfill four-hour minor requirements in math or physics. Prerequisites: PHY 105, 106, MTH 125, 126.

PHY 310 Scientific Computing and Visualization – 3 hrs. This course is intended to familiarize students with the computational tools used by professional scientists. We will use high-level tools such as matLab)Octave and Mathematica. Topics covered will include Linear Algebra, Interpolation and Extrapolation, Integration, Differential Equations, Matrix Algebra, Monte Carlo Methods, Computer Algebra, and Chaos. Prerequisites: CS 102, PHY 106.

PHY 321 Mechanics I – 3 hrs. A course covering Galilean invariance, absolute and relative velocity, simple problems in non-realistic dynamics, energy conservation, momentum conservation, rigid body dynamics, rotational and transitional motion, Coriolis force, harmonic oscillator, force oscillations, combinations of harmonic oscillators, central force problems, and gravitation. Prerequisites: PHY 105, 106.

PHY 322 Mechanics II – 3 hrs. A continuation of PHY 321. The course will generally start with general motion of a rigid body and will include matrices for solving rigid body dynamics, inertia tensor, theory of vibrations, Lagrange's equations, generalized co-ordinates and dignorable co-ordinates, applications of Lagrange's equations to simple systems, Hamilton's functions, Hamilton's variational principle, Hamiltonian and Hamilton's equations, Special Theory of relativity, Einstein's postulates, Lorentz transformation, length contraction and time dilation, and elementary relativistic kinematics. Prerequisites: PHY 321.

PHY 331 Electricity and Magnetism I – 3 hrs. An intermediate level course covering electric force (Coulomb's Law), electric field (Gauss' Law), electrical potential (Poisson's and Laplace's equation and method of images), electric field in dielectrics, capacitors, electrostatic energy, and electric current (Ohm's Law and Kirchoff Law). Prerequisites: PHY 105, 106.

PHY 332 Electricity and Magnetism II – 3 hrs. The study of magnetic field (Biot's and Savart's Law, Ampere's law), Faraday's Law of Induction, Inductance, and magnetic energy, AC circuits, Maxwell's equations, electromagnetic waves, and electrodynamics. Prerequisites: PHY 331.

PHY 333 Intro to Sensors and Applications – 3 hrs. This course focuses on fundamentals, and basic physics behind sensors and technologies that enable the detection of the presence of human, chemical, explosive, nuclear agents and other applications. The objective is to empower the students with the basic knowledge of sensor science behind their application and use in instruments and devices including to address threats. This course will be more extensive rather than intensive. Prerequisites: PHY 105.

PHY 341 Heat and Thermodynamics – 3 hrs. An intermediate course which deals with reversible heat processes accompanying physical and chemical reactions involving gases, liquids, and solids. Topics include calorimetry, thermometry, heat transfer and expansion, specific heat, laws of thermodynamics and applications, and introduction to kinetic theory. Prerequisites: PHY 105, 106.

PHY 361 (BIO 361) Introduction to Astrobiology – 3 hrs. Astrophysics is the scientific study of the origin, evolution, proliferation and search for life in the universe, an interdisciplinary topic at the intersection of astronomy, physics, biology, chemistry, atmospheric science, and other sciences. This course introduces the major fields of current research in astrobiology: the requirements for life as we know it, the origin and evolution of life on Earth, the possibilities of life elsewhere in the universe, and the search for extraterrestrial – microbial or intelligent – life. Prerequisites: MTH 125 and (PHY 105 or CHE 101 or BIO 103).

PHY 401 Optics – 3 hrs. A brief review of geometrical optics, physical optics, introduction to optics and spectroscopy. Prerequisites: PHY 105, 106.

PHY 421 Introduction to Quantum Mechanics – 3 hrs. This course covers Thomson's electron diffraction experiment; postulates of quantum mechanics; operator concept; expectation values; particle in a box; uncertainty principle; Schrodinger equation and Eigen value problems: harmonic oscillator; square well potential; and elements of matrix mechanics. Prerequisites: PHY 201, 303.

PHY 431 Statistical Physics – 3 hrs. A fundamental course to describe macroscopic systems from microscopic point of view. Topics to be covered include characteristic features of macroscopic systems, concepts of probability, postulates of the statistical theory, fundamental concepts of entropy, of absolute temperature, and of the canonical distribution; relations between microscopic theory and macroscopic measurements; applications of statistical physics: equipartition theorem of solids, Gibbs free energy, phase equilibrium, and kinetic theory of transport process. applications to diatomic molecules, magnetization. Fermi-Dirac and Bose-Einstein statistics. Prerequisites: PHY 105, 106, 341.

PHY 440 Undergraduate Research Opportunity Program (UROP) – 4 hrs. Opportunity for undergraduates to participate with AAMU Physics faculty and staff members in a wide variety of research activities and many interdisciplinary laboratories and research centers. UROP will cultivate and support research partnerships between undergraduates and AAMU faculty members. A written report and a presentation of research activities is required Prerequisites: PHY 105, 106.

PHY 441 Introduction to the Lower Atmosphere – 3 hrs. The neutral atmosphere and its layers. Atmospheric composition. Altitudinal variation of density. The hydrostatic equation and the perfect gas law. The scale height and geopotential height. Kinetic theory and velocity distribution. Atmospheric water. Atmospheric electricity and lightning discharge. Rotation of the Earth and Coriolis force. Atmospheric motion and general circulation of the atmosphere. Weather and climate. Solar radiation and the effects of the solar cycle on atmospheric parameters. Atmospheric trace gases and anthropogenic effects. Atmospheric models. Prerequisites: PHY 105.

PHY 442 Introduction to Aeronomy – 3 hrs. The neutral atmosphere and its layers. The hydrostatic equation and the perfect gas law. Diffusive separation. Thermosphere and exosphere. Atmospheric drag and orbital decay of satellites. Atmospheric models. Formation of the ionosphere by solar extreme ultraviolet radiation. The Chapman layer. Morphology of the ionosphere. Ionospheric measurements. Ground based measurements and measurements using rockets and satellites. Far

ultraviolet remote sensing techniques. Transport processes in the ionosphere. Geomagnetic control of the ionosphere. The "fountain effect" and equatorial anomaly. Solar flare effects on the ionosphere. Prerequisites: PHY 105.

PHY 443 Introduction to the Solar System – 4 hrs. Historical perspective. Bode's law. General description of the members of the solar system: The sun, the planets, satellites, asteroids and comets. Detailed description of the physical properties of the planets and planetary orbits. Terrestrial and Jovian planets. Planetary satellites. Origin of the moon. Asteroids and comets. The sun and its stellar classification. Features of the Sun's surface. The sunspot cycle. The solar wind. Filament eruptions and coronal mass ejections. Prerequisites: PHY 105.

PHY 444 Introduction to Orbital Mechanics – 4 hrs. Historical perspective. Kepler's laws of planetary motion. Minimum launch velocity to orbit, escape velocity and time to reach the moon. Low Earth orbit; Geo-synchronous orbit; Geo-stationary orbit; and Sun-synchronous orbit. The central force problem. The two-body problem and reduced mass. Orbital maneuvers: In-plane and out-of-plane orbital changes. Perturbations of orbits. The orbital elements. Orbit determination. The three-body problem and Lagrange libration points. Orbital decay due to atmospheric drag. Prerequisites: PHY 321 or 105.

PHY 445 Elements of Magnetospheric Physics – 3 hrs. Formation of the magnetosphere by the interaction of solar wind plasma with the Earth's magnetic field. The structure of the magnetosphere: the inner and outer magnetospheres and the magnetotail. Magnetosphere- ionosphere coupling and the generation of electric currents between the magnetosphere and the ionosphere. Waves in the magnetospheric plasma and geomagnetic pulsations. Geomagnetic disturbances, auroras and geomagnetic storms. Particle acceleration in the magnetosphere and radiation belt formation. The effects of geomagnetic activity and radiation belts on humans, ground-based facilities and satellites. Diurnal, seasonal and solar cycle variations of geomagnetic activity. Space weather and forecast of geomagnetic activity. The magnetospheres and geomagnetic disturbances on other planes of the solar system. Prerequisites: PHY 331, 332.

PHY 451 Introduction to Solid State Physics – 3 hrs. A course including crystal structure, lattice dynamics, electron states in periodic potential, semiconductor, magnetism, magnetic resonance, superconductivity, and point defects in solids. Prerequisites: PHY 421.

PHY 453 Introduction to Nuclear Physics – 3 hrs. A course including radioactivity; half-life, passage of radiation through matter; isotopes; chart of nuclides; nucleus; mass charge; radii; alpha emission; beta decay theory; Fermi's theory; internal conversion; Electron capture; Deuteron problem; neutron; slowing down; chain reacting pile; and elementary particles. Prerequisites: PHY 201, 421.

PHY 455 Fundamentals of Nano-Technology – 3 hrs. This is an interdisciplinary course dealing with applications of nanotechnology to sciences and engineering. Topics include instrumentation in Nanotechnology like electron microscopes, atomic force microscopes and molecular beam epitaxy; fabrication of nanopowders, carbon nanotubes, nanomaterials and their applications to insulation materials, machine tools, batteries and medical implants; electrical and mechanical properties of carbon nanotubes, nanobiosensors, photonic applications of nanotechnology including nanolithography; nanoelectronics with nanofabrication using E- beam and UV lithography, single electron transistors, new effects of nanoparticle coatings including application to solar cells; future applications including quantum computing, nanorobots and nanomedicine.

PHY 460 Selected Topics in Physics – 3 hrs. A course designed to provide students an opportunity to study applied topics that are not offered in other existing physics courses. When this course is offered, the particular topic to be studied will be reflected in the course title. Prerequisites: PHY 105, 106, 201.

PHY 490 The Physics of Sports – 3 hrs. The subject area covers many popular sports events in the Olympics including Track and Field events and popular American ball games. Special topics include kinematics of sports projectiles; kinematics of the 100 m and 200 m dash; physics of the long jump, high jump, pole vault, triple jump, shot put, discus and javelin. Physics of Basketball shooting, dribbling, passing and rebounding; baseball pitching and hitting and the fly ball trajectory; throwing the football; athletic performance trends in the Olympics, and probability and statistics in sports. Other topics may be covered depending on demand. Prerequisites: PHY 321 or (PHY 105 and a Mechanics course such as ME 206 Dynamics) or consent of instructor for special cases.

Political Science

PSC 201 Introduction to Political Science – 3 hrs. An introduction to the discipline of political science. The course provides an understanding of the basic foundations and fundamentals of the discipline and delineates the scope, approaches, and concepts of political science. Included is a survey of major areas and aspects of the political process ranging from political analysis to international relations. This course is a prerequisite for all other political science courses. Prerequisites: None.

PSC 205 American Government – 3 hrs. A study of the constitutional framework, its origin, nature, and organization. The rights and duties of citizens of the United States and the administration and functions of the government as they affect citizens and their institutions are emphasized. Prerequisites: None.

PSC 206 State and Local Government – 3 hrs. A study of the institutions, structures, and functions of the American political process from the perspective of states and local communities. Prerequisites: None.

PSC 307 Comparative Government – 3 hrs. A study of the varied institutions through which people have attempted to regulate their affairs. The major world governments are analyzed with considerable attention given to newly emerging countries. Prerequisites: None.

PSC 309 Introduction to African Politics – 3 hrs. An introductory analysis of African politics. This course covers the traditional African political past and extends its impact to the contemporary period. The course focuses on major political developments, ranging from colonialism to independence to the era of the military coup. Included are discussions of major personalities as well as the diverse political-economic ideological variants that have emerged on the African continent. Prerequisites: None.

PSC 310 Blacks in American Politics – 3 hrs. A political history of Black Americans from reconstruction to the present. Prerequisites: None.

PSC 312 Revolution in the Third World – 3 hrs. A survey of revolutionary movements in selected Third World countries: China, Vietnam, Mexico, Cuba, and three African nations. Prerequisites: None.

PSC 313 U.S. Foreign Policy – 3 hrs. An examination of the formation and execution of American foreign policy since World War II. In addition to an emphasis on the historical and institutional framework of foreign policy, the course also focuses on some of the prominent issues/areas which occupy the present foreign policy agenda of the U.S. Prerequisites: None.

PSC 314 Politics of the Middle East – 3 hrs. A survey course of key Middle East countries, including Saudi Arabia, Syria, Iraq, Jordan, United Arab Emirates, Egypt, and Israel. The course covers the historical background of the region, as well as an up-to-date analysis of contemporary issues and problems. Prerequisites: None.

PSC 315 Urban Politics – 3 hrs. An introductory inquiry into the politics of urban areas. While the primary focus is the study and use of power and influence in American cities, emphasis is also given to identifying historical and contemporary forces which have led to the development of the urban place as a primary form of spatial and political organization. Prerequisites: None.

PSC 320 International Political Economy – 3 hrs. To provide a critical understanding of the theories, institutions, structures, and relationships found in international political economy and how they inform, shape, influence, or determine the choices and actions of the relevant constituent actors. The course will therefore focus on theoretical frameworks, international production and trade, states and markets, North-South cooperation/divide, and global problems. Prerequisites: None.

PSC 397 Program Seminar I – 0.5 hr. Bi-weekly sessions involving presentations/discussions which address issues, research, and concepts of interest to program majors. Prerequisites: None.

PSC 398 Program Seminar II – 0.5 hr. Bi-weekly sessions involving presentations/discussions which address issues, research, and concepts of interest to program majors. Prerequisites: None.

PSC 401 Western Political Thought – 3 hrs. A survey of political thought contained in the western intellectual tradition. By examining the major contributions and controversies generated by a select group of political philosophers, emphasis is placed upon the idea that politics and government represent problematical exercises which require serious intellectual reflection and inquiry. Prerequisites: PSC.

PSC 402 Seminar on American Politics – 3 hrs. A survey analysis of contemporary problems and issues. The course first treats the broad ideological and historical forces which have helped to shape the contemporary American political setting. This is followed by an in-depth focus and discussion of the fundamental issues and problems of this era. Prerequisites: PSC 201.

PSC 403 Constitutional Law – 3 hrs. A focus on the decision-making process of the United States Supreme Court. The course will include the analysis of major court cases through examination of the justices' majority and minority opinions. The cases and opinions will provide insight into the legal resolution of key social political and economic issues that confront the nation. The course will also examine the operation of the federal court system with a specific focus on the behind-the-scenes operation of the Supreme Court. Prerequisites: PSC 201.

PSC 404 American Political Thought – 3 hrs. A survey of American political thought from America's beginning as a colony to the present. Among the themes to be addressed are the nature and evolution of liberalism, the fusion of liberalism and capitalism, and the accommodation between democracy and liberalism-capitalism. Prerequisites: PSC 201.

PSC 408 International Relations – 3 hrs. A critical analysis of the policies implemented by the major countries of the world in their relationship with each other, from the eighteenth century to the present. Emphasis is placed on the causes and consequences of war and on war as an instrument of national policy. Prerequisites: PSC 201.

PSC 415 Principles of Public Administration – 3 hrs. A study of the basic concepts of public administration and the administrative problems of organization, procedure, personnel, financial administration, administrative law, and public relations. Prerequisites: PSC 201.

PSC 497 Program Seminar III – 0.5 hr. Bi-weekly sessions involving presentations/discussions of issues, research and concepts of interest to program majors. Prerequisites: None.

PSC 498 Program Seminar IV – 0.5 hr. Bi-weekly sessions involving presentations/discussions of issues, research and concepts of interest to program majors. Prerequisites: None.

PSC 499 Internship – 3-6 hrs. Field experiences providing application and observation of concepts and ideas discussed in the classroom. Students are assigned to appropriate state, local, federal, and private agencies. Prerequisites: PSC 201.

Psychology

PSY 201 General Psychology – 3 hrs. A survey course designed to introduce basic concepts, principles, and phenomena in the science of behavior. Basic topics of psychological measurement, scientific methodology, human growth and development, sensory systems, motivation, emotion, perception, learning, and behavioral deviancy are presented. Prerequisites: None.

PSY 202 History and Systems of Psychology – 3 hrs. A study of the historical origins of psychology and the development and content of systematic philosophical and scientific bases. Primary schools of psychological thought are considered in terms of content and contribution to contemporary psychology. Prerequisites: PSY 201.

PSY 301 (SOC 301) Elementary Behavioral Statistics – 3 hrs. Basic and essential statistical concepts are introduced and applied to behavior measurements. Descriptive tools of central tendency, variability, and standard scores are considered, as well as correlation and basic inferential tools of the t-test and simple analysis of variance. Prerequisites: PSY 201.

PSY 303 Applied Psychology – 3 hrs. A survey course emphasizing the application of basic principles of behavior to life situations. Of specific concern in such application is consideration of business, industry, advertising, public relations, consumer, and educational situations. Prerequisites: PSY 201.

PSY 304 Developmental Psychology – 3 hrs. An introduction to child behavior and development from birth to old age. Primary emphasis is placed upon development of learning, motor behavior, neutral growth, language, perception, cognition, and socialization relative to both biological and environmental influences. Prerequisites: PSY 201.

PSY 307 Introduction to Research – 3 hrs. An introduction to basic concepts of scientific research methodology and statistical analysis. Individualized research projects allow students to collect and analyze data using relevant methodological and statistical concepts. Students will deal with general procedural problems and the writing of research reports. Prerequisites: PSY 201, 301.

PSY 320 Cognitive Psychology – 3 hrs. An introduction to the study of the relationship between mental processes. Major topics discussed include information processing, perception, thought and memory.

PSY 325 Behavior Disorders in Children – 3hrs. A survey course of the major forms of childhood psychopathology, methods of identification, and present methods of prevention and treatment.

PSY 330 (SOC 330) Social Psychology – 3 hrs. A survey of group phenomena and the influence of groups on individual behavior. Key topics reviewed will include the self, interpersonal communication, attitudes and aggression. The dynamics of group behavior will also be explored. Prerequisites: PSY 201.

PSY 340 Principles of Learning – 3 hrs. An empirical and theoretical study of the basic principles of conditioning and phenomena of the learning process. Emphasis is placed on classical conditioning, operant conditioning, and observational practices. Primary phenomena considered include acquisition, consolidation, transfer, extinction, spontaneous recovery, and relearning. Supplementary consideration of theoretical accountability of basic phenomena will be include. Prerequisites: PSY 201.

PSY 350 Conditioning of Behavior – 3 hrs. This is an investigation of behavior control, manipulation, and modification.

PSY 360 Personality Theories – 3 hrs. Focus on the major theories of personality in psychology. Emphasis is placed upon the original theorists, as well as the development and application of each major theory.

PSY 365 Psychology and the Law – 3 hrs. This course examines the legal system through the uses of psychological concepts, methods, and finds.

PSY 402 Psychology of Adjustment – 3 hrs. A survey course presenting human behavior as a constant adjustment to internal and external conditions. Basic adjustive processes and responses are discussed with emphasis on reactions to frustration and conflict. Defense mechanisms and behavioral abnormalities are also considered. Prerequisites: PSY 201.

PSY 403 (Formerly EDU 403) Educational Psychology – 3 hrs. An analysis of the principles of classroom learning. The major concepts, theories, and research of the acquisition of knowledge and interpersonal social skills are emphasized, with attention given to measurement and evaluation. Educational application of learning principles is stressed. Prerequisites: PSY 201.

PSY 404 Seminar in Psychology – 3 hrs. A life-oriented consideration of problems and issues in contemporary psychology. Discussion areas include graduate school opportunities, career opportunities, overviews of specific areas of psychology, trends in research and applications, historical significant contributions to psychological knowledge, and topics of student-specified interest. Required of majors and open only to juniors and seniors. Prerequisites: PSY 201 and junior or senior standing.

PSY 405 Individual Study in Psychology – 3 hrs. A course designed to encourage, facilitate, and guide individual research in specific interest areas dictated by the advanced psychology student. A one-to-one student-faculty ratio is provided to allow individual attention. Prerequisites: PSY 201, senior standing, consent of instructor.

PSY 406 Industrial Psychology – 3 hrs. A course emphasizing the role of human factors in the industrial world. It addresses the problems of training personnel and improving working conditions. Prerequisites: PSY 201.

PSY 410 Helping Skills and Techniques – 3 hrs. A fundamental course which teaches basic helping skills to students who will be working with others in some "helping" capacity. Students learn how and when to apply listening and communication skills, action skills, helping strategies, and intervention strategies.

PSY 415 Physiological Psychology – 3 hrs. A functional analysis of the internal systems with process sensory input. Specific attention will be given the CNS and PNS processing of information and the endocrine system as it influences behavior. Topics include the composition and functions of neural systems and the relationship of motivation, emotions, and personality to internal processes. Prerequisites: PSY 201. Co-requisite: PSY 415L.

PSY 415L Physiological Psychology Lab – 1 hr. Various laboratory exercises on the various topics covered. Prerequisites: PSY 201. Co-requisite: PSY 415.

PSY 416 Experimental Psychology – 3 hrs. An application of scientific methodology to investigation of basic behavioral phenomena and principles. Controlled laboratory experiences are designed to illustrate the derivation, testing, and evaluation of psychological knowledge. Empiricism is stressed in laboratory investigation of motor learning, verbal learning, psychophysics, parapsychology, and individual differences. Various research designs and techniques are considered. Prerequisites: PSY 201, 307. Co-requisite: PSY 416L.

PSY 416L Experimental Psychology Lab – 1 hr. Laboratory investigation of verbal learning, psychophysics, parapsychology, and individual differences. Prerequisites: PSY 201. Co-requisite: PSY 416.

PSY 421 Psychology Internship I – 3 hrs. Field placement of advanced standing psychology majors. This course is designed to provide supervised practical experience on a paraprofessional level in a clinical, education, or research setting of relevance to psychology. Open only to senior majors with consent of advisor. Prerequisites: PSY 201.

PSY 422 Psychology Internship II – 3 hrs. Same as PSY 421, but allowing additional hours credit. Prerequisites: PSY 201.

PSY 423 Adolescent Psychology – 3 hrs. A study of the developmental changes between 12 and 19 years of age. Topics include physical, mental, emotional, social, and moral aspects of development as well as factors that influence development. Various technological orientations will be discussed and integrated. Prerequisites: PSY 201.

PSY 471 Abnormal Psychology – 3 hrs. An introduction to deviant behavioral patterns. Primary attention is devoted to etiology, dynamics, incidence, prognosis, and treatment of human psychopathology. The concept of normality is considered in terms of social norms, socioeconomic, and group pressures. Conventional therapeutic measures are discussed, as well as contemporary movement in mental health and outpatient treatment. Prerequisites: PSY 201.

PSY 482 Human Sexuality – 3 hrs. An intense study of the physiological, psychological, sociological, and ethical considerations of human sexuality. Prerequisites: PSY 201.

PSY 485 Psychological Testing – 3 hrs. This course is designed to familiarize the students with the history of psychological testing, the theory behind it and the various objective and projective instruments used to assess intellectual and personality functioning.

Secondary Education

SED 307 Materials & Methods of Teaching in Secondary Schools – 3 hrs. A course designed to acquaint the student with fundamental educational principles and practices in secondary schools and current acceptable methods, devices, and techniques of learning that enhance and facilitate the teaching-learning process. The course also provides for supervised practicum. Prerequisites: Formal admission to the teacher education program.

SED 409 Reading in the Content Area – 3 hrs. A course focusing on the basic reading and study skills that students need, regardless of the content area. It also provides concrete suggestions for ascertaining reading interests and activities of secondary students. The course will be presented in a non-technical manner that stresses a practical approach. Prerequisites: Formal admission to the teacher education program.

SED 421 Materials and Methods of Teaching English in Secondary Schools – 3 hrs. An analysis of objectives of the high school curriculum in English and a study of methods and practices effective in the teaching of language and literature. Prerequisites: Formal admission to the teacher education program.

SED 422 Materials and Methods of Teaching Mathematics in Secondary Schools – 3 hrs. A methods course designed for persons interested in teaching mathematics in high schools. Emphasis will be given to the logic of arithmetic, algebra, and geometry. The following topics are representative of the areas to be covered: mathematics as a study which contributes to the realization of the general aims of education, the specific aims of mathematics teaching, the proper place of mathematics in the secondary school curriculum, sources of materials and aids in the teaching of mathematics; mathematics organizations (professional and student), mathematics literature (professional and lay), and tests in mathematics. Prerequisites: Formal admission to the teacher education program.

SED 423 Materials and Methods of Teaching the Social Sciences in Secondary Schools – 3 hrs. A study of the aims and function of the social sciences in the modern secondary school and the curriculum and methods appropriate to the attainment of these objectives. Prerequisites: Formal admission to the teacher education program.

SED 424 Materials and Methods of Teaching Science in Secondary Schools – 3 hrs. A study of the present methods of teaching subjects such as biology, physics, chemistry, and general science, the basic concepts of various sciences, fundamental laws and principles, and the development in study of scientific attitudes. Topics representative of the area to be covered include: the contributions of science to the realization of the aims of education; the aims of science teaching; the use of technology,

demonstrations, and experiments; and science materials and their sources. Prerequisites: Formal admission to the teacher education program.

SED 494 Clinical Experiences in Secondary Schools – 6 hrs. The course is a pre-clinical field experiences class, to be taken simultaneously with other methods courses (e.g., SED 409 and [SED 421 or 422 or 423 or 424]). In the course, candidates will engage in classroom experiences under the supervision of mentor teachers and the methods instructors. The intent of the course is to meaningfully engage students in a classroom setting one semester prior to the clinical/internship experience. The experiences serves as a laboratory course for the methods courses where candidates have the opportunity, at the school site, to demonstrate the professional abilities to impact student learning.

SED 495 Internship – 12 hrs. One semester of full-time teaching under the immediate direction of supervising teachers in off-campus public schools. Upon return to the campus, students share their experiences, discuss problems, and develop new techniques in a professional seminar. Prerequisites: Formal admission to the internship.

Sociology

SOC 201 Introduction to Sociology – 3 hrs. A course providing an analysis of social interaction, the social process, society, culture, social structures, and other concepts fundamental to sociological understanding. Prerequisites: None.

SOC 210 Social Problems – 3 hrs. The setting of social problems and the analysis of the major problems of contemporary America are considered. The conditions surrounding problems, theories about causation and amelioration are included. Prerequisites: None.

SOC 212 Marriage and the Family – 3 hrs. A consideration of the basic social institution in all its ramifications; the processes of mate selection, socialization of children, adjustments inherent in marriage and family life and the impact of social change from the vantage of the professional sociologist. Prerequisites: None.

SOC 253 (CRJ 253) Deviant Behavior – 3 hrs. A study of processes by which some members of society become deviant. Readings will deal with particular forms of deviance such as mental illness, suicides, prostitution, use of drugs, riots, vice, and white collar crime in an effort to arrive at a general theory of the causes of deviance. Prerequisites: None.

SOC 301 (PSY 301) Elementary Behavioral Statistics – 3 hrs. Introduction to basic and essential statistical concepts introduced and their application to behavior measurements. Descriptive tools of central tendency, variability, and standard scores are considered, as well as correlation and basic inferential tools of the t-test and simple analysis of variance. Prerequisites: None.

SOC 310 Social Change and Collective Behavior – 3 hrs. A course involving an analysis of the linkage between science and technology by focusing on collective behavior as the consequences of the interplay between abstract principles and practical application. Social change is treated as inherent in the characteristics of social systems (i.e., social organization and social behavior aspects of human experience) such that the various collective activities are ordered in some sequence of a cyclical pattern of recurrence. Prerequisites: None.

SOC 323 (CRJ 323) Juvenile Delinquency – 3 hrs. An examination of the nature and causes of juvenile delinquency. The course also reviews the juvenile justice system and programs for treatment, control and prevention of juvenile delinquency. Prerequisites: None.

SOC 325 Rural Sociology – 3 hrs. Sociological analysis of rural life with emphasis on the rural-urban dichotomy, the effects of personality, and the urbanization of rural society. This is a junior-level course. Prerequisites: None.

SOC 326 Urban Sociology – 3 hrs. A course providing an analysis of urban concepts and the impact of urbanization on social relations, social institutions, and the national interest. This is a junior-level course. Prerequisites: None.

SOC 327 Medical Sociology – 3 hrs. This course is designed to introduce students to the field of medical sociology. The course will address, and understand, a range of concepts, theories and contemporary issues relating to health and illness.

SOC 328 Social Organization – 3 hrs. A course dealing with the major trends in political, economic, and social values and perspectives of the emerging American scene considered in relation to changes in the distribution of power, technology, and character development in terms of small groups and complex organization. Prerequisites: None.

SOC 330 (PSY 330) Social Psychology – 3 hrs. Central focus upon the relationships that prevail between groups and individuals. Social influence, social attraction, and the interplay of cultural, social, and psychological factors in becoming a personality are included. Prerequisites: None.

SOC 332 Educational Sociology – 3 hrs. Socialization in the educational institution, and upon the structure (status and roles), interactional patterns, and culture of the school. Prerequisites: None.

SOC 334 Cultural Anthropology – 3 hrs. A consideration of the different ways man copes with his natural setting and social milieu; different bodies of customs, variations in the socialization process, and the transmission of the culture heritage. Primitive societies are the major ones considered. Prerequisites: None.

SOC 336 Contemporary Social Movements – 3 hrs. Analysis of the nature, causes, development, forms, functions, and outcome of recent social movements are analyzed. Theories about social movements as a variation of collective behavior are included. Prerequisites: SOC 351.

SOC 351 (CRJ 351) Criminology – 3 hrs. An introduction to the field of criminology. Specifically, the course will cover the nature of crime, the causes of criminal behavior and the reactions to crime. Theories of crime causation will also be discussed. Prerequisites: None.

SOC 432 Minorities in American Life – 3 hrs. Treatment of the various minority groups in America, their relations with the dominant group, their subordination, and problems arising from minority status. Prerequisites: None.

SOC 434 Social Stratification – 3 hrs. A study of social inequalities and differentiation as related to social structures and social systems, analysis of patterns of interaction within and between social classes and the implications of stratification of human group behavior. Prerequisites: None.

SOC 441 Sociological Theory – 3 hrs. An examination of the classical and contemporary theoretical models in sociology and investigations of the development of sociological thought. Prerequisites: None.

SOC 443 Social Research – 3 hrs. An introduction to sociological research including the principles of research design, and the collection, analysis, and reporting of data through actual field experience. Prerequisites: None.

SOC 445 Population Problems – 3 hrs. An introduction to demography and population research. The course includes population theory, trends and rates in natural increase, population composition, distribution, planning, and human ecology. Prerequisites: None.

SOC 448 Social Legislation – 3 hrs. A survey of the development, philosophy, and changes in American social legislation and of its impact upon contemporary life. The last 30 years are stressed. Prerequisites: None.

SOC 450 Senior Seminar – 3 hrs. A concluding course focused upon sociological concepts, theories, contributors, literature, and methods. This should be the terminal major course. Prerequisites: SOC 201.

Spanish

SPA 101 Elementary Spanish I – 3 hrs. An introduction to the fundamentals of oral-aural and reading-writing in the language. Grammatical structure, conversational form, and various aspects of Spanish culture are important parts of the course. Students learn to use the spoken language and work on pronunciation. Prerequisites: None.

SPA 102 Elementary Spanish II – 3 hrs. A continuation of SPA 101. The basic language skills (speaking, reading, writing, and listening) introduced in SPA 101, along with Spanish culture, will be emphasized to complete the introductory level. Prerequisites: SPA 101.

SPA 201 Intermediate Spanish I – 3 hrs. A continuation of the first-year course. Students continue to improve their proficiencies in oral-aural and reading-writing skills. They must demonstrate increased linguistic proficiency and humanistic understanding of the Spanish people through reading historical or cultural texts in Spanish. Prerequisites: SPA 102.

SPA 202 Intermediate Spanish II – 3 hrs. A continuation of SPA 201. Students continue to demonstrate intensive reading knowledge of texts dealing with Spanish literature and culture, with emphasis on speaking and writing short Spanish compositions. Vocabulary expansion is also emphasized. Prerequisites: SPA 201.

Special Education

SPE 201 Introduction to the Study of Exceptional Children – 3 hrs. An overview of the various exceptionalities and an introduction to basic special education services and procedures. Practicum is required. Prerequisites: None.

SPE 205 Language Development – 3 hrs. A course emphasizing the study of normal language development with emphasis on the development of the phonological, syntactic, and semantic systems in children. Prerequisites: None.

SPE 209 Introduction to Early Childhood Special Education (ECSE) – 3 hrs. A course covering the rationale for ECSE and providing a comprehensive overview of major principles and practices relating to the provision of services to young children with disabilities. Procedures for screening, diagnosis, and educational assessment are included. Transdisciplinary and interdisciplinary team processes are emphasized throughout the course. Prerequisites: None.

SPE 303 Assessment of Children K-6 – 3 hrs. Development of the essential skills required to diagnose skills deficits and to plan and implement educational strategies to remediate deficits experienced by exceptional learners. Practical experiences using assessment techniques will be stressed. Practicum required. Prerequisites: SPE 201.

SPE 304 Parent and Family Assessment – 3 hrs. A course designed to inform entry-level teacher candidates methods in family assessment and evaluation as well as methods in parent counseling and support are included. Techniques and programs of parent training and education are important aspects of this course. Prerequisites: None.

SPE 306 Methods and Materials in ECSE – 3 hrs. A course designed to give beginning teachers requisite skills in designing, developing, implementing, and evaluating methods and materials to be used with preschool children with disabilities. Practicum required. Prerequisites: SPE 209.

SPE 309 Adaptive Techniques and Methods in ECSE – 3 hrs. A study of techniques which are necessary to adapt early childhood education curricula to the specialized needs of the birth to five-year old with disabilities. Course content includes the development of skills in the areas of technological adaptations, working with aides and volunteers, transdisciplinary teaming, behavior management techniques, task analysis, and concept analysis. Practicum required. Prerequisites: SPE 209.

SPE 319 Transitioning Planning for Students with Special Needs – 3 hrs. A course covering the historical development of lifespan planning, model programs for the handicapped, techniques for developing and implementing a program and instructional strategies. Prerequisites: None.

SPE 326 Management of Classroom Behavior – 3 hrs. A study of the application and skills in the use of behavior management skills, including direct observations, behavioral interventions, analysis, and subsequent program modification based upon analysis. Prerequisites: None.

SPE 327 Assessment in Early Childhood Special Education – 3 hrs. Emphasis upon the basic knowledge and skills that are prerequisites to analyzing, selecting, and implementing effective assessment practices with children from birth through age eight with disabilities. Prerequisites: FED 200, SPE 201.

SPE 328 Learning Strategies – 3 hrs. A course designed to provide teachers of students with mild disabilities with current strategies for assessing student learning styles and modifying instructional methods for optimal learning. Prerequisites: None.

SPE 401 Corrective Reading – 3 hrs. Several approaches to the teaching of reading to slow learning children are covered. Students will prepare and implement individual reading plans, develop teacher-made materials, and select and purchase reading materials. Prerequisites: None.

SPE 403 IEP/IFSP Writing – 3 hrs. A course designed to inform entry-level teachers of children with disabilities with the legal requirements, the procedures, and the techniques used for developing legally correct individualized education programs (IEPs) and individualized family service plans (IFSPs) as required by the Individuals with Disabilities Education Act of 1997 (IDEA). Prerequisites: None.

SPE 405 Methods and Materials of Teaching Children in Grades K-6 with Disabilities – 3 hrs. This course is designed to give beginning teachers requisite skills in designing, developing, implementing, and evaluating methods and materials to be used with young children with disabilities in grades K-6.

SPE 410 Counseling with Parents of Exceptional Children – 3 hrs. Discussion and application of the rationale for positive communication and interaction with parents and techniques of facilitation. Prerequisites: None.

SPE 426 Collaborative Consultation – 3 hrs. A course designed to provide prospective teachers (ECSE, Collaborative K-6 and Collaborative 1-6) knowledge and skills required to successfully facilitate intervention strategies with regular classroom teachers and other support personnel in meeting the needs of students with disabilities. This course also serves as a professional elective for prospective teachers of early childhood, elementary, and secondary students.

SPE 430 Materials and Methods of Content-Area Instruction – 3 hrs. A course designed to give beginning teachers requisite skills in designing, developing, implementing and evaluating methods and materials of content area instruction for children and adolescents with disabilities in grades 6-12.

SPE 431 Behavior Management for Secondary Teachers – 3 hrs. A study of the application and skills in the use of behavior management skills, including direct observations, behavioral interventions, analysis, and subsequent program modification based upon analysis. Prerequisites: None. (Offered Spring, Fall.)

SPE 432 Materials and Methods of Functional Curricula – 3 hrs. A course designed to give beginning teachers requisite skills in designing, developing, implementing and evaluating methods and materials of functional curricula for children and adolescents with disabilities in grades 6-12.

SPE 435 Learning Strategies for Adolescents (Grades K-6) – 3 hrs. A course designed to provide teachers of children and adolescents with disabilities with current strategies for assessing student learning styles and modifying instructional methods for optimal learning.

SPE 436 Assessment of Secondary Students – 3 hrs. Development of the essential skills required to diagnose skills deficits, and to plan and implement educational strategies to remediate deficits experienced by exceptional learners. Practical experiences using assessment techniques will be stressed. Prerequisites: SPE 201.

SPE 495 Internship in Special Education – 12 hrs. A course consisting of twelve weeks of full-time teaching under direct supervision of certified experienced teachers in Special Education classes in off-campus public schools. Weekly meetings are held on campus with university supervisors. Prerequisites: Admission to the Teacher Education Program.

Sport Management

SPM 200 Introduction to Sport Management – 3 hrs. This course is an overview of the fundamental principles of sport management programs. It combines theory and practice related to legal and ethical issues, marketing and organizational structure of recreational and sport related services and facilities. I also focuses on principle avenues of sport management careers, intercollegiate and professional sport, the sport and recreation industries, and the health and fitness industries.. Prerequisites: None.

SPM 300 Sport Ethics – 3 hrs. The purpose of this course is to confront the many issues in our society within the context of the sports world and promote the critical examination of ethical issues and moral dilemmas inherent in sport. Emphasis will be the development of personal philosophies, clarifying values and refining moral reasoning skills relative to sports. Prerequisites: None.

SPM 314 Sport Facilities & Event Management – 3 hrs. This course will address the principles and procedure involved in sport facility and event management. Emphasis will be given to planning sport facilities and events. Emphasis will be given to planning new sport facilities and events, operation of facilities and attracting events, and event planning, production and evaluation. Prerequisites: None.

SPM 326 Sociology of Sport in Modern Society – 3 hrs. This is an introductory course devoted to the examination of sport and its relationship to society and social institutions. Emphasis will be given to the effect of social phenomenon on sport participation and behavior and how the dynamic nature and diverse parameters of society affect the sport industry. Primary emphasis will be given to sport in American society. Prerequisites: None

SPM 403 Legal Aspects of PE & Sport – 3 hrs. Course Description. This course is intended to aid Health, Physical Education, Recreation, and Sport Management professionals in understanding major legal issues affecting the practices and procedures

followed in their professions. Emphasis will be given to procedures for initiating an active program of risk and liability management that will help ensure the safety of participants in these programs. Prerequisites: None

SPM 423 Sport Psychology 3 hrs. This course will examine traditional psychological theories as applied to the dynamics of group and individual interaction in sport. Various theories of motivation and techniques in group leadership will also be examined. Prerequisites: None.

SPM 425 Contemporary Issues in Sport Management – 3 hrs. This course will introduce the student to the various issues facing sport and sport administrators on a daily basis in the contemporary world including drug abuse and gratuitous violence which have grown out of modern sport activities. Prerequisites: None

SPM 440 Advanced Sport Management – 3 hrs. This course will take a how-to approach to sport management since research has shown that knowledge is more likely to be implemented when it is acquired from learning by doing rather than simply learning from reading, listening or thinking. This approach will impart the important principles, concepts, research, and theories of management. This will enable the student to develop the ability to apply sport management principles to sport organizations and further develop management skills in their personal and professional lives. Prerequisites: None.

SPM 445 Externship – 12 hrs. This course is designed to give students an opportunity to participate in the complex dynamics of an educational environment while simultaneously preparing them for a multiplicity of careers in sport management. Externship settings include collegiate athletic departments, intramural departments, professional sport teams, professional sport leagues, private and public sector organizations, entrepreneurial endeavors, and many more. Prerequisites: None.

Statistics

ST 324 (MTH 324) Applied Statistical Computing – 3 hrs. An introduction to computer-assisted data analysis with emphasis on the interpretation of results generated by such software packages as SAS, SPSS, STATPAK and others. Topics include descriptive statistics; contingency tables, correlation; two-group comparisons; simple, polynomial and multiple linear regression; and analysis of variance. Prerequisites: MTH 112 or consent of instructor.

ST 327 (MTH 327) Applied Regression Analysis – 3 hrs. A study of least squares; simple, polynomial and multiple linear regression including residual and lack-of-fit analysis; simple multiple, partial, and multiple-partial correlation; analysis of covariance; model building algorithms, analysis of variance, and computer-assisted data analysis. Prerequisites: ST 324.

ST 344 (MTH 344) Design and Analysis of Experiments I – 3 hrs. A study of the fundamental concepts and basic principles of design, construction and analysis of experimental designs. Designs to be included are completely randomized complete block, Latin square, Greco-Latin square, split-plot, multiple comparison, and factorial. Prerequisites: ST 327.

ST 355 (MTH 355) Applied Statistics – 3 hrs. Collection and presentation of data; measures of central tendency and variability; skewness, binomial, normal, Chi-square, t-and F-distributions; estimation; confidence intervals and hypothesis testing; correlation coefficient; and analysis of variance. This course includes laboratory activities. This course is designed for majors in biology, zoology, botany, medical technology, pre-veterinary medicine, and pre-nursing. This course is not open to mathematics majors or applied statistics minors. Prerequisites: MTH 112.

ST 444 (MTH 444) Design and Analysis of Experiments II – 3 hrs. A continuation of ST 344. Topics include incomplete block designs, analysis of covariance; regression approach to the analysis of selected design such as two-way unequal cells, factorial confounding techniques, fractional replication, response surface methodology, evolutionary operations, cross-over and repeated measure designs; and selected transformations and heterogeneity of variance techniques. Prerequisites: ST 344 or MTH 344.

ST 453 (MTH 453) Probability and Statistics – 3 hrs. Probability axioms, methods of enumeration; conditional probability, independence, empirical frequency distribution, discrete and continuous random variables, expectation, moment generating functions, joint distributions, sums of random variables, and limit theorems. Prerequisites: MTH 126 or 146.

ST 473 (MTH 473) Statistics – 3 hrs. An introduction to the theory of statistics. Topics include sampling distributions, estimation, hypothesis testing, linear models, analysis of variance, nonparametric and distribution-free procedures. Prerequisites: ST 453.

Social Work

SWK 202 Introduction to Social Welfare and Social Work – 3 hrs. A practice course designed to introduce students to the profession of social welfare, social work and human services. A historical review of social work and social welfare will be discussed with implication for the future of the discipline in connection to the social welfare systems. It traces the origin and development of the social work profession through helping systems; defines and illustrates the problems of social functioning; describes social work services in various settings, outlines the course requirements as mandated by the Council of Social Work Education and introduces the ten competency areas that govern practice behavior as an entry level social worker. The generalist problem-advising approach is introduced in this course. Students will learn problem-solving generalist helping methodologies for the development of practice skills. Prerequisites: None.

SWK 205 Gerontology – Aging and Problems of the Aged – 3 hrs. This course is designed to give students an overview of the unique problems faced by the elderly in our society. Students are made aware of the societal attitudes toward the aged. Biological factors, psychological problems, health, retirement, housing, personal and social aspects of death and other areas of concern are presented. Prerequisites: SWK 202, 301.

SWK 301 Human Behavior and Social Environment I – 3 hrs. This course is designed to provide Social Work students with basic knowledge to understand individuals, groups, collective interactions, and behavior in terms of their biological, psychological, and social bases. Prerequisites: SWK 202.

SWK 302 Human Behavior and Social Environment II – 3 hrs. This course is designed to extend the knowledge base introduced in Human Behavior I. Emphasis is placed on behaviors that are significant to professionals in human services. Critical incidents are utilized to analyze behaviors of selected individuals, groups, and communities. Prerequisites: SWK 202 301.

SWK 303 Poverty and Deprivation – 3 hrs. This course describes the causes of poverty and its relationship to other social problems. A historical perspective is offered to help students understand the impact of the Great Depression in changing the values of the American people toward people in need. Programs that combat poverty are discussed and critiqued. Causes of poverty and populations impacted are explored. Prerequisites: SWK 200, 201, 301, 309, [(SWK 205) or (SWK 311, 302, 304)].

SWK 304 Diverse Populations – 3 hrs. This course is designed to sensitize students to accept differences among people and their experiences. Emphasis is placed on the differences among cultural groups and how differences are perceived through a majority cultural context and the impact on achieving success. Students explore the relationship of their own personal values and those of the profession. Personal stereotypes that limit their perceptions of client strengths are identified and confronted. As a result, students become better prepared to provide competent service to a diverse client population. Prerequisites: SWK 202, 301.

SWK 305 Rural Human Services – 3 hrs. This course is designed to provide content for understanding service delivery to at-risk rural populations. The uniqueness of rural lifestyles and problems are explored. This course also deals with cultural issues and values that are unique to rural life and how these variables impact need and functioning of rural people. The special repertoire of skills, knowledge, attitudes, and values that are necessary for practice with rural populations are included. Differences between rural and urban roles-sets of clients as well as the differences and similarities between the role-sets of the urban and rural social work practitioner are examined. Prerequisites: SWK 202, 301, 302, 304, 312, (205 or 311).

SWK 308 Understanding the Black Experience – 3 hrs. This course is designed to use films as a means to understand the black past as it relates to the contemporary condition of blacks in our society. The course affords students an opportunity to examine black people as presented in film. As a result, students acquire a perspective of what the black presence has been, is, and how it may become in the future. Upon completion of this course, students have an in-depth look at the impact of culture and environment as they affect behavior and personality. Prerequisites: SWK 202, 301, 302, 304, 312, 305, 313, (205 or 311).

SWK 311 Introduction to Child Welfare – 3 hrs. This course is designed to identify analyze and assess child welfare programs, policies, and services for understanding the needs and services available for children. Vulnerable children (physically and sexually abused, neglected, special needs, in new families) are discussed to increase student understanding of their plight and the need for effective interventions, prevention and policy strategies. Understanding human diversities and the social environment in rural and urban communities are examined in this class. Current child welfare issues are studied for a basic understanding of economic conditions, social justice and cultural factors. Prerequisites: SWK 202, 301.

SWK 312 (Formerly SWK 309) Social Work Methods I (Individuals & Families) – 3 hrs. This course is designed to help students develop beginning generalist social work practice skills. Self-assessment, ethics and values of the social work profession,

roles, competencies, the generalist problem-solving process, effective interviewing, recording, and evaluative skills are included. This course also focuses on the social work relationship including the influences of race, ethnicity, class, culture, gender, sexual orientations and varying diversities, in delivering effective services to individuals and families. Prerequisites: SWK 202, 301.

SWK 313 Social Work Methods II (Groups) – 3 hrs. This course has been designed to prepare students for generalist practice with groups utilizing systems and ecological theoretical frameworks. The historical development for the use of groups will be explored as an understanding for how group work has become a significant component of generalist practice. Application of the problem-solving model (e.g., engagement, assessment, planning, implementation, evaluation, termination and follow up) in working with groups, stages of group development, interviewing techniques, and group dynamics will be addressed as critical components of working with groups. Values (e.g. empowerment), ethics and diversity required for generalist social work practice will be discussed as a major component of the group process. Research methodology in assessing problems and evaluating change will be highlighted. Prerequisites: SWK 202, 301, 302, 312, 304, (205 or 311).

SWK 314 Formerly SWK 310) Social Work Methods III (Organizations and Communities) – 3 hrs. This course is designed to prepare students for beginning generalist practice. It is designed to help students understand organizations and communities and how to use social work processes to improve the functioning, services, and situations for populations in rural and urban communities. The content includes a problem-solving model used in interventions with, organizations and communities. Practice skills (relationship building, assertiveness) and empowerment strategies to help diverse, oppressed, vulnerable and discriminated populations, groups, organizations and communities are developed. Generalist skills for activating resources are emphasized. The use of research methodology in assessing problems and evaluating change is also emphasized. Prerequisites: SWK 202, 301, 302, 304, 305, 312, 313, (205 or 311)..

SWK 315 Substance Abuse: The Impact of Fetal Alcohol Spectrum Disorder – 3 hrs. This course is designed to identify, analyze and assess programs, policies and services for the needs of children who have been diagnosed with fetal alcohol syndrome or other related prenatal exposure to alcohol that is characterized as fetal alcohol spectrum disorder. The development of skills, knowledge and attitudes of person performing specific tasks surrounding the needs of the vulnerable population will be enhanced. A historical, biomedical and clinical background of fetal alcohol syndrome (FAS) and fetal alcohol spectrum disorders (FASDs) will be explained as a means for understanding the dynamics of this preventable disease. In addition, students will gather insight to increase their understanding of the need to develop and identify effective interventions, prevention and policy strategies. The significance of understanding human diversities within the context of the social environment in rural and urban communities are examined in this class as it applies to prevention of alcohol-exposed pregnancies in women of childbearing age. Additionally, resource identification and development will serve as key components for collective service provision. Ethical, legal, and policy issues are examined surrounding child welfare and human rights, specific to self-determination versus duty to protect in respect to at-risk populations, economic conditions, social justice and cultural factors. Prerequisites: SWK 202, 301, 302, 304, 305, 312, 313, (205 or 311).

SWK 403 Social Welfare Policies and Services – 3 hrs. This course is designed to utilize research to interpret legislation and policies as a means of improving, changing and developing required services in recognition of problems and issues inherent in the social system; provide knowledge and skills regarding social policy, research, social legislation, policy formulation and analysis for enhancing delivery of social services; and rurality for insuring sequential, measurable learning. Prerequisites: SWK 202, 301, 302, 304, 305, 312, 313, (205 or 311).

SWK 410 Social Work Research Methods – 3 hrs. This course is the first of two research courses. It is designed to present the basic principles of social science research (scientific method). It covers all aspects of the research process from problem formulation to writing of the research proposal. It introduces students to qualitative, quantitative, and single subject methods of conducting research. Ethical issues associated with conducting research are addressed. The use of research to inform practice, policy, and to promote social justice are explored. Prerequisites: SWK 202, 301, 302, 304, 305, 312, 313, (205 or 311).

SWK 414 (Formerly SWK 407) Field Instruction – 8 hrs. Field Instruction is a planned experience in which the student is assigned to a social service agency for a minimum of five hundred hours per semester. This experience provides the opportunity for the student to work with individuals, families, groups, organizations, and communities. The student is able to test out those skills and theories taught in the classroom. Prerequisites: SWK 202, 301, 302, 304, 305, 312, 313, 314, 403, 410, (205 or 311), (308 or 315).

SWK 414L (Formerly SWK 407L) Field Instruction Seminar – 3 hrs. A three-hour seminar is held each week. The seminar permits field instruction students in different field settings to share and benefit from their numerous and varied learning

experiences. The seminar is also held to evaluate, discuss, and interpret the student's involvement in the field. Discussion in class will provide an opportunity for increased knowledge, assessment of values, and development of skills. Prerequisites: SWK 202, 301, 302, 304, 305, 312, 313, 314, 403, 410, (205 or 311), (308 or 315).

SWK 415 Senior Seminar in Research – 2 hrs. This course is the second research course. In this course, students carry out the research design developed in SWK 410 Research Methods course. They administer the instrument, collect and analyze data, interpret results and discuss implications. Students continue to examine previous research and to analyze how past research designs and evaluations have dismissed, diminished, or reinforced negative stereotypes and prejudices in oppressed and at-risk populations. Prerequisites: SWK 202, 301, 302, 304, 305, 312, 313, 314, 403, 410, (205 or 311), (308 or 315). Co-requisites: SWK 414L, 414.

Technology Basic Course

TBC 102 Microcomputer Skills for Technology – 3 hrs. An introduction to the personal computer as a tool for engineering technology. This course covers computer terminology, Microsoft Windows™, word processing for technical reports, and spreadsheet programs as a management and scientific tool. Prerequisites: None.

TBC 201 Technical Communications – 3 hrs. Aspects of communication that the technical person is likely to encounter in industry. The course emphasizes techniques for clear, concise expression of thoughts in written and oral communication. The basic principles and procedures for organizing technical reports, letters, and presentations are explained. The student will learn how to communicate ideas in writing clearly and efficiently. Students will learn how to plan a writing task, prepare technical correspondence, write informal and formal reports, use graphic aids in reports, make oral presentations, and use presentation software. Prerequisites: None.

Communications Media

TEL 101 Theater Appreciation – 3 hrs. An introductory course that examines the history and principles of theater art and dramatic performance from prehistory through contemporary and emerging media. Key texts and authors from significant historical periods will be examined as well critical theories and performance analysis. Prerequisites: None.

TEL 201 Introduction to Broadcasting – 3 hrs. A course dealing with the development of the broadcast industry, its relationship to other existing industries, print and film, and controls established by government regulatory bodies. The influences of broadcasting on the economy of the country are also treated. Prerequisites: None.

TEL 202 Fundamentals of Television Production – 3 hrs. Primarily a laboratory course in the development of TV programs. Study areas include TV equipment, camera operations, optics and lenses used in TV production, set development and construction and audio reproduction. Prerequisites: TEL 201.

TEL 205 Public Speaking for the Communication Arts Professional – 3 hrs. A specialized course focusing on developing the speaking and communication skills for the professional in broadcasting, film and video, theatre, and emerging media. The student will focus on career-oriented communications such as theatre and video audition techniques (and the differences between the two); professional job interview strategies; media presentations; and "the pitch." Verbal and nonverbal communications will be incorporated as well as the seamless incorporation of electronic media into spoken presentations. Topics covered will be relevant to both performing and production-oriented professionals. Prerequisites: ENG 102.

TEL 211 Broadcast Law and Regulations – 3 hrs. Regulations governing broadcasting, the responsibility for programming decision, standards and responsibilities of public communications in telecommunications, and laws relating to the press and to government regulation of broadcasting. Prerequisites: ENG 102.

TEL 212 Writing for Broadcasting – 3 hrs. The fundamentals of writing and adapting literature for television and radio. Prerequisites: ENG 102.

TEL 213 Digital Broadcasting – 3 hrs. This course is designed to bridge the knowledge gap between the content provider and the IT specialist in the new digital broadcasting age. The course examines the origins of HDTV, current trends and the future of digital broadcasting. Prerequisites: TEL 202.

TEL 214 Careers in Media Arts – 3 hrs. A course that examines potential careers in broadcasting, film, video, theatre, and emerging media. Topics covered will be relevant to the performance, production, and operations professional. Prerequisites: None.

TEL 215 Voice and Diction – 3 hrs. Voice training through exercises in voice production, elements of tone, and articulation of speech sounds. Practical experiences will be offered in announcing, news casting, interviews, special events, and effective speech. Prerequisites: None.

TEL 216 Oral Interpretation – 3 hrs. A course stressing literary interpretation: clarity through understanding of the content, unity through grasps of the rhythm, interest through appreciation of the dramatic movement, and color through realization of the mood. Advanced experiences will be offered in interpretation of literary works, announcing, interviewing, and news casting. Prerequisites: TEL 215.

TEL 217 Discussion for Television – 3 hrs. Emphasis on contemporary theories on interpersonal and small group communication and especially on techniques for argumentation, interview, and panel discussion for TV. Prerequisites: None.

TEL 218 Non-linear Editing – 3 hrs. This course examines video editing and finishing physically and conceptually. Special attention is given to the reasoning behind the edit, the physical cut and the finished presentation. The students will complete a five-minute feature. Prerequisites: TEL 202.

TEL 301 Film Production I – 3 hrs. An introduction to film-making equipment and scripting. Each student will be required to write, produce, budget, edit, and direct a film project. Prerequisites: ENG 304.

TEL 302 Film Production II – 3 hrs. An introduction to film-making equipment and scripting. Each student will be required to write, produce, budget, edit, and direct a film project. Prerequisites: TEL 301.

TEL 304 Advanced Television Production – 3 hrs. Laboratory experience in the development of various types of TV production. Students will be required to write, produce, budget, and direct a TV program of considerable length in a category other than drama. Program idea and design will be emphasized. Prerequisites: TEL 202.

TEL 311 Advertising for Radio and Television – 3 hrs. Application of the principles of advertising to the broadcast media. Emphasis will be placed on techniques of writing and production of advertisement. Prerequisites: 15 semester hours in TEL.

TEL 321 News and Documentary Techniques – 3 hrs. Fundamentals of news reporting for all news media, the gathering and writing of news, study of news departments, responsibility to the public affairs programming, and news editing. Prerequisites: 15 semester hours in TEL.

TEL 401 Practicum I – 3 hrs. Training in the operation of audio and video equipment using the facilities of the AAMU Telecommunications Center and other facilities, based on student interest. Prerequisites: 15 semester hours in TEL.

TEL 402 Practicum II – 3 hrs. Additional training in the Telecommunications Center or other appropriate centers. Prerequisites: 15 semester hours in TEL.

TEL 403 Acting for Television and Film I – 3 hrs. An exploration of the principles and theories of dramatic performance expressed through contemporary entertainment media. Practical experience in acting for television will be offered. Prerequisites: None.

TEL 404 Acting for Television and Film II – 3 hrs. A continuation of TEL 403. Prerequisites: TEL 403.

TEL 405 Intro to Directing – 3 hrs. Training in the fundaments of directing performers. The course will examine script analysis and interpretation, interaction with designers, the language and techniques of stage direction, and how those applications are transferred to working with performers in all media. Prerequisites: TEL 403.

TEL 406 Advanced Directing – 3 hrs. An interactive and project-oriented course which adapts the principles of directing into electronic media. The student will focus on the creation of several directorial projects including creation and adaptation of texts for performance and direction of actors to achieve the desired vision. Prerequisites: TEL 405.

TEL 411 Special Topics in Broadcasting – 3 hrs. The history, significance, potentialities, current trends, and utilization in the broadcast medium. Emphasis will also be placed on broadcast economics and station management. Prerequisites: 15 semester hours in TEL.

TEL 431 Special Topics in Film – 3 hrs. Visual aspects of television and film, with emphasis on basic principles of designing, techniques of lighting, and practices in television and film studio operations, as well as sound motion picture production. Prerequisites: 15 semester hours in TEL.

TEL 441 Special Topics in Speech and Drama – 3 hrs. Both history and practice in the art of advocacy involving analysis, arrangement, and presentation of arguments for the purpose of decision making and social control. Experiences in developing scripts for public performance will be required. Prerequisites: 15 semester hours in TEL.

Technology General Course

TGC 202 Applied C++ for Engineering Techniques – 3 hrs.

TGC 217 Statics – 3 hrs. A study of force systems in equilibrium and their action on bodies at rest. The course also covers the methods of joints and sections for the solution of trusses, friction, and first and second moments of areas. The course emphasizes development of problem solving skills. Pre- or Co-requisites: MTH 113.

TGC 218 Strength of Materials – 3 hrs. A study of the concepts of stress, strain, and Hooke's Law. Also studied is the strength and deformation of axial force members, shafts, beams, and columns, and an introduction to combined stress. Prerequisites: TGC 217.

Technical Education

TTE 199 New Teacher Institute – 3 hrs. An introductory course for first-time career and technical education teachers. The course provides continuing instruction for first-time teachers who have attended the Alabama State Department of Education one-week (40 clock hours) course for all new teachers. New teachers attend a one-week general topics course at a central location for the start of the school year. Bi-weekly seminars are held to provide follow-up and expansion of the topics included in the one-week seminar. The bi-weekly seminar focuses on effective teaching in career and technical education with emphasis on classroom management, discipline, classroom instruction, teaching methods, and course development and evaluation. Prerequisites: Completion of the New Teacher Institute is required to enroll in this course.

TTE 298 Occupational Assessment: Skills – 9 hrs. An approved occupational competency test is administered to students to assess their skills in a career/technical education program area (trades and industry). Prerequisites: Minimum validated wage earning work experience in an approved postsecondary career/technical education program (trades and industry). Students must make arrangements with the professional organizations administering the examination, and provide copies of the test results to the Department.

TTE 299 Basic Career/Technical Education Program Completion Credits. – 0-36 hrs. Credits awarded to students at the point of entry for work related learning in post-secondary career/technical programs offered at community/technical college level; military occupational specialty (MOS) career programs; career development programs in business and industry; and civilian career programs sponsored through government schools and colleges through an approved evaluation program guide.

TTE 300 Planning and Organizing Technology Education Programs – 3 hrs. A study of the equipment, materials, tools, and curriculum found in a typical Technology Education Program at the middle school and high school levels. Prerequisites: None.

TTE 301 Principles of Technical Education – 3 hrs. This course is designed for the beginning technical education teacher, as well as those planning to enter the profession. It focuses on methods and practical examples of methods and techniques needed by teachers to deal with the bureaucracy, the curriculum, and students during the first year of teaching. Prerequisites: Completion of the New Teacher Institute is required to enroll in this course.

TTE 302 Course Development and Evaluation in Career/Technical Education – 3 hrs. The course focuses on practices, procedures, and techniques that are employed to analyze occupations to identify for content for the program of study; organization and sequence of instruction; and developing of objectives and learning outcomes; and implementation schedules. Prerequisites: Hold or eligible to hold the Level I Career/Technical Certificate endorsed in Technical Education or the Level 1/Level 2 Career/Technical Certificate endorsed in Health Science. Hold or is eligible to receive the Level 1 Career/Technical Certificate endorsed in Technical Education.

TTE 305 Learning Resources and Technology in Career/Technical Education – 3 hrs. A study of principles and methods essential to the development and use of technology in career or technical education program. Prerequisites: Level 1 Career/Technical Certificate.

TTE 402 Methods of Teaching Technical Education – 3hrs. The course covers practices, procedures, and techniques that are employed in developing and selecting learning resources and technology to be used in teaching subjects in a career/technical education program. Prerequisites: TTE 302.

TTE 403 Career Information and Guidance – 3 hrs. The course covers research and development in theories of vocational development and occupational choices; and models of career education programs. Prerequisites: Senior Standing.

TTE 404 Classroom and Laboratory Management in Career/Technical Education – 3 hrs. The course emphasizes the physical aspects of buildings, laboratories, and shops to include building design and lay. The course also covers topics on purchase and inventory of supplies, materials, and equipment; selection, acquisition, installation, and maintenance of equipment; and basic philosophy of classroom and laboratory instruction, and industrial safety. Prerequisites: TTE 302.

TTE 405 Functions of the Technical Education Coordinator – 3 hrs. This course focuses on the role and responsibilities of the high school cooperative technical education coordinator. It examines in details planning, organizing, and maintaining a high school cooperative career/technical education program; and designing and providing instruction in the related instruction program. Prerequisites: Admission to the Secondary Teacher Education Program.

TTE 406 Methods of Teaching in Career and Technical Education –3 hrs. The course examines methods and materials of presenting classroom and laboratory instruction in career/technical education programs. Candidate teachers are required to design and develop lessons to be used in providing instruction and evaluating students' performance in specialized technical education (trades and industrial education) programs. Prerequisites: TTE 302, 402, 404.

TTE 407 Career/Technical Student Organizations – 3 hrs. This course examines the duties and responsibilities of career/technical education teach in advising students in the high school career/technical student organization. Prerequisites: Senior standing.

TTE 440 Special Needs in Career/Technical Education – 3 hrs. This course focuses on methods and materials appropriate for providing instruction in a career/technical education programs for students special needs and students from special populations. Prerequisites: TTE 406.

TTE 450 Practicum – 3 hrs. Supervised practical experience provided to the candidate teacher in a career/technical education program at the secondary or post-secondary level. Prerequisites: Senior standing and security clearance required to enroll in this course.

Technical Education

TYE 495 Internship in Technical Education – 12 hrs. A 12-week, full-time internship experience in a high school setting under the direct supervision of the master teacher. Candidate teachers meet weekly during the evening hours on campus in a seminar arrangement to discuss problems and successes encountered during the internship experience. Candidate are required to prepare a portfolio, outlining in detail, their daily activities and experiences during the internship. Prerequisites: Candidate teachers must be cleared by the Office of Field Experience to enroll in Internship.

Urban Planning

UPL 101 Introduction to Urban Planning – 3 hrs. A general introduction to the physical, social, economic, and political aspects of the fields of urban planning and the expertise planners contribute toward guiding the growth and development of communities. Prerequisites: None.

UPL 103 The Community and You – 3 hrs. An examination of the role of citizens in the life and viability of communities which explores the concepts of community, leadership, and public service obligations. Emphasis is placed on an understanding of the dynamics that converge to create healthy and civil societies. Prerequisites: None.

UPL 201 Small Town Planning – 3 hrs. An examination of the features which distinguish the rural environment from the urban and, a review of rural development principles. Prerequisites: None.

UPL 203 History and Theory of Planning – 3 hrs. This course presents the foundations of planning history and theory in the United States through a survey of classic and contemporary writings. Prerequisites: None.

UPL 216 Planning Research Methods I. – 3 hrs. This basic course in statistics is intended to give the student a comprehensive understanding of the meaning and purpose of statistics and its application in planning and urban analysis and to use computer software in data organization, grouping and analysis. Prerequisites: None.

UPL 310 Urban Economics Analysis – 3 hrs. This course focuses on the economic analysis of urban areas and its application to urban and regional planning. Its main emphasis considers economic functions that promote growth and development of urban centers. These include the process of urbanization, industrial and urban locations, urban economic base, central place functions and functional classification, land price and urban land use structure, municipal revenues and expenditures, fiscal policies and services. Prerequisites: ECO 231, 232.

UPL 316 Planning Research Methods II – 3 hrs. This course covers the process of studying in order to know or discover factual information on some phenomenon or situation. It focuses on the basic steps of an empirical investigation including problem formulation, methods of data collection, treatment and analysis of data, and how to draw correct inferences/conclusions in the interpretation of findings. Prerequisites: None.

UPL 317 Graphic and Site Design Workshop – 3 hrs. This course introduces the basic techniques for planning and designing a parcel of land. Also, students are introduced to graphic and urban design principles and techniques It includes graphic communication site and land use analysis and preparation of site and subdivision. Prerequisites: None.

UPL 327 Land Use Planning – 3 hrs. The preparation of the land use plan element of a city's comprehensive plan, including the allocation of land for various uses based upon a community's goals and objectives. Prerequisites: None.

UPL 330 Demographic Analysis – 3 hrs. A study of the demographic characteristics of the human population that currently exists in an area and the projections of future growth trends for planning purposes. Also, it exposes students to the tools used in population analysis including use of population forecasting rates and ratios. Prerequisites: None.

UPL 404 Social Equity in Planning – 3 hrs. This course equips students with competencies for identifying and understanding current issues related to social justice and equity governance and how the public policy process can be formulated to better promote the equitable distribution of public goods and services. Prerequisites: None.

UPL 405 Practicum I – 3 hrs. Student placement in a public or private planning agency or department to perform a predetermined work assignment under direct agency supervision of ten hours per week. Prerequisites: Junior or senior standing with a cumulative GPA of 2.5 or above.

UPL 406 Practicum II – 6 hrs. Student placement in a public or private planning agency or department to perform a predetermined work assignment under direct agency supervision for 20 hours per week. Additionally, a special project will be completed by the student for evaluation by the agency and faculty supervisors. Prerequisites: Junior or senior standing with a cumulative GPA of 2.5 or above.

UPL 407 Legal Basis of Planning – 3 hrs. This course focuses on the legislative and the legal basis for planning and the process, procedures, and laws for guiding urban development review systems, and planning law. The course provides an understanding of how law and urban policy intersect and underpin the process by which planners solve urban problems. Prerequisites: None.

UPL 408 Comprehensive Planning Workshop – 3 hrs. A hands-on course focusing on techniques and procedures of plan-making for urban and regional (city, city/country, country a multi-county) areas. The workshop includes the preparation of background studies, community goals statements, planning analysis, plan documents, and planning implementation strategies. The planning process is presented from the perspective of state-level model planning enabling legislation and existing state guidelines that influence the planning practice at local and area-wide levels. Prerequisites: UPL 327, 330.

UPL 409 Seminar on Planning Problems – 3 hrs. An examination of public policies and programs which affect the physical growth and development of a city with emphasis upon local land use, housing, and transportation "problem-solving." Prerequisites: None.

UPL 410 Seminar on Social Policy Planning – 3 hrs. An examination of critical social policy issues and feasible alternative solutions. Prerequisites: None.

UPL 420 Senior Project – 3 hrs. An investigation of a selected urban issue or problem. Executed under the direction of an assigned faculty member, a paper or a report will be prepared and presented which reflects the student's analytical research and problem-solving capabilities. Prerequisites: None.

UPL 429 Professional Practice – 3 hrs. The objective of this course is to introduce students to professional methods of managing planning projects and agencies and to train students in the ethics of professional practice. It provides practical skills in project planning, proposal writing, budget development, and program management for governmental and non-profit agencies. Additionally, the course introduces concepts of professional practice and the basic requirements for American Institute of Certified Planners (AICP) membership. Prerequisites: None.

UPL 435 Transportation Planning – 3 hrs. An introduction to methods, processes, and techniques for planning a total transportation system. Prerequisites: None.

UPL 436 Health Planning – 3 hrs. An examination of the problems of community health care and the use of planning principles applied toward the provisions of comprehensive health services and facilities. Prerequisites: None.

UPL 438 Transportation Modeling – 3 hrs. This course presents an in-depth orientation to contemporary transportation, planning computer model packages, and analytical techniques. Students are introduced to calibration and application of network-based aggregate data for travel demand models. Prerequisites: None.

UPL 442 Planning and the Environment – 3 hrs. A course designed to explore relations within the natural environment that influenced the conduct of urban planning. In the process, contemporary physical, social, economic, cultural, and regulator aspects of the environmental planning are presented with an emphasis on sustaining a healthy environment for future generations while accommodating change. Prerequisites: None.

UPL 443 Housing Issues – 3 hrs. An introduction to the nature of housing needs and supply in the community. It also examines the various methods (policies and programs) used by the public sector to intervene in the housing market. In addition, the methodology and techniques utilized to assess housing conditions and needs are examined. Prerequisites: None.

UPL 444 Historic Preservation and Neighborhood Conservation – 3 hrs. A study of the legislation, standards, and practices related to the conservation of neighborhoods and historically significant buildings and districts. Prerequisites: None.

UPL 445 Environmental Assessment – 3 hrs. Introduces the student to a concentration of federal, state, and local environmental regulations that translate public policy into environmental assessment and mitigation. The course first presents the history of environmental regulatory process with emphasis on environmental, social and economic principles that influence contemporary environmental policy. Having established a theoretical framework, the relationship between different levels of regulation is explored and how it leads to reporting and addressing identifiable environmental and socio-economic impacts. Various compliance issues are also considered. In the process, students apply their knowledge of implementing environmental policy to real world environmental project review and problem-solving. Prerequisites: None.

UPL 453 Community Development Process – 3 hrs. The course teaches basic community development concepts and train students in ways residents can work together to improve their community. The course consists of reading assignments and practical exercises designed to introduce basic concepts, theories, and strategies. Students prepare and present papers and conduct practical exercises to gain an understanding of community assets and their use as community development tools. Prerequisites: None.

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