

Asheville-Buncombe Technical Community College

www.abtech.edu

Catalog of Courses

Day and Evening College

Volume 44

2006-2007

Asheville Campus

340 Victoria Road
Asheville, NC 28801

Phone: 828/254-1921
Fax: 828/251-6355
TDD: 254-1921, Ext.
444 or depress space bar
several times for operator
assistance

Enka Campus

1459 Sand Hill Road
Candler, NC 28715

Phone: 828/254-1921,
Ext. 5801
Fax: 828/418-0019

Madison Campus

4646 U.S. Hwy. 25-70
Marshall, NC 28753

Phone: 828/649-2947
Fax: 828/281-9859

Recognized and approved by:

- North Carolina Community College System
- North Carolina State Board of Education
- North Carolina Office of Emergency Medical Services
- N.C. State Approving Agency for the Use of Veterans Military and Educational Benefits

Accredited by:

- Accreditation Review Committee on Education in Surgical Technology
- American Culinary Federation
- American Dental Association
- Commission on Dental Accreditation
- Joint Review Committee on Education in Radiologic Technology
- National Accrediting Agency for Clinical Laboratory Sciences
- National Automotive Technicians Education Foundation, Inc.
- North Carolina Real Estate Commission
- North Carolina Board of Nursing
- North Carolina Appraisal Board

Asheville-Buncombe Technical Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate degrees.

Catalog changes:

This catalog should not be considered a contract between Asheville-Buncombe Technical Community College and the student. Adjustments in program or course content, sequence, schedule, and faculty may be made as necessary. A minimum enrollment may be required to offer a course or continue a program. Charges for tuition and fees are subject to change. The College Calendar dates or events may change because of inclement weather or for other reasons. If changes become necessary, efforts will be made to inform those who are involved.

Curriculum Programs

Curriculum Programs	Program	Credential	Schedule
	Accounting	A.A.S. Degree	Day/Evening
	Accounting Level I	Certificate	Day
	Accounting Level II	Certificate	Day
	Air Conditioning, Heating and Refrigeration Technology	A.A.S. Degree	Evening
	Air Conditioning, Heating and Refrigeration Technology	Diploma	Day/Evening
	Basic	Certificate	Day/Evening
	Intermediate	Certificate	Day/Evening
	Advanced	Certificate	Evening
	Commercial HVAC Maintenance Technology	Certificate	Evening
	Associate Degree Nursing	A.A.S. Degree	Day/Evening
	Automotive Systems Technology	A.A.S. Degree	Day
	Automotive Systems Technology	Diploma	Evening
	Automotive	Certificate	Day
	Baking and Pastry Arts	A.A.S. Degree	Day
	Cake Designs	Certificate	Day
	Restaurant Desserts	Certificate	Day
	Basic Law Enforcement Training	Certificate	Day/Evening
	Biotechnology	A.A.S. Degree	Day
	Business Administration	A.A.S. Degree	Day/Evening
	Carpentry	Diploma	Day/Evening
	Civil Engineering Technology	A.A.S. Degree	Day/Evening
	College Transfer:		
	Associate in Arts	A.A. Degree	Day/Evening
	Associate in Arts	A.A. Diploma	Day/Evening
	Associate in Science	A.S. Degree	Day/Evening
	Associate in Fine Arts	A.F.A. Degree	Day
	Computer-Aided Drafting Technology	A.A.S. Degree	Day/Evening
	Computer-Aided Drafting	Certificate	Day/Evening
	Computer Engineering Technology	A.A.S. Degree	Day/Evening
	PC and Network Maintenance	Certificate	Day/Evening
	Computer Information Technology	A.A.S. Degree	Day/Evening
	Database Management	Certificate	Day/Evening
	Microcomputer Applications	Certificate	Day/Evening
	PC Installation and Maintenance	Certificate	Day/Evening
	Construction Management Technology	A.A.S. Degree	Evening
	Construction Management Technology	Certificate	Evening
	Criminal Justice Technology	A.A.S. Degree	Day/Evening
	Culinary Technology	A.A.S. Degree	Day
	Dental Assisting	Diploma	Day
	Dental Hygiene	A.A.S. Degree	Day
	Digital Media Technology	A.A.S. Degree	Day/Evening
	Early Childhood Associate	A.A.S. Degree	Day
	Early Childhood	Certificate	Day/Evening
	Infant/Toddler Care	Certificate	Day/Evening
	Early Childhood/Teacher Associate	A.A.S. Degree	Day
	Electrical/Electronics Technology	A.A.S. Degree	Evening
	Electrical/Electronics Technology	Diploma	Evening
	Electrical Wiring	Certificate	Evening

Electronics Engineering Technology	A.A.S. Degree	Day/Evening	
Instrumentation and Control	Certificate	Day/Evening	
Emergency Medical Science	A.A.S. Degree	Day	
Fire Protection Technology	A.A.S. Degree	Day/Evening	
Fire Protection Technology	Certificate	Day/Evening	
General Occupational Technology	A.A.S. Degree	Day/Evening	
General Occupational Technology	Diploma	Day/Evening	Curriculum
Heavy Equipment and Transport Technology	A.A.S. Degree	Evening	
Heavy Equipment and Transport Technology	Diploma	Day	Programs
Heavy Equipment and Transport Technology	Certificate	Day	
Hotel and Restaurant Management	A.A.S. Degree	Day	
Bed and Breakfast/Inn Management	Certificate	Day	
Hospitality Management	Certificate	Day/Evening	
Human Resources Management	A.A.S. Degree	Evening	
Industrial Systems Technology	A.A.S. Degree	Day/Evening	
Basic Maintenance	Certificate	Day/Evening	
Metal Fabrication	Certificate	Day/Evening	
Information Systems Security	A.A.S. Degree	Day/Evening	
Machining Technology	A.A.S. Degree	Day/Evening	
Machining Technology	Diploma	Day/Evening	
Basic	Certificate	Day/Evening	
CNC Programming	Certificate	Day/Evening	
Marketing and Retailing	A.A.S. Degree	Day/Evening	
Retail Marketing	Certificate	Day/Evening	
Mechanical Engineering Technology	A.A.S. Degree	Day	
Medical Laboratory Technology	A.A.S. Degree	Day	
Medical Office Administration	Diploma	Day/Evening	
Medical Coding	Certificate	Evening	
Medical Sonography	A.A.S. Degree	Day	
Medical Transcription	Diploma	Day/Evening	
Networking Technology	A.A.S. Degree	Day/Evening	
Cisco Certified Network Associate	Certificate	Day	
Cisco Certified Network Professional	Certificate	Day/Evening	
Networking	Certificate	Day	
Networking Security	Certificate	Day/Evening	
Open Source Operating Systems	Certificate	Day/Evening	
Office Systems Technology	A.A.S. Degree	Day	
Office Systems Technology	Diploma	Day	
Word Processing/Desktop Publishing	Certificate	Day/Evening	
Phlebotomy	Certificate	Day	
Practical Nursing	Diploma	Day	
Radiography	A.A.S. Degree	Day	
Real Estate	Certificate	Evening	
Real Estate Appraisal	A.A.S. Degree	Evening	
Real Estate Appraisal	Certificate	Evening	
Social Services	A.A.S. Degree	Day/Evening	
Surgical Technology	Diploma	Day	
Surveying Technology	A.A.S. Degree	Day/Evening	
Veterinary Medical Technology	A.A.S. Degree	Day/Evening	
Web Technologies	A.A.S. Degree	Day/Evening	
Welding Technology	A.A.S. Degree	Day/Evening	
Welding Technology	Diploma	Day/Evening	
Welding Technology	Certificate	Day/Evening	

Directory of College Services and Offices

Continuing Education and Off-Campus Programs	Vice President Haynes Technology Center, Enka Campus, Ext. 5837
Adult Basic Skills/Human Resources Development	Executive Director Pines Building, Asheville Campus, Ext. 488
Community Service Programs	Director Pines Building, Asheville Campus, Ext. 134
Corporate and Economic Development	Executive Director Haynes Technology Center, Enka Campus, Ext. 5821
GED Preparation	Pines Building, Asheville Campus, Ext. 132
GED Test Scheduling	Basic Skills Office Pines Building, Asheville Campus, Exts. 132, 137
GED Test Results/Transcripts	GED Examiner Pines Building, Asheville Campus, Ext. 312
Occupational and Public Service Training	Executive Director Haynes Technology Center, Enka Campus, Ext. 5836
Curriculum Programs	Vice President, Instructional Services Simpson Administration Building, Asheville Campus, Ext. 120
Allied Health and Public Service Education	Dean Rhododendron Building, Asheville Campus, Ext. 250
Arts and Sciences	Dean Elm Building, Asheville Campus, Ext. 310
Business and Hospitality Education	Dean Birch Building, Asheville Campus, Ext. 286
Career Pathways Partnership	Director Sunnicrest Building, Asheville Campus, Ext. 439
Engineering and Applied Technology	Dean Dogwood Building, Asheville Campus, Ext. 220
Student Services	Vice President, Student Services Azalea Building, Asheville Campus, Ext. 140
Admissions	Admissions Office, Student Services Azalea Building, Asheville Campus, Exts. 144, 145, 210
Counseling	Counselors, Student Services Azalea Building, Asheville Campus, Exts. 141, 146, 206, 434
Disabled Student Services	Coordinator of Disability Services, Student Services Azalea Building, Asheville Campus, Ext. 141
International Student Services	International Student Advisor, Student Services Azalea Building, Asheville Campus, Ext. 441
Student Academic Records	Student Records and Registration Student Services, Azalea Building, Asheville Campus, Ext. 376
Student Activities	Director of Student Activities Coman Student Activity Center, Asheville Campus, Ext. 203
Transcript Request	Student Records and Registration Student Services, Azalea Building, Asheville Campus, Ext. 204

Transfer Credits	Director of Admissions Student Services, Azalea Building, Asheville Campus, Ext. 202	Directory of College
Transfer-to-Senior-Institution Information	Transfer Advising Center Elm Building, Asheville Campus, Ext. 180 or 183	Services and Offices
Veterans.....	Veteran's Service Office Azalea Building, Asheville Campus, Ext. 206	
Visiting the Campus	College Recruiter, Student Services Coman Student Activity Center, Asheville Campus, Ext. 203	
Learning Resources	Dean Holly Learning Resources Center, Asheville Campus, Ext. 310	
Academic Learning Center	Coordinator Laurel Building, Asheville Campus, Ext. 228	
Distance Learning.....	Director Sycamore Building, Asheville Campus Ext. 300	
Instructional Technology.....	Coordinator Holly Learning Resources Center, Asheville Campus, Ext. 304	
Library	Director Holly Learning Resources Center, Asheville Campus, Ext. 307	
College Services and Information		
ADA Coordinator	Director of Human Resources Sunnicrest Building, Asheville Campus, Ext. 113	
Books	Bookstore Coman Student Activity Center, Asheville Campus, Exts. 274, 208	
Emergencies	Ext. 125 or 9-911	
Financial Aid	Financial Aid Office Azalea Building, Asheville Campus, Exts. 163, 876	
Foundation	Executive Director Simpson Administration Building, Asheville Campus, Ext. 176	
Intramurals	Ext. 843	
Job Placement	JobLink Center Maple Building, Asheville Campus, 250-4761	
Mountain Tech Lodge	Manager Magnolia Building, Asheville Campus Ext. 248	
News, Publications	Director of Communications Simpson Administration Building, Asheville Campus, Ext. 117	
Parking Permits	Accounting Clerk/Cashier Simpson Administration Building, Asheville Campus, Ext. 152	
Payments, Student Accounts	Business Office Simpson Administration Building, Asheville Campus, Exts. 152, 156, 155	
Security.....	Chestnut Building, Asheville Campus Ext. 0	
Curriculum Programs		
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Address correspondence to the appropriate office in care of:
Asheville-Buncombe Technical Community College
340 Victoria Road
Asheville, NC 28801

Tel: 828/254-1921
Fax: 828/251-6355
Internet: www.abtech.edu

College Calendar 2006-2007

Fall Semester - 2006

Registration: Current and Continuing Students	July 24 - 28
Registration: New Classified Students.....	July 31 - August 4
Open Registration	August 7 - 17
Last Day to Pay Tuition and Fees.....	August 17
New Student Welcome.....	August 17 - 9:00 a.m. and 6:00 p.m.
Classes Begin.....	August 18
Schedule Adjustments	August 18 - 22
Minimester I	August 18 - October 17
Last Day to Drop for a Partial Refund (Full term)	August 29
Professional Development - 1/2 Day	September 19
Fall Break	October 9 - 10
Minimester II second registration period	October 11 - 17
Minimester II.....	October 18 - December 15
Last Day to Withdraw from a full 16-Week Class	November 14
Thanksgiving Break	November 22 - 24
Last Day of Class/Examinations*	December 15
Total Class Days.....	80
Holidays.....	September 4, November 23 - 24, December 21 - 29, January 1

College
Calendar

Spring Semester - 2007

Registration: Current and Continuing Students	November 27 - December 1
Open Registration	December 4 - January 5
Last Day to Pay Tuition and Fees.....	January 5
New Student Welcome.....	January 5, 9 a.m.
Classes Begin	January 8
Schedule Adjustments	January 8 - 10
Minimester I	January 8 - March 5
Student Break.....	March 9
Last Day to Drop for a Partial Refund (Full term)	January 18
Professional Development - 1/2 Day	February 20
Minimester II second registration period.....	February 26 - March 6
Minimester II.....	March 6 - May 8
Last Day to Apply for Spring Graduation	March 2
Last Day to Withdraw from a full 16-Week Class	April 3
Spring Break.....	April 10 - 13
Last Day of Class/Examinations*	May 8
Spring Graduation.....	May 11
Total Class Days.....	80
Holidays.....	January 15, April 9

Summer Session - 2007

	Registration: Current and Continuing Students	April 30 – May 4
	Open Registration	May 7 - 18
	Last Day to Pay Tuition and Fees.....	May 18
College	New Student Welcome.....	May 21
Calendar	Classes Begin.....	May 22
	Schedule Adjustments	May 21
	Last Day to Drop for a Partial Refund.....	May 28
	Last Day to Apply for Summer Graduation	May 22
	Last Day to Withdraw from a full 10-Week Class.....	July 13
	Last Day of Class/Examinations	July 31
	Summer Graduation.....	August 3
	Total Class Days.....	50

Holiday July 4

*Up to three days may be made up at the end of the semester or during spring break for inclement weather.

All dates in this calendar are subject to change.

2006

January					February					March					April						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
1	2	3	4	5	6	7			1	2	3	4			1	2	3	4		1	
8	9	10	11	12	13	14	5	6	7	8	9	10	11	5	6	7	8	9	10	11	
15	16	17	18	19	20	21	12	13	14	15	16	17	18	12	13	14	15	16	17	18	
22	23	24	25	26	27	28	19	20	21	22	23	24	25	19	20	21	22	23	24	25	
29	30	31					26	27	28					26	27	28	29	30		29	
																				30	
May					June					July					August						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
1	2	3	4	5	6				1	2	3				1		1	2	3	4	5
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8	
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15	
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22	
28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29	
																				31	
September					October					November					December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
1	2	3	4	5	6		1	2	3	4	5	6	7	1	2	3	4	5	6	7	
3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11	
10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18	
17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25	
24	25	26	27	28	29	30	29	30	31					26	27	28	29	30		31	

2007

January					February					March					April					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6				1	2	3	4		1	2	3	4	5	6	7
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28	29	30		25	26	27	28	29	30	31
May					June					July					August					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6				1	2	3	4		1	2	3	4	5	6	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31				31
September					October					November					December					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1		1	2	3	4	5	1	1	2	3	4	5	6	1	2	3	4	5	6	7
2	3	4	5	6	7	8	7	8	9	10	11	12	13	4	5	6	7	8	9	10
9	10	11	12	13	14	15	14	15	16	17	18	19	20	11	12	13	14	15	16	17
16	17	18	19	20	21	22	21	22	23	24	25	26	27	18	19	20	21	22	23	24
23	24	25	26	27	28	29	28	29	30	31				25	26	27	28	29	30	31

Summary of Performance Measures

2005 Report

Performance Measure

1. Progress of Basic Skills Students
Standard: 75% making progress

2. Passing Rates for Licensure and Certification Exams
Standard: 80% aggregate passing rate
 70% minimum passing rate for all exams

3. Goal Completion of Completers
Standard: 95% goal achievement

4. Employment Status of Graduates
Standard: 96% employment rate
 adjusted for local employment conditions

5. Performance of College Transfer Students
Standard: Equivalent to Native UNC Sophomores and Juniors (86.8%)

6. Passing Rates of Students in Developmental Courses
Standard: 70% passing rate

7. Success of Developmental Students in Subsequent College Courses
Standard: No statistically significant difference between the performance of developmental and non-developmental students

8. Satisfaction of Completers and Non-Completers
Standard: 90% satisfied with the quality of college programs and services

9. Curriculum Student Retention and Graduation
Standard: 60% of student cohort retained or graduated

10. Employer Satisfaction
Standard: 85% satisfied with the services provided by the college

11. Business/Industry Satisfaction with Services Provided
Standard: 90% satisfied with the services provided by the college

12. Program Unduplicated Headcount Enrollment
Standard: Three year average annual enrollment of more than 10 students

Standard Met

YES

84% making progress

Performance

Measures

NO

90% aggregate passing rate
8 of 9 exams with 70% or higher passing rate

YES

100% of completers met their educational goal

YES

99.8% employment rate

YES

89.7% of college transfer students had a GPA of 2.0 or above after two semesters at a UNC institution

YES

89% passing rate

YES

Developmental pass rate: 86%
Non-developmental pass rate: 84%

YES

97% satisfaction rate

YES

65% retention rate

YES

97% satisfaction rate

YES

100% satisfaction rate

YES

All A-B Tech programs met this standard

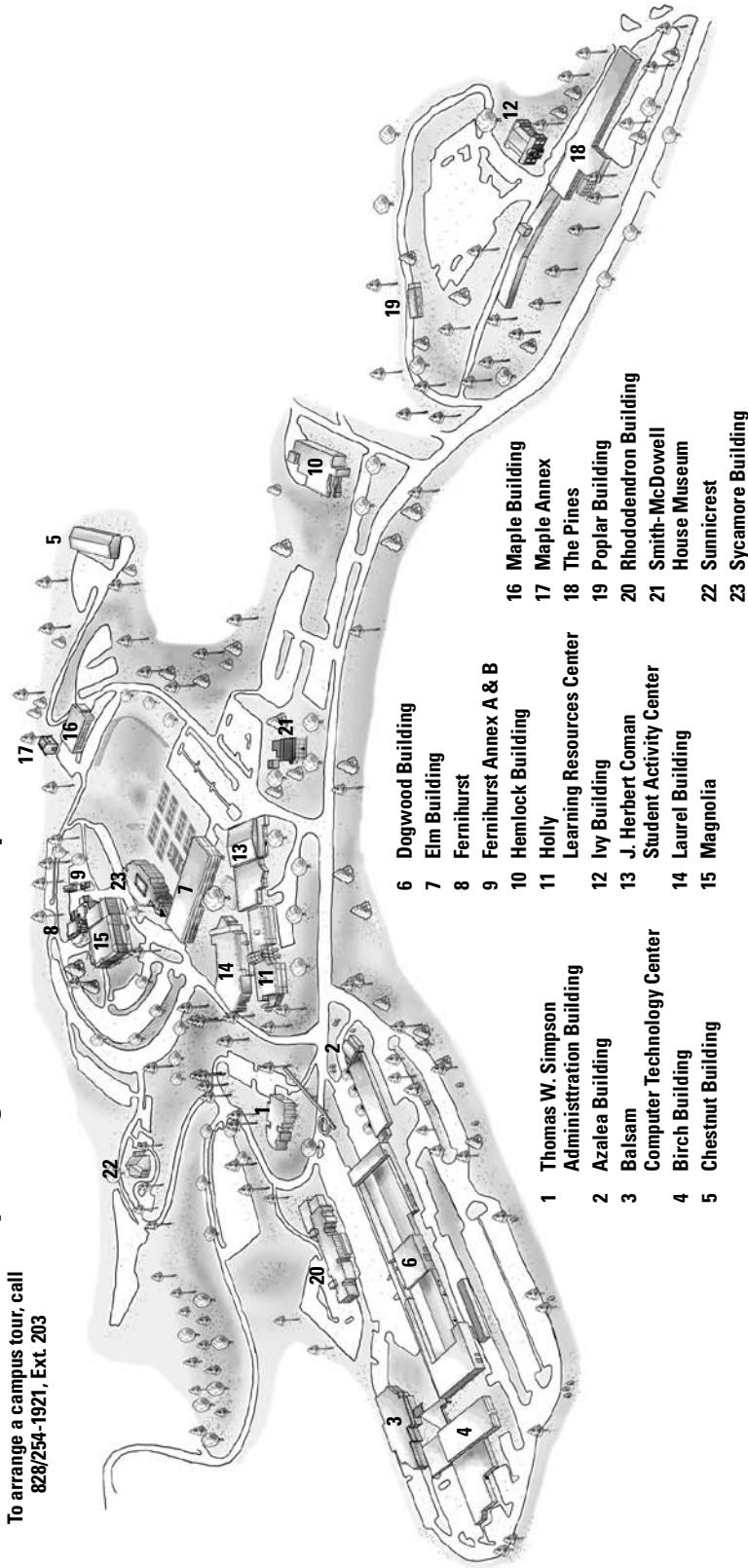
Source: 2005 Critical Success Factors Report

Campus

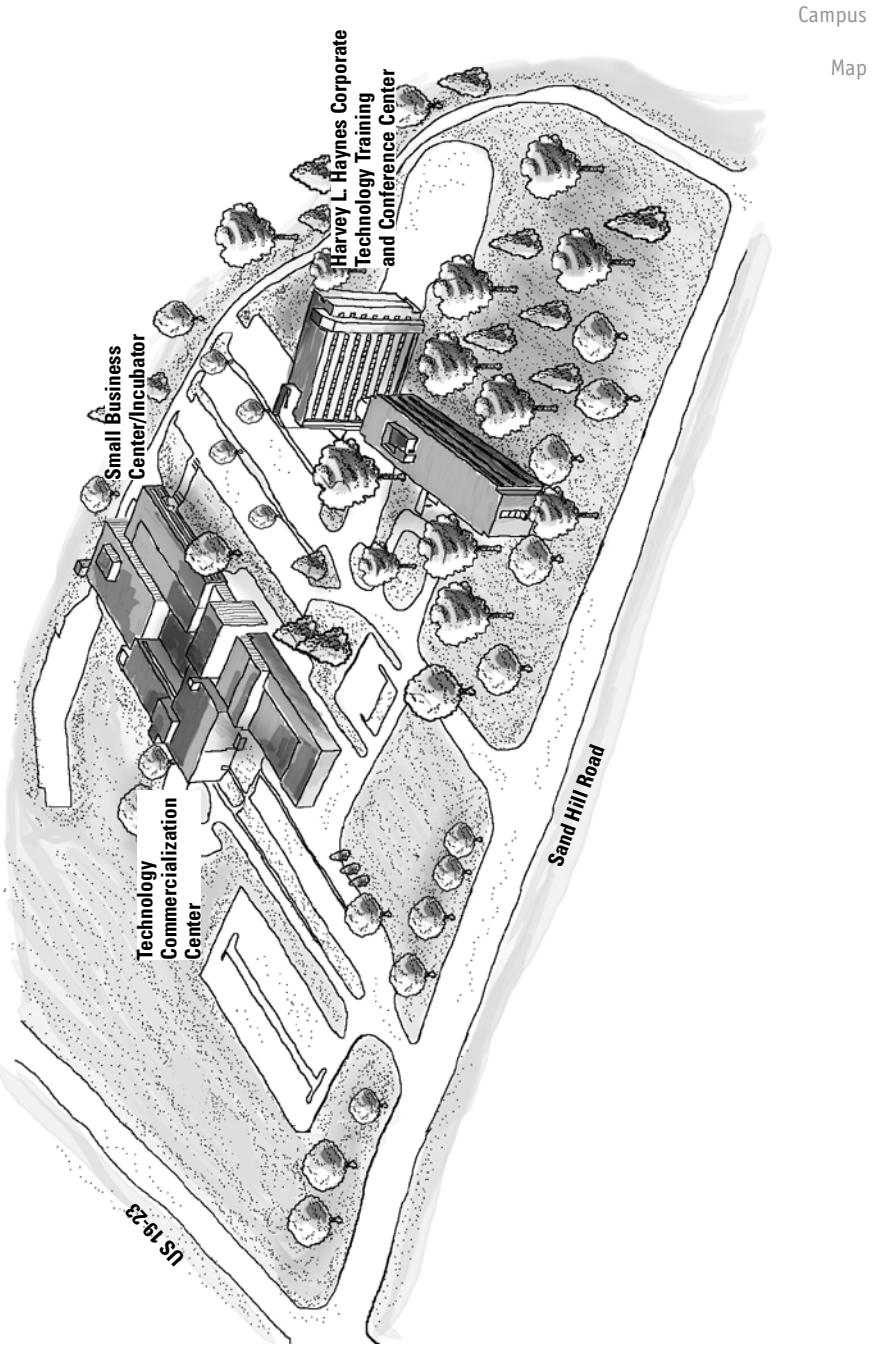
Map

Asheville-Buncombe Technical Community College - Asheville Campus

To arrange a campus tour, call
828/254-1921, Ext. 203



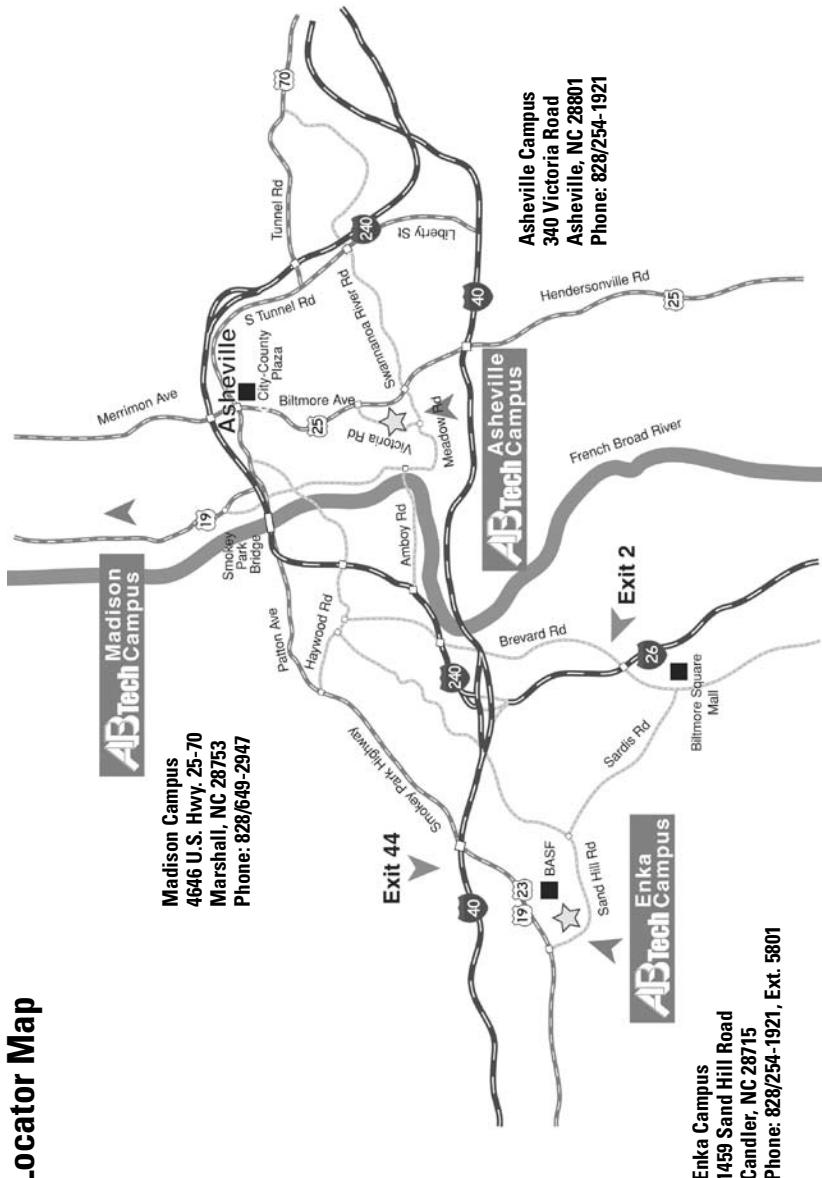
Asheville-Buncombe Technical Community College - Enka Campus



Campus Locator Map

Campus

Map



Buildings Legend

Asheville Campus Facilities

Thomas W. Simpson Administration Building	Administrative Services Business Office College Relations Office Communications Office Elevated Lecture Room Foundation Office Instructional Services Office of the President	Dogwood Building Air Conditioning, Heating, and Refrigeration Technology Automotive Systems Technology Carpentry Construction Management Technology Electrical/Electronics Technology Heavy Equipment and Transport Technology Machining Technology Welding Technology	Buildings Legend
Azalea Building	Admissions Office Career Center Counseling Offices Disability Services Employee and Organization Development Director Financial Aid Office International Student Services Placement Testing Records and Registration(Registerar) Research and Planning Office Veterans Representative	Elm Building Certified Nursing Assistant (CNA) Civil Engineering Technology Electronics Engineering Technology English/Communications Humanities/Fine Arts Mathematics Mechanical Engineering Technology Surveying Technology Transfer Advising Center	
Balsam Computer Technology Center	Cisco Regional Academy Computer Information Technology Digital Media Technology Information Systems Medical Coding Medical Office Administration Medical Transcription Microcomputer Applications Networking Technology Office Systems Technology Word Processing/Desktop Publishing	Fernihurst Baking and Pastry Arts Culinary Technology Dining Rooms Hotel and Restaurant Management	
Birch Building	Accounting Business Administration Computer-Aided Drafting Technology Early College Human Resources Management Marketing and Retailing Real Estate Real Estate Appraisal	Fernihurst Annex A and B Faculty Offices Studio Art	
Chestnut Building	Plant Operations Receiving Security Office	Hemlock Building Basic Law Enforcement Training Criminal Justice Technology Early Childhood Associate Emergency Medical Science Fire Protection Technology Social Services Teacher Associate	
		Holly Learning Resources Center Audiovisual Services Library LRC Computer Lab	
		Ivy Building Continuing Education Classes Decorative Restoration	

<p>Buildings</p> <p>Legend</p>	<p>J. Herbert Coman Student Activity Center</p> <ul style="list-style-type: none"> A-B Tech Café Bookstore Gym Health and Physical Education Intramurals Recruiter Student Government Association Student Activities Student Lounge <p>Laurel Building</p> <ul style="list-style-type: none"> Academic Learning Center Developmental Studies Ferguson Auditorium Social/Behavioral Sciences <p>Magnolia</p> <ul style="list-style-type: none"> Baking and Pastry Arts Culinary Technology Dining Rooms Hotel and Restaurant Management Mountain Tech Lodge <p>Maple Building</p> <ul style="list-style-type: none"> Continuing Education Classes Flexible Automated Manufacturing Training Center JobLink Career Center Workforce Development Office <p>Maple Annex</p> <ul style="list-style-type: none"> Continuing Education Classes <p>The Pines</p> <ul style="list-style-type: none"> Adult Basic Education (ABE) Adult High School Compensatory Education Continuing Education Business Office/Registration Continuing Education Classes English as a Second Language General Education Development (GED) Human Resources Development Program <p>Poplar Building</p> <ul style="list-style-type: none"> Child Care Center <p>Rhododendron Building</p> <ul style="list-style-type: none"> Associate Degree Nursing Dental Assisting Dental Hygiene Information Systems Technology Medical Laboratory Technology Medical Sonography Phlebotomy 	<p>Practical Nursing</p> <p>Radiography</p> <p>Surgical Technology</p> <p>Veterinary Medical Technology</p> <p>Smith-McDowell House Museum (Leased to WNC Historical Association)</p> <p>Museum of WNC History</p> <p>Sunnicrest</p> <ul style="list-style-type: none"> ADA Coordinator Buncombe County Middle College Career Pathways Partnership Human Resources <p>Sycamore Building</p> <ul style="list-style-type: none"> Biology Chemistry/Physics Distance Learning Video Conference Center
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Enka Campus Facilities

<p>Harvey L. Haynes Corporate Technology Training and Conference Center</p>	<ul style="list-style-type: none"> Continuing Education Administration Continuing Education Classes Continuing Education Business Office/Registration Corporate and Economic Development Occupational and Public Service Training
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Technology Commercialization Center

<ul style="list-style-type: none"> Biotechnology BioWork Classroom/Lab Technology Commercialization Incubator
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Small Business Center

<ul style="list-style-type: none"> Small Business Incubator
--

Madison Campus Facilities

<p>Liston B. Ramsey Building</p>	<ul style="list-style-type: none"> Administrative Offices Auditorium Classrooms Computer Lab Conference Room Shop
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Organization

Organization

History

Asheville-Buncombe Technical Community College has served as the community's premier technical educator for many years. Originally funded by a bond election, the institution was established Sept. 1, 1959, and named the Asheville Industrial Education Center.

Following legislation creating the North Carolina System of Community Colleges that was enacted in 1963 by the General Assembly, the name was changed on Jan. 27, 1964, to Asheville-Buncombe Technical Institute. This legislation enabled the College to confer the Associate in Applied Science degree for the first time at graduation ceremonies in August 1964.

The Board of Trustees approved a third name change to Asheville-Buncombe Technical College on Aug. 6, 1979. A final name change occurred Nov. 2, 1987, when the Board of Trustees approved Asheville-Buncombe Technical Community College, an action which became official when endorsed by the Buncombe County Commissioners on Nov. 3, 1987.

In October 1988 the College received approval to offer associate degree programs and in September 1989 enrolled its first class for the Associate in Science degree. The Associate in Arts degree was first offered during summer quarter 1990-91.

On Jan. 18, 1990, A-B Tech officially opened a satellite campus in Madison County. The College had served the county out of temporary quarters at the Marshall Elementary School since Dec. 12, 1984.

In its early years, the College administered the operation of four units located throughout Western North Carolina. These units have gained independent status and are now fully accredited community colleges.

By the fall term of 1997, the College had reengineered all programs and converted to the semester system.

On Oct. 23, 2000, BASF Corporation donated approximately 37 acres and three buildings to A-B Tech to establish a satellite campus in Enka that includes a small business incubator and a corporate technology training and conference center.

Administration

The College was initially administered by the Asheville City School Board of Education. Following the establishment of the North Carolina System of Community Colleges, control passed to an independent board of trustees.

From the beginning, prominent Asheville and Buncombe County business and community leaders have helped to guide the College. In addition, each academic program has an advisory committee made up of local practitioners. Several hundred local citizens provide guidance for the educational programs of the College.

Organization

Curricula

The first program offered by the College was Practical Nursing. Electronics Engineering Technology and the Machinist programs were started in 1960. These three curricula are still offered along with many other career and College transfer programs.

The College offers the Associate in Arts, the Associate in Science, the Associate in Fine Arts, and the Associate in Applied Science degrees, diplomas, and certificates.

The Associate in Arts, Associate in Science, and Associate in Fine Arts degree programs are offered in the Division of Arts and Sciences. All career curricula and courses are offered through three divisions: Allied Health and Public Service Education, Business and Hospitality Education, and Engineering and Applied Technology. In addition, noncredit academic, avocational, practical skills, and occupational classes and activities are offered through the Continuing Education Division.

Continuing Education courses are generally offered, with sufficient enrollment, on demand. Curriculum courses are usually offered on planned schedules in both the day and evening/weekend programs. Many curriculum classes are also offered in clusters for unclassified students. Some Continuing Education courses-including Adult Basic Education, Human Resources Development, New and Expanding Industry Training, Small Business Center, Total Quality Management, and Focused Industrial Training activities-are ongoing or are repeated on a regular basis.

Both curriculum and Continuing Education programs are supported through the activities of the GED Testing program, Guided Studies, and the Learning Resources Center. Classes meet on campus and at various off-campus sites. Course requirements are the same without regard to meeting times or locations.

Campus Facilities

On March 15, 1961, the Industrial Education Center moved into two newly constructed buildings off Victoria Road in Asheville. Over the years the Board of Trustees has acquired land that today totals 144 acres.

Twenty-three buildings house academic programs and campus services. Included in this total is the Smith-McDowell House, the oldest brick house in Buncombe County, leased to the Western North Carolina Historical Association.

On Jan. 18, 1990, the College established a campus in Madison County. The satellite operation provides adult education and College credit courses for the people of Madison County.

Over the years a combination of special funding has provided for cam-

pus expansion. Since 1985 the North Carolina General Assembly has approved \$5 million in special legislation for campus construction.

Since 1987, Buncombe County voters have approved \$13.5 million in bonds to be used for campus additions and renovations. In statewide bond referendums, voters approved \$5 million in 1993 and \$14 million in 2000 for capital projects at A-B Tech.

Organization

Buncombe County Commissioners purchased for A-B Tech property belonging to St. Genevieve Gibbons Hall, a private school that merged with Asheville Country Day School to form the Carolina Day School. The Board of Trustees acquired the title to these 12.77 acres and four buildings on Sept. 23, 1987. Additionally, in 1990 the Commissioners purchased 16.75 acres contiguous to the west boundaries of the campus. This purchase included Sunnicrest, the only remaining lodge constructed by George Vanderbilt. The lodge has been renovated to house College offices.

On Oct. 21, 1987, A-B Tech in cooperation with Buncombe Child Development opened a Child Care Center, which offers day service to students and faculty.

On Oct. 23, 2000, BASF Corporation donated nearly 37 acres and three buildings to A-B Tech to establish a satellite campus in Enka that includes a small business incubator and a corporate technology training and conference center.

Asheville-Buncombe Technical Community College Foundation

The Asheville-Buncombe Technical Community College Foundation was established in 1996 as a separate 501(c)(3) non-profit corporation. Its sole purpose is to provide financial support for the students and programs of Asheville-Buncombe Technical Community College. The ABTCC Foundation meets critical needs that cannot be addressed in the College's normal operating budget. All gifts are tax deductible as allowed by law.

Current Status

A-B Tech, with strong local support, has grown in facilities and land acquisition, in enrollment, in curricula, and in expanded services to the community. The College has the largest total headcount enrollment of any institution of higher education in Western North Carolina, serving more than 26,000 in 2004-2005.

Location

The main campus is located on Victoria Road in Asheville, North Carolina, a city repeatedly named as one of the most livable towns in America.

Situated near major interstates and on local bus routes, the College is convenient to the citizens it serves. The Madison Campus is located in Marshall, NC. The Enka Campus is located in the Enka community near Asheville, NC.

College Mission, Vision, and Strategic Plan

Organization

College Mission Statement

A-B Tech, the community's college, is dedicated to student success. As a comprehensive community college, A-B Tech is committed to providing accessible, quality, educational opportunities for lifelong learning to meet the diverse and changing needs of our community.

College Vision Statement

A-B Tech's vision is to develop strategies for student success through Invitational Education.

College Strategic Plan

Consistent with our mission and vision, A-B Tech has identified the following strategic goals:

1. Utilize comprehensive research, planning, and marketing to ensure the effectiveness of college programs and services.
 - a. Develop and implement a comprehensive program for marketing the college.
 - b. Ensure that departments/divisions utilize the results of the college planning and evaluation process.
2. Attract, develop, and retain qualified employees who are dedicated to student success.
 - a. Determine the college's human resource needs to ensure effective and efficient utilization of resources and delivery of college programs and services.
 - b. Establish an efficient approach to the recruitment process that expands the number and diversity of qualified candidates.
 - c. Establish a selection process that more accurately identifies candidates who are likely to be successful on the job.
 - d. Enhance the success, quality, and stability of the college through organization and leadership development.
 - e. Establish and maintain a performance management program that facilitates organization and employee growth.
3. Utilize college facilities to effectively accommodate increasing enrollment and facilitate the efficient delivery of programs and services.
 - a. Ensure adequate facilities to meet program needs and to promote institutional effectiveness.
 - b. Implement a utilization plan for college properties to improve the use of space for college activities.
4. Ensure the success and stability of the college through efficient administrative processes and diversified financial resource development.

- a. Implement the new administrative information system with minimal disruption.
 - b. Implement administrative processes that improve efficiency.
 - c. Complete a plan for diversified financial resource development.
5. Enable prospective and current students to achieve their educational goals in an environment that focuses on meeting their needs.
- a. Implement success strategies to assure student perseverance toward goal completion.
 - b. Provide effective academic advising and career counseling services.
 - c. Ensure consistent quality services to students in Huskins Bill Programs.
 - d. Promote transition opportunities between continuing education and curriculum.
 - e. Facilitate student transfers between A-B Tech and four-year colleges and universities.
6. Offer educational opportunities that promote academic excellence and complement community development.
- a. Offer quality instructional programs that are relevant, affordable, and responsive to community needs.
 - b. Encourage and support the implementation of innovative teaching methods.
 - c. Utilize alternative delivery methods to meet the diverse needs of students, and assess their effectiveness.
7. Support economic development through strategic business and community partnerships.
- a. Provide a variety of innovative services to the business community.
 - b. Collaborate with other organizations to attract emerging technology companies to the region.
 - c. Establish more community and business partnerships.

Organization

Nondiscrimination Policy

Asheville-Buncombe Technical Community College does not discriminate on the basis of sex, race, color, national origin, age, disability, or religion, in the educational programs or activities which it operates. The College is required by Title IX of the Education Amendment of 1972 not to discriminate on the basis of sex, and under other Federal legislation the College will not discriminate on the basis of race, color, national origin, age, disability, or religion. The requirement not to discriminate in education programs and activities extends to employment in the College and to admission into its programs.

Inquiries or complaints concerning the application of Title IX, the ADA,

and other Federal nondiscrimination legislation to Asheville-Buncombe Technical Community College should be referred to:

Director of Human Resources
Asheville-Buncombe Technical Community College
340 Victoria Road
Asheville, North Carolina 28801
Sunnicrest Building
Telephone: 828/254-1921, Ext. 113
TDD: 254-1921, Ext. 444 or depress space bar several times for operator assistance
Internet: www.abtech.edu

Organization

Individuals with Disabilities

Individuals with disabilities (as defined in the Americans with Disabilities Act of 1990, "ADA") wishing to make a request for reasonable accommodation, auxiliary communication aids or services, materials in alternative accessible formats, or who wish to file a complaint of alleged discrimination on the basis of disability should contact the Director of Human Resources listed above.

Communicable Disease Policy

Asheville-Buncombe Technical Community College shall not discriminate against applicants, employees, students, or persons utilizing A-B Tech services who have or are suspected of having a communicable disease. As long as employees are able to perform satisfactorily the essential functions of the job, and there is no medical evidence indicating that the employee's condition is a threat to the health or safety of the individual, coworkers, students, or the public, an employee shall not be denied continued employment. Applicants shall not be denied employment, nor shall students be denied admission to the campus or classes, nor shall persons utilizing A-B Tech services be denied services based on whether they are suspected of having a communicable disease so long as there is no threat to the health and safety of students, staff, or others involved. A-B Tech will consider the educational or employment status of individuals with a communicable disease or suspected of a communicable disease on an individual, case-by-case basis following any procedures outlined by the President.

Internet and Campus Network Acceptable Use Policy

Asheville-Buncombe Technical Community College provides campus network and computing facilities including Internet access for the use of faculty, staff, students, and other authorized individuals in support of the research, educational, and administrative purposes of the College.

The College has extensive information technology resources and systems available for both instruction and administrative applications. Faculty, staff, and students are encouraged to become familiar with College technology resources and systems and to use them on a regular basis. Users are expected to exercise responsible, ethical behavior when using these resources and to adhere to the following guidelines:

1. The Internet and associated resources contain a wide variety of material and information. Information available on the Internet is not generated or selected by Asheville-Buncombe Technical Community College. The College is not responsible for the accuracy or quality of the information obtained through or stored on the campus network.

Organization

2. The creation, display, or transmittal of illegal, malicious, or obscene material is prohibited.
3. Asheville-Buncombe Technical Community College will not be liable for the actions of anyone connecting to the Internet through College facilities. All users shall assume full liability (legal, financial, or otherwise) for their actions.
4. The user is responsible for complying with laws protecting software or other accessed information. Downloading programs and files may violate United States copyright laws that protect information and software. Although the Internet provides easy access to software distributed by companies on a trial basis, this does not mean that the software is free or that it may be distributed freely. All files downloaded from a source external to the campus must be scanned for viruses.
5. Because of the unsecure nature of transmitting files electronically, no right of privacy exists with regard to e-mail, Internet sessions, or electronic file storage and transmission. When sending or forwarding e-mail over the campus network or the Internet, users shall identify themselves clearly and accurately. Anonymous or pseudonymous posting is expressly forbidden.
6. Asheville-Buncombe Technical Community College computing and telephone facilities maintain usage statistics in archived log files for the purpose of monitoring system performance and usage patterns. Users must not perform tasks they would not want logged.
7. College employees may make reasonable personal use of the campus network, e-mail, and the Internet as long as the direct measurable cost to the public is none or is negligible, and there is no negative impact on employee's performance of duties.
8. All users of the Internet by way of College facilities must comply with all relevant policies and procedures of the College.
9. Use of the Internet for commercial gain or profit is not allowed from a College site.

Failure to comply with any of these provisions will result in disciplinary action as provided for under the disciplinary policies and procedures of the College.

A-B Tech provides access to the Internet by way of the North Carolina Integrated Information Network. As such, all users are subject to the governing policies established by the North Carolina Information Resource Management Commission (IRMC) in addition to the above A-B Tech Internet and Campus Network Acceptable Use Policy. The current IRMC policy governing use of the North Carolina Integrated Information Network and the Internet can be reviewed on their Web site at www.scio.state.nc/sitPolicies.asp.

Organization



Continuing Education

Continuing Education provides employee skill training for business and industry, vocational education opportunities for the unemployed, upgrading courses for those already employed, adult basic education for those seeking a higher educational level, and avocational courses for individual enrichment.

Continuing

Education

Continuing Education

The Continuing Education Division offers classes and training to support the economic development of the community and its citizens. Needs for higher academic education, employment skills, basic educational skills, job training and retraining, personal growth and development, and business and economic development are continually identified through a variety of assessments.

Different learning approaches to meet community needs involve traditional classroom instruction, individualized instruction, computer-assisted learning, community-based learning centers, on-site classes and training for business and industry, and apprenticeships. Also available is assessment, consultation, and technical assistance for individuals, businesses, industries, and public and private sector agencies.

The educational offerings of the Continuing Education Division are built on the concept of lifelong learning. Classes and training are provided in different formats, at a variety of times, and at locations where the needs of students can most conveniently be met.

Some of the Continuing and Off-Campus Education programs are coordinated with the Workforce Investment Act (WIA) or the WorkFirst programs of other agencies. These and other similar programs represent joint efforts to bring education and training services to the community.

Training and course work may carry Continuing Education Unit (CEU) credit; these unit credits are not a part of college curriculum diploma or degree programs. Curriculum courses that carry full college diploma and degree credits are offered at off-campus sites through the coordinated efforts of Continuing Education Program directors and the deans and department chairs of the four curriculum academic divisions of the College.

The Continuing Education Division provides programs for adults age 18 or older. Minors may enroll for some classes with special permission. For some programs, the enrollment of minors cannot displace an adult.

Costs

Costs for Continuing Education classes vary, but there is usually a nominal registration fee. Fees may also be charged for books, materials, and supplies. For some classes, North Carolina residents age 65 or older are exempted from registration fees. There are no registration fees for basic skills classes.

Course Repetition

There is a limit to the number of times a student may enroll in a particular continuing education class. The Continuing Education Course Repetition policy guides enrollment in selected types of classes.

Occupational training courses may not be taken more than twice within a five-year period without the student paying the full cost of the course as determined by the College. Students may repeat occupational training courses more than once if the repetitions are required for certification, licensure, or recertification.

A course other than occupational training may not be taken for more than two consecutive terms without a break of at least one term.

Students who are enrolled in Adult Basic Education (ABE), General Education Development (GED), or Compensatory Education classes may continue in them as long as reasonable educational and/or social progress is being made according to the goals of the program. Students in Compensatory Education classes will be reviewed after no more than two years to determine whether they will continue in the program.

The College reserves the right to modify this policy in general or relative to a given course as necessary to meet the needs of the College and its students.

Services

Continuing Education needs are addressed in four domains: (1) Corporate and Economic Development Services, (2) Occupational and Public Service Training, (3) Community Service Programs, and (4) Adult Basic Skills and Human Resources Development.

Corporate and Economic Development Services

The Center for Corporate and Economic Development provides programs and training that supports local business and industry. The Center ties the College to the associated efforts of local, regional, and state agencies for economic development.

Focused Industrial Training (FIT) is designed to address the special training needs of existing North Carolina industry. Serving primarily the manufacturing population, FIT uses individual needs assessment and consultations to target and upgrade workers' skills needed to keep up with new work methods and technology. FIT job training can be designed for skilled and semiskilled workers, lead supervisors, and team leaders. The targeted occupations are material handlers, assembly technicians, welders, machinists, maintenance mechanics, metal workers, production line workers, and woodworking machine operators. Training can be customized and tailored to meet company needs. Technical assistance is also available, on a wide variety of subjects, to businesses and industries through FIT.

New and Expanding Industry (NEIT) provides financial help for training new employees to meet growth and expansion demands. Through customized training programs designed for each company, NEIT offers training at no cost to the employer. New and expanding companies are able to initiate operations more quickly and become more productive

Continuing

Education

with this assistance. Training is offered in three ways: college provided, vendor provided, and company reimbursement.

The **Small Business Center** provides free consulting and advising services to existing and potential small business owners. Through very practical, short-term seminars, the Center addresses the continuing needs of small business clients for updating information, refining entrepreneurial skills, and improving profit margins. The Seminars address the critical areas of capital formation and prevention of business failures. The Small Business Center works cooperatively with local Chambers of Commerce, the Service Corps of Retired Executives (SCORE), and the U.S. Small Business Administration.

The **Quality Program** provides training and technical assistance in total quality practices and ISO 9001:2000 for businesses, industries, and public and private sector agencies. Programs include process improvement, team building, quality skills, statistical process control, facilitator development, self-assessments, and all phases of ISO 9001:2000 implementation. The program also partners with the American Society for Quality to provide quality course offerings. Additionally, a resource center for quality information and a lending library make specialized books and videos available.

The **Productivity Institute** offers training in the disciplines that make industries more competitive. The Institute currently offers courses and assistance with Lean Manufacturing and Six Sigma Quality.

The **Computer and Emerging Technology Training Program** provides hundreds of offerings each year. A-B Tech works to meet the needs of those in the marketplace who want to master emerging technologies, gain the professional certifications that allow them to advance in their professions, or enter a field that promises continued growth. For Administrative, Technical, Customer Service and Professional workers alike, computer skills are a constant. A-B Tech's programs provide training in a variety of disciplines, to help North Carolina's workforce grow and learn. From basic courses to intensive professional programs, A-B Tech provides critical and thorough instruction in areas of software, hardware, and peripherals. Designed for both beginning students and professionals seeking to update their skills, our courses and programs cover such timely subjects as administrative and financial software, relational database technology and database programming, software-specific training programs, operating systems, and beyond. Courses are offered in instructor led, online, and a hybrid format.

Occupational and Public Service Training Programs

Occupational Programs provide education and training for individuals to prepare for new or different employment and to upgrade the skills of individuals in their current employment. These opportunities are available through single courses or a series of courses specifically designed for an occupation. A significant number of these courses are offered to meet licensure or certification requirements for employment in careers such as Fire and Fire Rescue, Emergency Services, Criminal Justice/Law Enforcement, Certified Nursing Assistant (CNA), and Dental Radiography. Other offerings include programs for the following occupational areas: effective teacher training, emission standards "OBD," equine

management, hospitality, notary public, biowork, and public safety education.

Students in the Decorative Painting Techniques and Restoration

Program train in all aspects of surface treatments and decoration. The content of the program deals with traditional finishes in historic buildings as well as new work and the development of individual styles and techniques. Students learn the physical and chemical nature of building materials, methods of stenciling, gilding, ornamental plaster work, marbling, woodgraining, wall glazing, paperhanging and the preparation of old and new surfaces to receive decorative treatments. Qualifying graduates will receive the "City and Guilds of London" certificate for Decorative Painting and Restoration. Related job opportunities include residential and commercial decorating, church restoration, picture frame and architectural gilding. This 44-week program starts in January and ends in December. The foundation level covers tools and equipment, materials, drawings and geometric shapes, calculations, and surface preparation. The advanced level covers specifications, site organization, decorative treatments, and color. There are also opportunities for international travel.

Continuing

Education

Technical and Industrial Training Programs provide education and training for individuals to prepare for new or different employment in industrial or technically challenging fields and to upgrade the skills of individuals in their current employment. These opportunities are available through single courses or a series of courses specifically designed for a business, industrial, or technical occupation. Many of these courses are offered as apprenticeships or to meet certification requirements for employment in careers such as Electrical Journey-men, building, electrical, mechanical or plumbing inspection and code updates. Additional course offerings include: carpentry, welding, home inspection, refrigeration and CFC testing, OSHA safety management and supervision.

Community Service Programs

The **Community Service Programs** provide courses, seminars, and activities that contribute to the community's overall cultural, civic, and intellectual growth. Courses are designed to assist adults in the development of new skills or the upgrading of existing art, languages and practical skills. Among the art component courses are calligraphy, drawing, oil and watercolor painting, pottery, sculpting, photography and creative writing. The language component includes courses such as French, German, Italian, Spanish and Sign Language. Typical class offerings in the practical skills component of the program include cooking, upholstery, sewing, quilting, residential landscaping, picture framing and matting.

Adult Basic Skills and Human Resources Development

The **Basic Skills Programs** provide opportunities for upgrading reading, mathematics, English, and life skills. Assessment is a basic part of all of these programs. The Adult Basic Education (ABE) Program supports academic remediation in reading comprehension, mathematics, and language skills and provides pre-GED instruction.

One of two adult high school programs can lead the student to the equivalent of high school completion: (1) The General Education Development (GED) Program offers instruction in five subject areas in preparation for taking the high school diploma equivalency (GED) test and (2) The Adult High School Diploma Program provides instruction designed to qualify individuals for an adult high school diploma, awarded jointly by a local board of education and the College after the student successfully completes 20 units of credit and the North Carolina Competency Tests. Instruction for Basic Skills Programs is available on campus and at community learning centers or workplace sites when there is sufficient demand.

At the GED Testing Center, students can take the tests of General Educational Development (GED). The tests cover:

- Writing Skills
- Mathematics
- Social Studies
- Science
- Reading

With passing scores, the student earns a GED which is awarded by the North Carolina Community College System. This certificate is generally accepted on an equal basis with a traditional diploma for employment, promotion, or further education.

To be eligible for testing, an applicant must:

- be at least 18 years old (16- and 17-year-olds may test with special permission).
- be a current North Carolina resident.
- be certified to test through the GED Preparation Program (254-1921, Ext. GED).
- pay the testing fees (\$7.50 for initial testing and \$2.50 for retesting in Writing Skills) at the Continuing Education Business Office, Pines Building, Room 205D or the Business Office in the Simpson Administration Building before arriving at the testing center.

English as a Second Language (ESL) is intended to improve the English reading, speaking, and writing skills of non-native students. American culture, history, and life skills are also taught.

The **Compensatory Education Program** is an academic program specifically for adults with mental retardation. The program features lessons in community living, consumer education, health, language, mathematics, social science, and vocational education. Emphasis is placed on helping each student become as independent as possible, primarily by improving academic, social, survival, and independent-living skills. Traumatic Brain Injury (TBI) classes are provided to improve and enhance the skills of adult survivors of traumatic brain injuries. Classes focus on memory, social, and time-management skills as well as community living, consumer education, health, language, and math.

The **Human Resources Development (HRD) Program** provides short-term pre-vocational training and counseling designed to help unemployed and underemployed adults successfully enter the work force with additional education. Instruction focuses on the following topics:

- Career assessment
 - Development of a positive self-concept
 - Development of employability skills
 - Development of communication skills
 - Development of problem-solving skills
 - Awareness of the impact of information technology in the workplace
- Continuing
Education



Curriculum Programs

Admissions and
Student Information

Admissions

and Student

Information

General Admission Procedures

Asheville-Buncombe Technical Community College has an OPEN DOOR admission policy. High school graduation or equivalence is normally required for admission to any curriculum; however, there are a few programs for non-graduates 18 years of age or older. The College accepts applications continuously throughout the school year. Early application is advised for many programs.

Individually selected classes may be taken by Unclassified Students providing the prerequisites have been met. After accumulating 20 hours, Unclassified Students must see a counselor/advisor in Student Services in order to confirm further educational plans.

Placement into a specific course of study is based upon standards that will help to assure the applicant's success in that course of study. Those who do not yet possess the background required by the course of study of their choice may be enrolled in developmental courses designed to provide this background.

Persons wishing to enroll in a curriculum program at the College must complete the entire application process and meet the following requirements:

1. Submit an application form.
2. Obtain transcripts of credits from all secondary and post-secondary schools attended. Records should show that the student is a high school graduate or has a state approved equivalent education.
3. Complete the battery of placement tests administered by the College. In the case of the seven competitive allied health programs, the placement tests are used to earn admission through a point system. Provisional or unconditional admission to individual programs will be determined by scores on the tests. (See programs for details.) Requests for reasonable accommodations or test exemption by transfer credit will be reviewed individually. Alternate testing formats will be made available to individuals with disabilities upon request to the Coordinator of Disability Services.
4. A complete physical examination may be required by some programs, but only after the student is admitted.

Upon completion of this procedure, the student will be accepted unconditionally or provisionally into the program. Provisional acceptance indicates that developmental classes are necessary; this status changes to unconditional acceptance once the developmental classes are completed and the student notifies Student Services.

Competitive Allied Health Programs

Admission to seven of the Allied Health curricula is competitive among qualified applicants according to established criteria and has a limited application period. Competitive Allied Health programs include Associate Degree Nursing, Dental Assisting, Dental Hygiene, Medical Sonography, Practical Nursing, Radiography, and Surgical Technology. Applicants are selected for admission to these programs based upon special criteria. Selection criteria vary for each program. The exact admissions evaluation criteria for each competitive Allied Health program can be found in the Admissions section of the college web page at www.abtech.edu. The printed version is available in the Counseling Center. The criteria are revised and updated annually.

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Placement Testing

The purpose of placement testing is to match the academic readiness of the incoming student with the academic requirements of the curriculum. Persons applying for admission into all degree and diploma programs are required to take the Accuplacer Test. Students who are unclassified (not desiring to be enrolled in a major) will need to take the placement test if they desire to take a mathematics, English, reading class or any course for which math or English are prerequisites. Alternate testing formats will be made available to individuals with disabilities upon request to the Coordinator of Disability Services. Documentation of disability will be required prior to the establishment of accommodations for placement testing.

All students, except those applying to limited enrollment programs in the Allied Health division, may waive the placement testing requirement if they submit documentation of acceptable SAT, ACT, or Accuplacer scores which have been earned within the preceding three years. To be enrolled directly into the first-level curriculum English and math courses, students would need to have a score of 500 on both the verbal and mathematics portions of the SAT or 21 on ACT English, 18 on ACT Reading, and 20 on ACT Math. Transfer credit received from a regionally accredited institution for first-level English and math courses will also be accepted in lieu of placement testing. The student must submit an official transcript to receive transfer credit and to officially waive the need for placement testing. Students applying for admission to limited enrollment Allied Health programs should consult the program's admissions brochure for detailed information about placement testing for the program of choice. These publications are available in the Admissions and Counseling offices.

All students, upon submitting a College application, will receive a copy of the college's "Placement Testing" brochure with a list of testing dates and times. The brochure provides information on each of the placement testing sections as well as a sample test. Students must present a picture I.D. to take the placement test. Placement testing is available both day and evening hours and the results are provided to the student by a counselor or academic advisor immediately after the student completes the tests. Based on placement scores, a student will be placed directly into College English and math or into one of the developmental courses that are designed to prepare the student for entry into his or her chosen field of study. To support student success, students are required to take the courses into which they are placed.

Adult Basic Skills Student Status

Students who place into Adult Basic Skills reading will be allowed to enroll in College courses only after they have received appropriate remediation through the Adult Basic Skills program. Students who test into Adult Basic Skills language and mathematics must also receive appropriate remediation prior to enrolling in college courses.

Students who place into Adult Basic Skills level math only or Adult Basic Skills language only will be allowed to take Developmental Studies and/or curriculum classes with approval of their academic advisor.

Transfer, Credit-by-Exam, Articulated, and Advanced Placement Credit

Transfer Credit from Other Institutions.

Asheville-Buncombe Technical Community College will accept credit for parallel work completed in other post-secondary institutions accredited by a regional accrediting agency. Applicants who seek transfer credit should make regular application to the College and obtain from the Admissions Office a Request for Transfer Credit form for the evaluation of all post-secondary work. Transcripts will not be evaluated until this form has been completed. No credit will be granted for work below a "C." Transfer credit for developmental courses will only be granted if the course is a semester course taken at another college in the North Carolina Community College System. Transfer credit will be awarded for course work without assigning grades or quality points. Proficiency credits from other institutions will not be accepted. No more than one-half of the credit hours required in a program may be earned by transfer credit. If any course is taken for credit after transfer credit has been awarded, and a grade of A, B, C, D, or F is earned, it will replace the transfer credit. A student who must repeat a course may take it at another institution and transfer it to A-B Tech according to the guidelines above. Transfer credit may be awarded for appropriate military courses. If a student submits a transcript from a foreign university, it will be the student's responsibility to provide accurate translations of (a) the transcript, (b) course descriptions, and (c) the grading system. Credits will be evaluated in the context of the current catalog.

A Student who desires to transfer credit from an institution that is not accredited by a regional accrediting agency may request department chair approval. The department chairperson may approve transfer, if the following criteria are met:

1. The student must be enrolled in the program for which he or she is seeking the transfer credit.
2. Technical/vocational credits from programs with specialized national accreditation may be accepted for transfer if the department chair determines that course competencies are equivalent to A-B Tech course competencies.
3. A technical/vocational course must be within one semester-hour credit of the required A-B Tech course to be considered equivalent.

Students transferring into the Associate in Arts, Associate in Science, or Associate in Fine Arts program who have transfer credit from colleges other than the North Carolina Community College System (NCCCS)

or the institutions in the University of North Carolina System will not be eligible for the Articulation Agreement between the universities and NCCCS. Students who have quarter courses will also not be eligible for the Articulation Agreement. Transcripts of these students will be evaluated on a course-by-course basis.

Students transferring into the AA or AS program who have completed the general education core of 44 semester hours with the proper distribution of hours, a "C" or better in all courses, and an overall GPA of 2.0 will be given credit for the general education core. Students transferring into the AFA program who have completed the general education core of 28 semester hours with the proper distribution of hours, a "C" or better in all courses, and an overall GPA of 2.0 will be evaluated by the university to which they transfer on a course-by-course basis.

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Credit by Examination

Students who can provide tangible evidence of preparation to challenge a course, such as a transcript of similar College level credits, record of military study, certification or license, standardized test scores, or written statements from employers regarding training or directly related work experience indicating that they may be proficient in a subject, may request credit by examination. A written request must be made to the proper Department Chairperson on a form obtained from the Student Records and Registration Office. This test must be administered immediately after the 10 percent point in the semester.

Examinations are comprehensive and must be approved by the supervisor of the instructor administering the exam. The examination may be oral, performance, written, or a combination of these methods. To receive credit by examination, the score must be above average ("A" or "B"). A grade of "A" or "B" will be posted on the transcript of the student who successfully completes the examination. The decision of the examining instructor is final.

No student may request a second test for Credit by Examination in the same course or request Credit by Examination in a course after receiving any recorded grade for that course. Exceptions must have approval of the Vice President for Instruction.

Because of specific requirements, credit for certain courses may not be received through Credit by Examination. Students who request Credit by Examination must:

1. Enroll as a credit student in the course to be challenged and pay tuition if enrolled on part-time basis. There is no extra charge for full-time students who are taking at least 16 credit hours.
2. Present evidence of proficiency, complete the written request form, and have the request approved prior to the 10 percent point of the semester.
3. Remain enrolled and attend class until the examination is administered. During this period, students who have written approval for the exam may attend class without purchasing textbooks and materials. If books are purchased and returned for refund, they must be in new condition.

4. Students who are very confident of passing the exam may request a course overload.
5. Students who perform on the exam at a level sufficient to get credit may leave the course and will be awarded a grade of "A" or "B" for the course. Receiving credit does not entitle the student to a tuition refund.
6. Students who do not receive credit by examination will remain in the class to earn credit at the end of the semester.
7. Students who receive financial assistance of any type are required to inform the director of their assistance program that they are seeking credit by exam. Assistance may be reduced and reimbursement will be required if the course load is reduced by receiving credit by examination.

Any exceptions to these procedures must have prior written approval by the appropriate Department Chairperson, Division Dean and the Vice President for Instruction.

Articulated, Advanced Placement, and Continuing Education Credit

High School Articulation and RAVE. College credit may be awarded for high school courses if conditions of the North Carolina High School to Community College Articulation Agreement or Regional Articulation in Vocational Education (RAVE) are met. Students must submit the request form to the Director of Admissions along with the high school transcript.

AP and CLEP. College credit may be awarded if appropriate conditions are met by Advanced Placement (AP) courses or College Level Examination Program (CLEP) test scores. One course of A-B Tech academic credit will be granted to enrolled students who receive scores of 3 or 4 on the AP tests offered by the College Board. Two courses of A-B Tech credit will be awarded to enrolled students who receive an AP score of 5. CLEP is granted for scores of 50%. AP and CLEP credit accepted at other post-secondary institutions is not automatically transferred to A-B Tech, but is reviewed when scores are received.

A-B Tech credit may be granted to students who have satisfactorily passed certain CLEP tests. Credit may be considered only for those courses which have been approved by the various divisions and/or programs of the College. A maximum of six semester credit hours may be granted for each CLEP subject examination. A-B Tech will accept a total of 12 semester credit hours earned through CLEP tests. See the Admissions Office in the Azalea Building for details.

Continuing Education. Continuing education credits which lead to a credential or certification may be considered for course equivalency. Department chair approval is required, and the student must be enrolled in the program for which he or she is seeking credit.

International Applicants

A-B Tech has been approved to issue I-20 forms for qualified international applicants seeking diplomas or associate degrees in F-1 or M-1 status. International applications must show proficiency in the English language and graduate from a secondary school that is equivalent to secondary schools in the United States. Both academic records and

documentation of financial support are important factors in the admissions decision for all applicants from outside the United States and those holding non-immigrant visas in the U.S.

International applicants should submit all admission credentials together. An admissions application, international application supplement, TOEFL scores, official high school transcripts and English translations (if applicable), college transcripts and English translations (if interested in transfer credit), and affidavits of financial support with supporting documentation, are all necessary for an admission decision.

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To demonstrate English proficiency, international applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). The applicant must score at least 133 on the computer-based test or 450 on the paper-based test. Applicants already in the Asheville area may substitute the Accuplacer Placement Test, which can be taken at A-B Tech. Applicants must score a minimum of 51.1 on the reading section and 52.1 on the sentence skills to demonstrate English proficiency.

International applicants must also certify their ability to pay for out-of-state tuition, fees, books, supplies, transportation, and living expenses for at least one full year of study. Medical insurance is not required at this time but is highly recommended for all international applicants.

International applicants should contact the International Student Advisor in the Counseling Center for further information about admission. Information, including all necessary application materials and estimated cost of attendance, are also available online at www.abtech.edu/Student_Services/Admissions/International/international.htm. E-mail inquiries should be addressed to: rhowell@abtech.edu.

Tuition and Expenses

North Carolina Residency

In order to qualify for the resident tuition rate, North Carolina law (G.S. 116-143.1) requires that a legal resident must have maintained domicile in North Carolina for at least the 12 months immediately prior to classification as a resident for tuition purposes. The student cannot qualify for in-state tuition if he or she is claimed as a dependent by a parent or guardian who is not a N.C. resident.

One must also have accomplished many of the things normally done by one who intends to reside in a state permanently. Examples of these actions are being employed, paying taxes, having a current North Carolina driver's license, voting in the state, belonging to churches, clubs or other organizations. Anyone having a question regarding resident status should contact the Director of Admissions.

Tuition*

Fall, Spring, and Summer Semester:

N.C. residents per semester	\$632.00
Nonresident of N.C.	\$3,512.00
(16 or more credit hours)	

Part-time N.C. residents per credit hour per semester	\$39.50
Nonresident of N.C. per credit hour per semester.....	\$219.50
(fewer than 16 credit hours)	

Return Check Charge \$15.00

North Carolina residents 65 years of age and older are exempted from the payment of curriculum tuition and registration fees for some Continuing Education classes.

*Tuition is subject to change.

Student Activity Fees

The student activity fee will be charged each semester based upon the number of credit hours taken during the day at the Asheville campus. The student who enrolls for nine or more day, on-campus credit hours will be charged a student activity fee of \$12.00 for fall and spring semesters and \$10.00 for summer semester. The student who enrolls for eight or fewer day, on-campus credit hours will be charged a student activity fee of \$9.00 for fall and spring semesters and \$6.00 for summer semester.

Student Insurance

Certain risks are inherent in any work involving regular contact with mechanical and electrical equipment. While stringent precautions will be taken to ensure safety, it is felt to be in the interest of all students to provide some measure of insurance protection.

A group policy, providing the desired insurance protection, will be maintained in effect by the College and all curriculum students will be REQUIRED to subscribe to such coverage. The only exception would be students taking only off-campus courses. The cost of accident insurance to the student will be approximately \$2.00 per semester.

Additional Costs

Beginning students should be prepared to incur additional estimated expenses during the academic year (two semesters and summer term) as follows:

Allied Health and Public Service Education

Books.....	\$600-900
Supplies.....	\$200-500

Arts and Sciences: A.A., A.S, A.F.A.

Books.....	\$600-900
Supplies.....	\$100-200

Business and Hospitality Education

Books.....	\$600-900
Supplies.....	\$100-500

Engineering and Applied Technology

Books.....	\$500-600
Supplies.....	\$150-1000

The cost of books and supplies varies from year-to-year by curriculum due to price changes, curriculum changes, and instructor preferences. For purposes of definition, the following items may be classified as

supplies: pen, pencils, paper, notebooks, instruments, uniforms and shoes, rental of uniforms, safety equipment, hand tools, calculators, lab coats, membership dues, pins and caps. Students will incur most of the supply costs for their curriculum during the first semester of study. Students are encouraged to consult with their department chairperson for actual costs of supplies for their curriculum. Students should consult with their department chairperson or a member of the Math Department prior to the purchase of a calculator for use in class.

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Tuition Refund Policy

A 100% refund shall be made if the student officially drops prior to the first day of classes of the term as noted in the College Calendar. Also, a student is eligible for a 100% refund if the class in which the student is registered is canceled.

A 75% refund shall be made if the student officially drops from the class(es) prior to or on the official 10% point of the term. Refer to the College calendar (pp. 11-12) for 10% dates each semester. Insurance and student activity fees are NOT refundable. Federal regulations, if different from above, will overrule this policy.

Any requests for exceptions must be presented to the Vice President, Student Services.

Tuition Refund Procedure

To be eligible for a tuition refund the student must:

1. Register and pay tuition and fees.
2. Process a "Drop/Add Registration Change Notice" form in the Student Records and Registration Office on or before the 10% point of the term as defined above.

Student Rights, Responsibilities and Due Process

Code of Student Conduct

Over 26,000 students, faculty, and staff are part of the A-B Tech family. Every year hundreds of people graduate from the College, and hundreds of new freshmen take their places. To protect all these students and employees from the irresponsible actions of others, the College has adopted basic rules of student conduct.

Students who have been charged with a violation of these rules may be assigned consequences based upon the seriousness of the offense. A hearing will be conducted by the Vice President for Student Services.

Consequences for violations include verbal warning, written warning, disciplinary probation, particular consequences adapted to the violation, suspension and expulsion. Any disciplinary decision rendered by the Vice President for Student Services may be appealed to the President.

Any student charged with a violation of the Code of Student Conduct will receive a written copy of the charges and an appointment for a hearing. Rights, as they pertain to the hearing, are listed elsewhere in this manual.

The following actions are specifically prohibited on this campus under the Code of Student Conduct:

1. **Academic Dishonesty** - You may not deceive any official of the College by cheating on any assignment, examination, or paper. This includes plagiarism, which is the intentional theft or unacknowledged use of another's words or ideas. Plagiarism includes (but is not limited to) paraphrasing or summarizing another's words or works without proper acknowledgement, using direct quotes of material without proper acknowledgement, or purchasing or using a paper or presentation written or produced by another. The faculty at A-B Tech may also consider presenting as original work a paper written for one class to satisfy a requirement in another class to be academic dishonesty.
2. **Alcoholic Beverages** - You may not possess or use alcoholic beverages on campus. You may not be under the influence of alcoholic beverages on campus.
3. **Animals** - You may not have an animal of any kind on campus. This includes animals left within a vehicle. Working dogs, such as police dogs and Seeing Eye dogs, are permitted.
4. **Damage to Property** - You may not damage property of the College or of any other person working at or attending the College.
5. **Disobedience** - You may not disobey the reasonable directions of College employees, including administrators, faculty members, security officers, and other staff employees.
6. **Disorderly Conduct** - You may not conduct yourself in a way which will interrupt the academic mission of the College or which will disturb the peace of the College.
7. **Disruption** - You may not disrupt the normal activities of the College by physically or verbally interfering with instruction, meetings, traffic, or scheduled administrative functions.
8. **Drugs** - You may not possess, use, or be under the influence of any narcotic or illegal drug on campus in violation of the laws of the state of North Carolina or of the United States.
9. **False Information** - You may not present to the College or its employees false information; neither may you knowingly withhold information which may have an effect on your enrollment or your status in the institution and which is properly and legally requested by the College.
10. **Assault** - You may not strike or threaten to strike another person for any reason whatsoever. Threatening to strike another person is defined as assault, and striking another person is defined as battery.
11. **Gambling** - You may not gamble on campus.

12. **Possession of Weapons** - You may not have a weapon of any kind, including a knife, stun gun, or any firearm in your possession on campus. Law Enforcement officers are exempt from this prohibition.
13. **Professional Conduct** - Various curricula have specific codes of professional conduct for which you may be held accountable, if you are enrolled in those curricula.
14. **Theft** - You may not steal the property of another individual or of the College. Students who are caught stealing will be required to make restitution and may be eligible for civil or criminal prosecution as well as College discipline.
15. **Public Laws** - You may not violate the laws of the state of North Carolina while on campus. Doing so may lead to legal actions as well as campus discipline.
16. **Sexual and Other Unlawful Harassment** - You may not harass any member of the college community, including other students, employees, or other persons on the college campus. This prohibition includes sexual, verbal or physical harassment for any reason including race, color, age, religion, sex, national origin, disability, veteran's status, creed, sexual orientation, or political affiliation.
17. **Use of the Internet** - The College has an extensive policy on appropriate use of the Internet. Users of the College computers acknowledge the policy whenever they sign on. You may not use the College's access to the Internet for access to sexually explicit material.

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Code of Classroom Conduct

A-B Tech is an institution for adult learning. It is a partnership between instructors with the desire to teach and students with the desire to learn. In order to create an appropriate environment for teaching and learning, there must be respect for the instructor and fellow students. Listed below are guidelines for classroom behavior, which the College has established to ensure that the learning environment is not compromised.

1. **Absences.** Inform the instructor in advance if you know you are going to miss class. Also, take responsibility for getting missed assignments from other students. Do not expect that you will be allowed to make up work, such as unannounced quizzes or tests, after an absence. Instructors are not responsible for re-teaching the material you missed because of absence.
2. **Attendance.** You are expected to be in class the entire class time. Do not enter late or leave early. Rare exceptions may be excused, particularly under emergency circumstances, but you should be prepared to explain your tardiness to the instructor after class. Likewise, the need to leave early should be explained to the instructor before class.
3. **Attitude.** You are expected to maintain a civil attitude in class. You may not use inappropriate or offensive commentary or body language to show your attitude regarding the course, the instructor, assignments, or fellow students.

4. **Cell phones and beepers.** You may not receive or send telephone calls or pages during class. You are responsible for turning off cell phones and beepers upon entering class.
5. **Conversation.** Do not carry on side conversations in class.
6. **Food, Drink, Tobacco Products.** You may not have food or drink in class. You may not use tobacco products in the buildings of A-B Tech.
7. **Guests.** You may not bring unregistered friends or children to class.
8. **Internet.** In classes where Internet access is provided, you may use the Internet for valid, academic purposes only. You may not use it for open access to other non-academic sites, which are unrelated to the course.
9. **Other Activities.** You may not work on other activities while in class. This includes homework for other courses or other personal activities.
10. **Personal Business.** You may need to transact personal business with the instructor, asking him or her to sign forms. Plan to do this before instruction begins or after class.
11. **Profanity and Offensive Language.** You may not use profanity or offensive language in class.
12. **Sleep.** Do not sleep in class.

Typically, violations of the Code of Classroom Conduct will be dealt with as minor infractions. However, repetition of minor infractions or other more serious violations of the Code of Student Conduct may lead to removal from the classroom while the matter is resolved and referral to the Vice President for Student Services for disciplinary action.

Student Rights of Due Process

If you are accused of a violation of the Code of Student Conduct, A-B Tech guarantees you these rights as the matter is resolved:

1. You have the right to written notice of the provision of the Code of Student Conduct, which you are accused of violating, and a summary of the relevant facts.
2. You have the right to a hearing before the Vice President for Student Services.
3. You have the right to review all evidence, including written statements made against you. (Strict rules of evidence do not apply in the hearing.)
4. You may cross-examine witnesses.
5. You may present witnesses and evidence.
6. You may be represented by counsel, if you notify the Vice President for Student Services in advance of the hearing.
7. You have the right to a record of the hearing.

8. You have the right to a written notice of a decision within two days of your hearing.
9. You have the right to appeal any action taken by the Vice President for Student Services to the President. Any appeal must be in writing and be submitted within five days. The decision of the President is final.

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Student and Grade Appeals Policy

If you feel that you have been disciplined unfairly or wish to appeal some other decision which you consider to be unjustified, unfair, or a violation of your rights, then you should appeal that decision. In order to appeal the decision, you should use the Student Appeal Policy which is summarized below. A complete copy is available from the Vice President for Student Services in the Azalea Building.

The intention of the Student Appeal Policy is that the faculty member or other employee who has been responsible for the act which you consider to be unfair will attempt, in good faith, to resolve the dispute. You are encouraged to discuss the matter with him or her in an attempt to resolve it. If it is not possible to resolve the matter at this level, then you should bring the matter to the attention of the Vice President for Student Services.

The Vice President will hold an informal session to which you and the employee concerned are invited. Every attempt will be made to resolve the matter at that level, even if multiple sessions are required. If the problem is not resolved, then the Vice President for Student Services will inform you of the formal appeals procedure and provide you with an appeal form.

The appeal form must be filled out and returned to the Vice President for Student Services within five days. The appeal form must be signed by the student and the employee involved. It should also be signed by the supervisor or supervisors of the employee involved up the chain of command through the appropriate Vice President. Each of these supervisors may propose solutions to the disagreement which, if accepted by both parties, will result in resolution of the problem. Failure to reach agreement at any level in the appeal process will require that the matter be taken up to the next higher level.

Particular attention will be paid to ensuring that night students can have access to supervisors who are otherwise available during the day hours only.

If the matter remains unresolved through the level of the appropriate Vice President, then you should return to the Vice President for Student Services who will then turn the matter over to the Student Appeals Committee. This Committee, which is composed of two students, two faculty members, a Student Services employee, and a nonteaching professional who will serve as chairperson, is called together by the Vice President for Student Services. The chairperson will conduct the meeting and render a decision which reflects the popular opinion of the Committee. If further appeal is necessary, then the matter is referred to the President whose decision is final. When this policy is used to appeal a disciplinary action taken by the Vice President of Student Ser-

vices in his or her capacity as the College discipline officer, the appeal will go directly to the President whose decision is final.

Appeals pertaining to grades issued in courses must be initiated with the Vice President for Student Service within six weeks of the awarding of the grade.

As stated earlier, a complete copy of this policy is available from the Vice President for Student Services, and you are encouraged to see him or her if you feel that an appeal is necessary.

Privacy of Student Records

1. In compliance with the Family Educational Rights and Privacy Act of 1974 (FERPA), Asheville-Buncombe Technical Community College will not release information concerning its students except for directory information, and as stipulated in paragraph 3 below. Directory information is defined as:

a. name	e. major field of study
b. address	f. dates of attendance
c. telephone number	g. degrees received
d. date of birth and place of birth	h. Dean's List/President's List

Directory Information will be released to anyone who asks for it, unless the student specifies in writing to the Student Records and Registration Office that this information is to be withheld. In such cases, no directory information will be released.

2. A student over the age of 18 is considered an adult within the definition of the law and controls who has access to his or her records. A parent of an eligible student does not automatically have access to the student's records. In order for parents to have access to a student's records, beyond directory information and without written permission from the student, a parent must certify that the student is economically dependent as defined in Section 152 of the Internal Revenue Code of 1954. If a parent can prove dependency to the Student Records and Registration Office by showing a copy of the parent's current tax report form or another acceptable report of current dependency, then the parent may have total access to the student's file.
3. Asheville-Buncombe Technical Community College will release a student's educational records without his or her approval only as follows:
 - a. to Asheville-Buncombe Technical Community College officials who have legitimate educational interest in the records.
 - b. to officials of another college or university in which a student seeks to enroll.
 - c. to certain federal and state educational authorities for purposes of enforcing legal requirements in federally supported educational programs.

- d. to persons involved in granting financial aid for which the student has applied.
 - e. to state and local authorities to whom information is required to be disclosed under the provisions of a statute adopted prior to Nov. 19, 1974.
 - f. to testing, research, and accrediting organizations.
 - g. in compliance with a court order or lawfully issued subpoena.
 - h. in very narrowly defined emergencies affecting the health and safety of the student or other persons.
 - i. to parents of eligible students under the provision of paragraph 2 above.
4. For further information concerning the Federal Educational Rights and Privacy Act, students may contact the Student Records and Registration Office.

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Academic Procedures

Classification of Students

Full-time student: A student enrolled for 12 or more credit hours during fall and spring semesters and 9 or more credit hours during the summer session.

Part-time student: A student enrolled for fewer than 12 hours during fall or spring semesters or fewer than 9 credit hours during summer session. (Please note that financial aid recipients registered during the summer will need 12 credit hours for full Pell awards.)

Declaring, Changing, or Adding Second Majors

In order to declare a major, change majors, or add a second major, the student needs to see a counselor/advisor in Student Services. A change-of-major form indicating the new major or the second major must be completed by the counselor/advisor. The catalog in effect at the time of this declaration will be the catalog recorded for this major.

Class Attendance

Regular and punctual class attendance is expected of all students for them to achieve their potential in class and to develop desirable personal traits necessary to succeed in employment. Instructional time missed is a serious deterrent to learning. Students are responsible for fulfilling the requirements of the course by attending and completing course assignments. An accurate record of class attendance will be kept.

If instructional time is missed for excusable reasons, the student will be permitted to make up work to the extent possible. Because of the nature of some learning experiences, especially clinics, labs and shops, it is difficult, if not impossible to duplicate the work of the class. In some courses, absence or tardiness of an individual may be a major disrupt-

tion to the performance of others in the class or an inconvenience to other organizations such as hospitals and clinics. The faculty may develop guidelines for advance notice of absences, makeup of work, etc. Students will be informed of guidelines at the beginning of the course.

To receive course credit, a student should attend a minimum of 80% of the contact hours of the class. Upon accumulating absences exceeding 20% of the course contact hours, the student may be dropped from the class and will be awarded a grade of "U," unless the student follows the official withdrawal procedure before the grade of "U" is recorded. (To receive course credit when enrolled in an Allied Health program*, a student should attend a minimum of 90% of the contact hours of all major area* courses. Upon accumulating absences exceeding 10% of the contact hours, the student may be dropped from the class and will be awarded a grade of "U", unless the student follows the official withdrawal procedure before the grade of "U" is recorded.) The 90% minimum attendance requirement applies to these major area course prefixes:

* NUR, DEN, EMS, MLT, SON, PBT, RAD, SUR and VET.

A tardy is defined as arriving late for class, leaving early, or being away from class without permission during class hours. Three tardies may constitute one absence.

It is the joint responsibility of the student and instructor to discuss attendance patterns that will endanger the success of the student in the course. If it appears that a student will not be able to complete a course successfully, the instructor may advise the student to withdraw no later than the official withdrawal date at the 75% point of the class.

Prerequisites and Corequisites

Before enrolling in a course with prerequisite requirements, students must satisfactorily complete the prerequisite course(s). Corequisite courses should be taken the same semester. Exceptions may be approved by the appropriate department chairperson and will be documented in the student's registration record.

Course Substitutions

Course substitutions must be approved by the program area dean and documented in the student's registration record. The course grade will be the grade earned in the substitute course.

First-Year Seminar

The First-Year Seminar (ACA 115) introduces students to A-B Tech and its history and culture while developing knowledge and skills that lead to a successful College experience. Students who enroll in an associate degree program or a diploma program leading to an associate degree must enroll in ACA 115 within their first two semesters of enrollment. Any student who places into more than one developmental course must enroll concurrently in ACA 115. Advisors or counselors may approve exemptions based on College academic procedures.

Schedule Adjustments

Dropping/Withdrawing from a Class

In order to officially drop or withdraw from a course without academic penalty, the student must complete the appropriate form and submit it to the Student Records and Registration Office by the deadline.

The student may drop classes through the first 10% of the term. (For full semester classes the 10% point occurs on the eighth day. For mini-mesters the 10% occurs on the fourth day. For Summer Session the 10% occurs on the fifth day.) To drop a course, the student should fill out a **“Drop/Add Registration Change Notice.”** This form can be obtained in the Student Records and Registration Office. In the case of drops, the course(s) will not be included on the transcript.

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After the 10% point of the term, a student wishing to **withdraw** from a class must complete a withdrawal form. A student receiving financial aid must obtain a signature of a financial aid officer. Anyone receiving veteran's benefits must obtain signatures from the instructor(s) and the Veteran's Affairs Counselor. **All withdrawal forms must be submitted to the Student Records and Registration Office during the first 75% of the term.** (For full semester classes the 75% point occurs at the end of the 12th week. For mini-mesters it occurs at the end of the sixth week. For Summer Session it occurs in the middle of the seventh week. Deadline dates will be published in the Student Handbook and Events Calendar each year.) In the case of a withdrawal, the student will receive a grade of “W,” which will not influence the quality point ratio, but which will appear on the transcript.

Any student who accumulates absences in excess of 20% of the course contact hours may be dropped from the class and awarded a grade of “U,” unless the student follows the official withdrawal procedure before the grade of “U” is recorded. The “U” grade is equivalent to an “F” and will affect the quality point ratio.

Exceptions such as serious illness or job transfer requiring withdrawal from all classes after the 75% point of the term will be considered on an individual basis by the Vice President for Student Services. A student who has withdrawn from a class may no longer attend the class.

Adding a Class

A student may add a class to his or her schedule by completing a **“Drop/Add Registration Change Notice”** form in the Student Records and Registration Office. A class may only be added during the schedule adjustment period.

Balancing Class Size

Each student is assigned a sequential number for each curriculum class by the computer as registration is completed. This number determines position in the class should the class need to be split. The position determines the priority of the student to remain in the class. The College reserves the right to split classes and assign students to alternate sections whenever necessary to balance class size.

College Withdrawal

Students who withdraw from the College (i.e. withdraw from all courses) must complete the appropriate withdrawal form for each

class prior to the 75% point of the term (see previous section). A grade of "W" will be assigned.

To withdraw from the College after the 75% point, a student must:

1. Obtain a withdrawal form from the Vice President for Student Services.
2. Document valid reason(s) for needing to withdraw.
3. Discuss the need to withdraw with the Vice President for Student Services. Students who are approved for late withdrawal from all courses will receive grades of "W."

If an emergency prevents the student from completing the withdrawal process before leaving the campus, the student should call, write or arrange for someone to contact the Vice President for Student Services.

Grading System

Final grades will be issued to all students at the end of the term based on the criteria outlined in the course syllabus. A **student who wants to contest a grade must do so within six weeks of the awarding of the grade.** A grade cannot be changed after this period without approval by the department chair and the division dean.

Students will be graded by the following system:

A	90-100	Excellent academic performance, consistent mastery of facts and concepts, and a thorough understanding of course content.
B	80-89	Good academic performance, high-level mastery of course content.
C	70-79	Average academic performance.
D	60-69	Marginal academic performance, poor mastery of course content.
F	Below 60	Very poor performance, no demonstration of even minimal mastery of course content.
I	Incomplete	Assigned when a student is unable to complete work or take a final examination because of illness or other reasons over which the student has no control. An incomplete grade must be completed within the first six weeks of the next semester. Otherwise, the grade becomes an "F."
U	Unofficial Withdrawal (penalty)	Assigned when the student does not follow the College's official withdrawal policy by the course withdrawal deadline or is dropped for excessive absences. This is the equivalent of an "F" grade and will influence the quality point ratio.

W	Official Withdrawal (no penalty)	Assigned when the student OFFICIALLY WITHDRAWS. This will not influence the quality point ratio.
X	Continuing	Assigned when a student is unable to complete work during the current semester because of class scheduling over consecutive semesters or at the discretion of the instructor to allow additional time to complete work. A "contract" of conditions for completion and time limit, not to exceed 12 months, will be executed by the instructor and signed by both the instructor and student. If the terms to remove the grade of "X" are not fulfilled by the end of the contract period, the grade will revert to the average held at the beginning of the contract period including zeros for work not completed.

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Transcript Codes

Other codes that may appear on the college transcript include:

- AP Advanced Placement course credit.
- AR North Carolina High School to Community College Articulation Agreement course credit.
- CR CLEP (College Level Examination Program) course credit.
- NS No Show. Student enrolled, but never attended the class.
This will not influence the quality point ratio.
- P Proficiency Credit.
- T Transfer credit from other colleges, universities, and military credit.
- TA Transfer credit from other North Carolina colleges and universities that articulates under the Comprehensive Articulation Agreement.
- TS Transfer credit from other North Carolina community college which can be used only for diploma or A.A.S. programs.
- Y Audit.

The pound sign next to a grade indicates that the course has been excluded from the quality point average either through course repetition or Academic Fresh Start.

Quality Points

At the end of each semester quality points are assigned in accordance with the following formula. (The minimum program grade-point ratio for graduation is 2.00 or an average of grade "C.")

A	4 quality points per credit hour	F	no quality points
B	3 quality points per credit hour	I	no quality points
C	2 quality points per credit hour	U	no quality points
D	1 quality points per credit hour	W	no quality points

Quality ratings are determined by dividing the total number of quality points by the number of hours attempted (excluding grades of "W"). A ratio of 2.00 indicates that a student has an average of "C."

Final Examination Policy

Each instructor will schedule a comprehensive final course evaluation at some point during the last five days of the semester or the last two days of the class. The evaluation may consist of one or multiple components or methods. The course schedule will indicate the date(s) and method(s) of evaluation. If the final evaluation is given prior to the last day of class, the schedule will reflect the class activities to take place after the final evaluation.

Students are required to take their final examinations at the times and places scheduled. Conflicts may be resolved by arrangement with the faculty member. Three examinations scheduled for the same day is considered a conflict.

Auditing Courses

Students wishing to audit courses must register through regular registration procedures and pay standard tuition and fees. Students who register to take a course for credit and then choose to audit the course must complete a "Request for an Audit Grade" form in the Student Records and Registration Office within the first 15 days of the term. The instructor must sign the form to approve the change. A student may change from audit to credit status through the Student Records and Registration Office only during the first five days of the term. Audit work does not receive credit and cannot be used toward diploma or degree requirements. All prerequisites must be met before a course can be audited. *Physical Education classes may not be audited.* Audit work is not covered by financial assistance.

Curriculum Course Repetition

Students who need a course to graduate may take the course as many times as necessary to pass it, providing space is available. Any course that has been passed or audited may not be taken for credit or audited more than twice per academic year subject to space being available after registration. The twice-per-year regulation also applies to single or elective courses that are not required for graduation. No single physical education course may be attempted more than twice. Concurrently enrolled high school students in Huskins Bill or dual-enrollment programs may not attempt a course more than two times while concurrently enrolled.

If a student has a failing grade in a required course, the course must be passed prior to graduation. If a student fails a prerequisite course, it must be repeated successfully before beginning the next course. This could result in the student being enrolled for a longer period than is normally required to complete requirements for graduation.

As courses are repeated, the higher grade becomes the official grade. Only a grade of "D" or above can replace an existing grade. The student must submit a "Transcript Correction" form to the Student Records and Registration Office to request that the lower grade be excluded in the grade point average calculation.

Independent Study

Selected courses may be available for Independent Study at the discretion of the faculty with Department Chair approval. The completed "Request for Independent Study" form must be presented to the Students Records and Registration Office when the student registers.

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Cooperative Education

In selected programs, A-B Tech provides students with an opportunity to integrate classroom learning with supervised work experience in an employment situation directly related to the educational program of the student. The work experience component is an integral part of the total educational process. The primary objective of cooperative education is to prepare the student for employment.

To be eligible to participate in a cooperative work experience activity, a student must be 18 years of age, be enrolled in a curriculum program that provides a cooperative education option, have a minimum 2.0 cumulative program GPA, and have completed a minimum of 9 semester credit hours within the appropriate program of study. Approval by the department chairperson is required for a student to participate in a cooperative education activity. Any exceptions to these requirements must be approved by the appropriate academic dean.

Standards for Academic Progress (Academic Warning, Probation and Suspension Policy)

The College has established this policy to:

- provide students with a warning when they fail to meet minimum academic performance standards;
- limit scheduling when a student's academic performance indicates the necessity for intervention;
- provide a means of preventing and/or terminating prolonged failure.

This policy applies to all students, classified and unclassified.

Students whose semester grade point average (GPA) falls below 2.0 are subject to academic warning, which may be followed by probation and suspension. GPA will be calculated using the current official grade for each course taken that semester at Asheville-Buncombe Technical Community College.

I. Academic Warning

Students failing to meet the minimum GPA during any semester will receive an academic warning. The warning advises students of their academic status and encourages them to meet with their advisor immediately to examine present academic plans. Students will be notified in writing of their status by the retention advisor.

II. Probation

Students whose semester GPA falls below 2.0 for two successive semesters will be placed on probation, which means the student will have restricted scheduling and must meet with his or her advisor to do one or more of the following:

- limit the number of hours attempted;
- schedule preparatory or remedial courses as needed;
- schedule repeat of courses.

Academic probation will be posted to the student's official transcript. Students will be notified of their status by their retention advisor.

III. Suspension

Students whose semester GPA falls below 2.0 for three successive semesters will be placed on academic suspension for one semester. This means that those students will not be allowed to register for curriculum courses. Continuing Education courses may still be taken. Academic suspension will be posted to the student's official transcript.

IV. Appeals

Academic Suspension may only be appealed through the Vice President for Student Services. Appeals will be considered on the day before classes begin each semester.

V. Reenrollment After Suspension

Students may reenroll after having been suspended for one semester.

Academic Fresh Start

Any returning student who has not attended A-B Tech for three years and upon reenrolling maintains a 2.00 GPA for a minimum of 12 semester hours may petition to have grades on all prior course work more than three years old with a grade less than a "C" excluded in calculating the cumulative GPA. Grades below "C" disregarded in calculating the GPA will not count toward graduation but will remain on the transcript. The student should complete an application for Academic Fresh Start (obtained in the Student Records and Registration Office), after the end of the semester in which he/she has completed the 12 semester hours required. A student who plans to transfer to another College should contact that institution to determine the impact of Academic Fresh Start on transfer.

Honors And Achievements

Dean's List

1. For the Dean's List, students must be enrolled in an academic program, carrying a minimum of eight credit hours of curriculum courses numbered 100 or above.
2. Students must have a minimum 3.75 quality point average to qualify for the Dean's List for the semester under consideration.
3. Students who earn grades of F, I, U or X and students enrolled in developmental courses are not eligible for the Dean's List for that semester. Students receiving credit for a course by examination are not affected.

4. The Dean's List will be compiled by the Registrar, the Administrative Assistant of Instructional Services, and Department Chairpersons. The draft of candidates will be posted on major bulletin boards for students to review. The Vice President, Instructional Services, will be responsible for final approval and publication.

President's List

1. For the President's List, students must be enrolled in an academic program, carrying a minimum of twelve credit hours of curriculum courses numbered 100 or above.
2. Students must have a 4.0 quality point average to qualify for the President's List during the semester under consideration.
3. Students who earn grades F, I, U or X and students enrolled in developmental courses are not eligible for the President's List for that semester. Students receiving credit for a course by examination are not affected.
4. The President's List will be compiled by the Registrar, the Administrative Assistant for Instructional Services, and Department Chairpersons. The draft of candidates will be posted on major bulletin boards for students to review. The Vice President for Instructional Services will be responsible for final approval and publication.

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Academic Programs, Core Competencies, and Graduation Requirements

Academic Programs

Degree, Diploma, and Certificate Programs

Asheville-Buncombe Technical Community College confers the Associate in Arts, Associate in Applied Science, Associate in Science, and Associate in Fine Arts degrees. A diploma is awarded for completion of one-year applied curricula. Certificates are issued to students who successfully complete designated short-term programs or course sequences. Degrees, diplomas, and certificates are conferred, awarded, or issued by authority of the North Carolina State Board of Community Colleges when all requirements for graduation have been satisfied.

At least half of the credit hours in a program of study must be earned at this College. Any exception must be approved by the Vice President, Instructional Services.

Because of rapid changes in workplace technologies, certain technical courses will "time out" after five years and must be repeated for graduation. Exceptions must be approved by the department chairperson.

Multiple Degrees/Diplomas/Certificates

Students may earn multiple degrees, diplomas, and certificates upon completion of program requirements.

Students who have earned the Associate in Arts degree (A.A.) may also earn the Associate in Science degree (A.S.) by completing an additional 12 semester hours in appropriate math and/or science courses. Students who have earned the Associate in Science degree may also earn an Associate in Arts degree by completing an additional 12 semester hours in humanities and/or social/behavioral science course.

Core Competencies

Upon successful completion of the Associate in Arts, Associate in Science, Associate in Applied Science, or Associate in Fine Arts degree requirements, the student will have mastered the following cross-curriculum competencies:

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1. Communicate effectively in speaking, writing, reading and/or listening.
2. Locate, evaluate, and use information to analyze problems and make logical decisions.
3. Apply math skills and/or natural science knowledge appropriately to organize, analyze and make information useful.
4. Demonstrate basic competency in computer technology.
5. Demonstrate an appreciation of the various manifestations of cultural diversity.
6. Develop the ability to succeed as a self-directed learner.
7. Apply critical thinking skills in analyzing the physical, social, emotional, intellectual, aesthetic or philosophical factors that influence personal development.

Requirements for Graduation

The College holds graduation ceremonies in May and August each year. To graduate with a diploma or degree, students must meet the following minimum requirements:

1. Declare an academic major and complete the requirements of a College approved program of study according to the student's official catalog. The official catalog is determined by the academic advisor in consultation with the student and should be the catalog that is in effect at the time that the student declares a major. The official catalog may not be a catalog prior to the student's first date of enrollment and must be a College catalog dated no more than five years prior to the date of graduation (i.e., a student graduating in 2007 cannot use a catalog earlier than 2002-2003). Students should be aware that prerequisites for courses change frequently and that they will be required to meet the prerequisites which are in place at the time a course is taken. The advisor must document the official catalog selected on the Application for Graduation.
2. Each course in the program of study must be completed by one of the following methods:
 - a. Take the course at A-B Tech.
 - b. Receive transfer credit.
 - c. Earn Credit-by-Exam.
3. Earn a grade of at least "C" in each course with a major prefix and a minimum average of 2.0 ("C") quality points for the current program. Students completing their program of study with a program grade point average of 4.0 will be graduated with highest honors. Those who have a minimum program GPA of 3.75 will be graduated with high honors and those with a minimum program GPA of 3.50

will be graduated with honors. The student must assume primary responsibility for assuring that all requirements for graduation are met.

4. **Submit an application for graduation to the Student Records and Registration Office the semester before completing degree requirements.** Purchase caps, gowns, and diplomas in March (Spring Graduation) or June (Summer Graduation). Students who cannot attend graduation must still pay for the diploma.
5. Be in good standing; fulfill all financial obligations to the College; library clearance is also required.
6. Be present for graduation and attired in the proper academic robe. (Students who do not attend the graduation ceremony must submit to the President a written request to be excused at least two weeks prior to graduation.)

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Transfer of Credit to Other Institutions

Asheville-Buncombe Technical Community College facilitates the transfer of credit to other institutions. The Associate in Arts, Associate in Science, and Associate in Fine Arts degree programs are designed to transfer to senior institutions at or near the junior level.

College transfer courses satisfactorily completed with a grade of "C" or better in the Associate in Fine Arts program will transfer to senior institutions. Degree completers may transfer to selected universities.

Associate in Applied Science graduates have the option of entering a career, continuing their education at a senior institution, or doing both. We are proud of the fact that our graduates have a marketable job skill after two years of study and can also complete a four-year degree after two more years of academic work.

Students who attend most senior institutions do not declare a major until their junior year. Our applied science programs are such that those students who earn a baccalaureate degree pursue it in an inverted pattern. The majority of the student's academic major is earned at A-B Tech in the first two years of study. As junior level students at the senior institution, they take general university requirements and may take more advanced courses relating to their major.

Parallel work, including single courses completed at A-B Tech, will transfer to other institutions in the North Carolina Community College System and to most senior institutions in the state. Most public and private four-year institutions in North Carolina, and many that are out of state, regularly accept credits from A-B Tech and generally enroll the graduates at approximately the junior level. The details of these affiliations are available from the Transfer Advising Center in the Elm Building and the individual senior institutions.

A-B Tech strongly encourages its graduates to continue their formal education after completion of their A-B Tech programs. It is important that graduates recognize the need to continue their education throughout life to prepare for new and changing careers.

Student Support Services

Counseling Services and the Career Center

A-B Tech provides free, confidential counseling and related services for students through the Counseling Center located in the Azalea building. Students are encouraged to use counseling services at any time if they have personal, academic, or career concerns. The professional counseling staff, after initial assessment, will refer students who need specialized or long-term services to appropriate resources within the community.

Career counseling and career exploration services are available to students who are undecided or confused about career plans. The Career Center, located in the Azalea building, houses a variety of career resources, both print and computerized, to assist students in career-related areas. Individual career testing and career counseling sessions are available by appointment.

Academic Advising

In order to ensure that every student receives quality academic advising, A-B Tech has established an academic advising system. Students who are admitted to an applied science degree, diploma, or certificate curriculum are advised by a faculty member from that curriculum. Students who are not admitted to a degree, diploma, or certificate program are advised by the counselors/advisors in Student Services. Counselors/advisors initially determine the developmental courses for students based upon the results of placement testing. Faculty advisors use this information when advising students. In all instances, a student's registration form must be signed by an appropriate advisor indicating that the schedule meets appropriate academic standards. No student will be allowed to register without an advisor's signature. Students who desire to register for more than 20 credit hours in a semester will need the approval of their department chair.

College transfer students are assigned to the Transfer Advising Center (located in Elm 200) for academic advising. They will be seen by faculty members on duty from the Arts and Sciences Division on a first-come, first-serve basis. The Center is open from 8:30 a.m. until 6:30 p.m. Monday through Thursday and from 8:30 a.m. until 4:30 p.m. on Friday. Any transfer student who wishes to have a specific advisor assigned to him or her may request this service at the Transfer Advising Center, and accommodations will be made for a permanent advisor assignment. College transfer students may request to be assigned to a specific advisor that would best suit their needs.

Services to Students with Disabilities

Asheville-Buncombe Technical Community College is invested in full compliance with Section 504 of the Rehabilitation Act of 1973 and the

Americans with Disabilities Act of 1990. The Disability Services Office at the College ensures that the programs and facilities of the College are accessible to all students. The College focuses on the student as an individual and works toward equal opportunity, full integration into the campus environment, physical accessibility and the provision of reasonable accommodations, auxiliary aids and services to students.

If you are a student with a disability and require the services of interpreters, readers, notetakers, or need other reasonable accommodations, it is your responsibility to request these services from the Disability Services Office since Federal law prohibits the College from making pre-admission inquiries about disabilities. This office is located in the Counseling Center in the Azalea Building. In order to assess each disabled student's needs and to provide the necessary support services, professional documentation of a disability or disabilities must be furnished to the Disability Services Office. Documentation must be current. Information provided by students is voluntary and appropriate confidentiality is maintained.

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Students who need assistance for academic services should call the Coordinator of Disability Services at 828/254-1921, Ext. 141. Services are designed and developed on an individual-needs basis, and students may elect to use any or all of the services appropriate to their needs at no charge.

The College has a telecommunications device for the deaf (TDD/TTY). Calls are received at the College switchboard, and the spacebar should be pressed several times to signal a TDD/TTY call. Please remain on the line while your call is being transferred to the Disability Services Office. Our purpose is to facilitate your involvement in the life of our College and all of the benefits it provides.

An appointment with the Coordinator of Disability Services is recommended in order to discuss any special concerns. If you are not satisfied with the decisions of this office, you may utilize the College's Student Appeals Policy.

Developmental Studies

This department provides post-secondary students with instruction in basic math, English, and reading. As the point of entry for learners needing academic development, Developmental Studies is sensitive to the needs of students making a transition to a College environment. Instructors design course work to accommodate first-time College students, those returning to school after an absence, and those with disabilities. The objective of this department is to enable students to develop the skills and behaviors that will lead to successful achievement in A-B Tech's curricula. The minimum passing grade is "C." The grade of "D" will not be used for Developmental Studies courses.

Student Services for Distance Learners

It is our intention to provide as many student services to distance learners as possible. In doing so, we strive to minimize the inconvenience of visiting campus for those students who choose to study off campus exclusively. What follows is a list of student services you can expect to access away from campus as a student enrolled in distance learning classes:

1. Student Welcome (Orientation). The Student Welcome is available on local cable television or by requesting a video cassette from the Vice President for Student Services.
2. The Student Handbook is available on the College web page at www.abtech.edu.
3. Application. Application to the College may be made at the College web page. Applications may also be mailed in; they are available in the schedule of classes each semester.
4. Transcript Evaluation. Transcripts from colleges previously attended may be faxed to A-B Tech by the originating college and can be evaluated for transfer credit upon receipt.
5. Application for Graduation. Applications for graduation are available in the schedule of classes each semester and may be mailed to the Records and Registration Office for evaluation. They are also available on the College web page.
6. Catalog. The catalog is available on the College web page.
7. A-B Tech Transcripts. Transcripts of A-B Tech work may be requested by fax or mail from the transcript clerk in the Records and Registration Office. Transcript request forms are also available on the College web page.
8. Dropping Classes. Distance classes may be dropped by calling or e-mailing the Vice President for Student Services.
dking@abtech.edu.
9. Schedule of Classes. Schedules of classes will be mailed to every home in Buncombe and Madison Counties each fall and spring semester. Schedules are also available each semester on the College web page.
10. Financial Aid. Applications for federal financial aid (FAFSA) are available on the Internet. Financial Aid advice is available by e-mailing the director of financial aid.
ldeyton@abtech.edu.
11. Academic advising. Academic advice is available as follows: students classified into programs may receive academic advice by e-mailing their assigned advisor at the College. Unclassified students who are not in any program may receive academic advice from the Director of Counseling.
dharmon@abtech.edu.
12. Veteran's Services. Veteran's services and advice are available by e-mailing the veteran's advisor.
lszymanski@abtech.edu.
13. Disabled Students. Students with disabilities as defined by the Americans with Disabilities Act may seek services by e-mailing the counselor for students with disabilities.
aclingeneel@abtech.edu.
14. Career Counseling Services. Some career counseling services are available through e-mail or the postal service.
pbulla@abtech.edu.

15. Placement Testing. Placement testing may be accomplished at any college which offers the Accuplacer Test. Scores can then be faxed by the originating college. Also, SAT or ACT scores may be used instead of testing. For information, e-mail the testing coordinator. **kedwards@abtech.edu**.
16. Payment of Tuition and Fees: Tuition and fees may be paid online at the College web page.
17. Purchase of Books. Books may be purchased online from the College Bookstore.

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Financial Aid

The purpose of the financial aid program at Asheville-Buncombe Technical Community College is to provide assistance to students who, without such aid, would be unable to attend the College. The program is committed to the philosophy that no eligible student should be denied access to a higher education because of a lack of financial resources.

An application for financial aid will gain consideration for grants-in-aid, loans, scholarships and student employment opportunities. In general, financial aid is awarded to students on the basis of need, academic potential, and future promise. In determining the student's need, it is assumed the student will help himself through summer jobs and part-time work while attending school, that the family will provide aid commensurate with its income and resources and that the student will avail himself of any other financial assistance which is available.

Students desiring financial aid for an academic year (August through May) are encouraged to apply early (January through March) to be given priority consideration for the funds available. Applications will be processed until all available funds are awarded.

Copies of all applications mentioned in the following procedure may be obtained from any high school guidance office, most College and university financial aid offices, and the A-B Tech Financial Aid Office. Alternative accessible application formats will be made available to individuals with disabilities upon request to the ADA Coordinator.

Application Procedure

All applicants desiring priority consideration for available financial aid funds must complete the following steps:

1. Before applying for financial aid it is advisable that each applicant complete the first three steps of the Admission Procedure. (See Table of Contents for the General Admission Requirements and Procedures page reference.)
2. The applicant must complete and mail a Free Application for Federal Student Aid (FAFSA) to the Federal Student Aid Program in the envelope which accompanies the application. (Important Note: Applicants may use the electronic version of the FAFSA-FAFSA on the Web-to apply for assistance. For more information about the electronic application, the applicant may call FAFSA customer ser-

vice at 1-800-801-0576. Electronic applications are processed faster than paper applications. Applicants may use the College computers in the Holly Learning Resources Building computer lab and in the Financial Aid Office in the Azalea Building to access FAFSA on the Web and to file their application electronically.)

3. When completing the application, the applicant must list the appropriate federal school code number on the application. A-B Tech's code number is 004033.

The applicant will receive a Student Aid Report (SAR) from the processor approximately three to four weeks after mailing the application. The Financial Aid Office receives an electronic report from the processor and will notify the applicant when the report has been reviewed.

Once the application process has been completed, the applicant's eligibility for assistance will be determined. Official notification of awards is made no earlier than May 15 prior to fall semester enrollment. Each award is contingent upon the availability of funds.

Students desiring additional information about the Financial Aid Program at A-B Tech are urged to write or phone: Office of Financial Aid, Asheville-Buncombe Technical Community College, 340 Victoria Road, Asheville, NC 28801, (828) 254-1921, Ext. 163 or 876.

Satisfactory Academic Progress Standards for Financial Aid

Introduction. The Higher Education Act of 1965, as amended by Congress in 1980, mandates institutions of higher education to establish minimum standards of "satisfactory progress" for students receiving financial aid. The federal regulations addressing satisfactory progress were initially published in October 1983, with amendments made in December 1987 and then again in April 1994.

Satisfactory Progress Defined. Generally, a student is considered to be making satisfactory progress toward his/her curriculum program of study when three requirements are satisfied:

1. Maintain a minimum cumulative grade point average based on credit hours attempted. (The qualitative standard required by regulation).
2. Complete a minimum number of credit hours of the total credit hours attempted with grades of A, B, C, or D. (The first quantitative standard required by regulation).
3. Successfully complete the program of study within its maximum time frame. Regulations specify that the maximum time frame may not exceed 150% of the published length of the program for full-time students. (The second quantitative standard required by regulation).

Monitoring Satisfactory Progress. The College will monitor the qualitative and quantitative standards referenced in 1 and 2 above using the chart below. The chart has been designed to accommodate all federally eligible programs of study offered by the College, and variable enrollment status of students (e.g. full-time, half-time, less than half-time).

Credit Hours Attempted*	Minimum Credit Hours To Be Completed**	Minimum Cumulative GPA Required***	
1 -10	1	0.50	Admissions and Student Information
11-20	4	0.50	
21-30	10	0.75	
31-40	16	1.00	
41-45	23	1.25	
46-50	30	1.50	
51-55	36	1.75	
56-60	40	2.00	
61-65	43	2.00	
66-70	47	2.00	
71-75	50	2.00	
76-80	53	2.00	
81-85	57	2.00	
86-90	60	2.00	
91-95	63	2.00	
96-100	67	2.00	
101-105	70	2.00	
106-110	73	2.00	
111-114	76	2.00	

*Credit hours attempted will be cumulative and will include all hours for which the student was enrolled as of the census date of each academic term or for which the student received a grade. The census date is defined as the last day for registration as outlined in the College Catalog.

**Credit hours completed with grades of A, B, C, or D only will fulfill this requirement. Grades of AP, AR, CR, I, NS, P, T, TH, U, W, X, and Y, will not fulfill this requirement.

***Cumulative GPA is computed by dividing the total number of quality points earned by the total credit hours attempted for which the student received grades of A, B, C, D, F, or U.

The second quantitative standard referred to as the maximum time frame will be measured independent of the monitoring chart. For each program of study a maximum time frame will be calculated by taking the total credit hours required for the program as outlined in the College Catalog and multiplying the total by 150%. Time frames will vary from program to program.

Examples:

1. Practical Nursing curriculum requires 47 credit hours to complete the diploma. The time frame is calculated ($47 \times 150\% = 71$).

2. Associate Degree Nursing requires 75 credit hours to complete the degree. The time frame is calculated ($75 \times 150\% = 113$).
3. Associate in Arts (A.A.) Degree, Associate in Fine Arts (A.F.A.) Degree, and Associate in Science (A.S.) Degree require 65 credit hours to complete the degree. The time frame is calculated ($65 \times 150\% = 98$).
4. Carpentry requires 46 credit hours to complete the diploma. The time frame is calculated ($46 \times 150\% = 69$).

The maximum time frame establishes the maximum number of credit hours a student may attempt in an effort to complete a program of study, and at the same time, remain eligible to receive financial assistance.

Key Points to remember regarding the quantitative standard of the time frame:

1. Since the time frame sets the limit for the number of credit hours a student may attempt and remain eligible to receive financial assistance, it is very important that the student plan class schedules carefully with their academic advisor and/or the student services counseling staff. It is the responsibility of the student to register only for classes listed in their chosen major in the College Catalog and for scheduling only the number of hours they are capable of completing. **SOME STUDENTS WILL BE REQUIRED TO TAKE PROVISIONAL COURSES WHICH WILL ALSO BE COUNTED AS HOURS ATTEMPTED.** Students are responsible for knowing the policy concerning the limitation on hours attempted for financial aid purposes. Registering for more courses than a student is capable of completing, having to withdraw from classes, registering for courses for which the student has already received credit, taking courses in error, etc., all impact the time frame and could result in losing financial aid eligibility before completing a program of study.
2. The time frame is cumulative, therefore, by switching programs without completing the initial program the student runs the risk of losing financial aid eligibility.
3. The time frame begins when the student first attends the College and continues until that student successfully completes a program of study regardless of the number of years that may elapse between enrollment periods.
4. Only students who successfully complete a program of study will be given a new time frame should they decide to enter a subsequent program of study. The credit hours attempted to complete the first program will not be included as hours attempted in the time frame for the second program of study.
5. Students who take course work and are unclassified will have those hours attempted added to their time frame if and when they enter a specific program of study.
6. Students accepted into a program of study who are required to take guided studies or developmental course work as determined by placement testing results and the professional judgment of a

student services counselor, will have the credit hours attempted for such course work count toward their time frame.

7. The credit hours for course incompletes, withdrawals, and repetitions will be counted as hours attempted toward the time frame.
8. Students switching from a degree program to a vocational program who have or nearly have exceeded the initial time frame may appeal to the Director of Financial Aid for a time frame extension.
9. Credit hours transferred in will be counted toward the maximum time frame of eligibility. Prior degrees earned will be taken into consideration when determining transfer hours.

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Satisfactory Progress Increments

The College will monitor satisfactory academic progress at two points during each academic year (i.e. at the end of both the Fall and Spring Semesters). The only exceptions to this would be (1) for those students returning to the College who have a prior academic record at the College. Such students would be monitored at the time they reenroll since the federal regulations require the standards for progress to cover all periods of enrollment, including those periods for which the student did not receive aid from Title IV funds, and (2) for students who return to the College at their own expense in an effort to reestablish their eligibility. These students would be monitored each term until they meet the satisfactory progress definition.

Based upon the number of credit hours attempted, the student will be expected to complete a minimum number of credit hours with satisfactory grades as described earlier and at the same time maintain a minimum cumulative grade point average without exceeding the maximum time frame. Failure to meet the standards outlined will result in termination of financial aid eligibility. Due to the leniency of the satisfactory progress standards early in the student's program of study, the College will not provide an automatic probationary period during which the student may continue receiving financial aid while attempting to improve upon the number of credit hours completed and/or the cumulative grade point average required. Nevertheless, the College will provide an appeal procedure for reinstatement of financial aid eligibility.

Appeal of Financial Aid Termination

To appeal financial aid termination a student must be able to demonstrate mitigating circumstances. The procedure for appeal is:

1. A student will indicate in writing to the Director of Financial Aid the reasons why he/she did not make satisfactory progress and why financial aid should not be terminated. Documentation to support the appeal is required.
2. The Director of Financial Aid will review the appeal to determine whether or not termination of aid is justified. The student will be advised of the decision in writing.
3. A student wishing to appeal the decision of the Director of Financial Aid may do so, in writing, to the Student Financial Aid Com-

mittee, c/o the Financial Aid Office. Additional appeals may be made through the Student Due Process Procedure and then to the President of the College if deemed necessary by the student.

Reinstatement of Financial Aid Eligibility

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Should a student have his/her financial aid eligibility terminated due to not meeting the satisfactory progress definition, termination will continue until the student enrolls for a subsequent academic term at his/her own expense and completes the term satisfying the satisfactory progress definition. Once the satisfactory progress definition is met eligibility is reinstated for the subsequent satisfactory progress increment. In addition, financial aid eligibility will immediately be reinstated for all appeals upheld.

Scholarships and Other Financial Aid Information

Scholarships

Generally, scholarships are awarded only to those applicants who have completed the Application Procedure for student financial assistance outlined earlier. Most scholarships awarded by the College are restricted to a specific program of study and are based on financial need. The College does award a limited number of merit scholarships to qualifying second-year students which are program specific and require the endorsement and/or screening of faculty in the applicant's department of study. Students needing more information about these limited scholarships should call the Financial Aid Office at 828/254-1921, Ext. 162.

All students are encouraged to seek out scholarships offered by clubs and organizations in their communities. A collection of scholarship booklets are kept on reserve for student use in the Resource Room of the A-B Tech Financial Aid Office in the Azalea Building.

An excellent source for scholarships is located on the World Wide Web. Students can do searches by accessing www.finaid.org and using the Free Scholarship Search (FASTWEB). FASTWEB alone contains a database of more than 180,000 scholarships. The Web site of the North Carolina State Education Assistance Authority, www.ncseaa.edu/, lists scholarships available to North Carolina residents only.

Asheville-Buncombe Technical Community College Foundation

The Asheville-Buncombe Technical Community College Foundation awards scholarships annually.

- By February 1, applications are available from the Financial Aid Office located in Azalea.
- By March 1, students applying for scholarships requiring the establishment of financial need should complete the Free Application for Federal Student Aid (FAFSA).
- By May 1, scholarship applications are due to the Financial Aid Office.

- By July 15, the Foundation Office informs the students and the Financial Aid Office of the selection status.

For additional information about the Foundation, please call 254-1921, Ext. 176 or 179.

Other Financial Aid Information

In addition to scholarships, information about grants, loans and work programs is also available on the Internet. Some recommended sites are:

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www.ed.gov/offices/ope: Click on “Information for Students” for federal student aid information.

www.cfnc.org: Provides comprehensive information about scholarships, loans and other programs/issues.

www.nasfaa.org: Click on “Financial Aid Information for Students, Parents & Counselors;” provided by the National Association of Student Financial Aid Administrators.

www.cfi.org: Provides comprehensive information about student and parent loans.

The Hope Tax Credit

The Hope Credit is a federal tax credit. The actual amount of the credit depends upon family income and the amount of qualified tuition paid less any financial aid.

To qualify, the taxpayer must file a return, owe taxes, and claim the student as a dependent (unless the student is a spouse). The student must be enrolled at least half-time in an eligible program leading to a degree, certificate or diploma and must not have completed the first two years of undergraduate study. The credit is not available to students who have been convicted of a felony drug offense.

The Lifetime Learning Tax Credit

The Lifetime Learning Tax Credit may be claimed for the taxpayer, spouse, or eligible dependents for an unlimited number of years. This credit is family-based rather than dependent-based like the Hope Credit. The actual amount of the credit depends upon the family's income and the amount of qualified tuition less any financial aid. Unlike the Hope Credit, students are not required to be enrolled at least half-time in one of the first two years of post-secondary education.

This is provided for informational purposes only. For detailed tax information, please consult your tax advisor. Information is also available at www.ed.gov/initis/hope/.

Veteran's Educational Benefits

The Veteran's Advisor will help incoming veterans evaluate their eligibility for benefits. The Veteran's Office is located in the Counseling Center in the Azalea Building. Individuals applying for veteran's benefits must meet all entrance requirements and are required to meet the College's academic standards as they progress through their programs. Failure to meet these academic standards of progress will result in loss of veteran's educational benefits.

Other Policies Affecting the Campus Environment

Parking Regulations

All students are required to register their vehicles and display parking permits. Copies of parking regulations are available in the Business Office. Parking spaces designated for individuals with disabilities are located at each facility. Spaces marked by yellow lines are for faculty and staff use only. Students park in white-lined spaces. All parking fines must be paid prior to registering for classes.

Workplace Violence Prevention Policy and Procedures

Policy

ABTCC is committed to providing everyone associated with the College a work and learning environment that is safe and free of violence. To this end, the College prohibits any form of violence.

For purposes of this policy, “violence” includes, but is not limited to, verbally or physically attacking, harassing, intimidating, stalking or coercing any employee, student, visitor, vendor or other person associated with the College, brandishing weapons, damaging property, and/or threatening or talking of engaging in such activities. Brandishing weapons shall not include the use or possession of weapons by authorized employees or students for the purpose of training, or by College security, law enforcement officers or military personnel when acting in the discharge of their official duties (See “No Weapons on Campus” policy).

Any member of the College community who commits an act of violence toward other persons or property on campus, while engaged in any work for or on behalf of ABTCC, or at ABTCC sponsored events, shall be subject to disciplinary action, up to and including dismissal from employment or expulsion from the College, exclusive of any civil and/or criminal penalties that may be pursued, as appropriate. For the purposes of this policy, a “member of the College community” includes, but is not limited to, employees, students, visitors, College officers and College officials.

No existing College policy, practice, or procedure should be interpreted to prohibit prevention of violence as defined in this policy.

Every employee and student is responsible for reporting any threats or acts of violence that he/she has witnessed, received, or has been told that another person has witnessed or received. Even without an actual threat, an employee or student should report any behavior he/she has witnessed which he/she regards as threatening or violent when that behavior is job related or might be carried out on College property, or

is connected to College employment or activities. Reports should be made immediately to campus security. The College intends to investigate all acts of violence promptly and objectively.

No Weapons On Campus Policy

The use or possession of any weapons is prohibited on A-B Tech property or at any College-sponsored activities or events. (See also Workplace Violence Prevention Policy) It is a violation of A-B Tech policy and State law (N.C.G.S. 14.269.2) for any person, including students, employees and visitors to possess or carry, whether openly or concealed, any weapon. The term "weapon" includes, but is not limited to the following:

Gun, rifle, pistol, dynamite, cartridge, bomb, grenade, mine, powerful explosive (as defined in N.C.G.S. 14-284.1), bowie knife, dirk, dagger, slingshot, leaden cane, switchblade knife, razors, razor blades, blackjack, and metallic knuckles.

The term "weapon" also includes any other weapon of like kind, such as sharp pointed or edged instruments; but the term "weapon" excludes tools, utensils, and equipment used solely for maintenance or instructional purposes (such as unaltered nail files and clips, dental tools, and tools used solely for preparation of food) or used for authorized ceremonial purposes on the A-B Tech campus, grounds, recreation areas, athletic field, or other properly owned, used, or operated by A-B Tech.

This policy shall not apply to employees or students when used for authorized training purposes, or to College security, law enforcement officers or military personnel when acting in the discharge of their official duties.

Any person violating this policy shall be disciplined at the discretion of the A-B Tech administration. A person found guilty of activity prohibited by this Weapons Policy may also be guilty under state law of a misdemeanor, and upon conviction may be punished at the discretion of the court.

Other College Services and Information

College Services

A-B Tech Café. The Café is located in the Coman Student Activity Center. Breakfast, lunch and dinner meals, including sandwiches, salads, and soups, are prepared daily. Hours of operation are from 7 a.m. to 6 p.m. Monday - Thursday and 7 a.m. to 2 p.m. on Fridays. Vending machines dispensing soft drinks, coffee, and snacks are located at various locations around campus.

The Culinary Technology, Baking and Pastry Arts, and Hotel and Restaurant Management students prepare and serve lunch and dinner on scheduled Thursdays during fall and spring semesters. See the student newspaper, Voices, and Student Handbook for times, dates, and reservation information.

Academic Learning Center. The Academic Learning Center supports student success through tutorial assistance, foreign language practice, a testing center, and an open computer lab.

The tutoring center provides math, reading, and writing tutorial assistance for students enrolled in any curriculum course. Students must be referred to the lab for tutoring by their instructors. Tutoring is accomplished through individual help, small groups, and computer-assisted instruction.

The foreign language lab provides students with opportunities to practice language skills. Lab practice is expected of all students enrolled in foreign language courses.

The open computer lab may be used by students to complete assignments using computers or may be reserved by an instructor for occasional use by a class.

The testing center facilitates on-line testing, re-testing, make-up testing, extra-time testing or other special needs testing.

Bookstore. A bookstore is operated by the College for the convenience of students and staff members to provide required textbooks and materials. Students should plan to purchase all texts and materials at the beginning of each semester.

Textbook costs vary considerably depending upon the curriculum and semester. Book costs also vary from year to year because of changes in curriculum book prices, texts, and material requirements. Texts and materials will be made available in alternative accessible formats for individuals with disabilities upon request to the ADA Coordinator.

Child Care. A-B Tech offers child care services for children of College students. Faculty, staff, and the general public may also apply for the service. The Center, operated by Buncombe County Child Development, is open during daytime hours.

The program accepts children from two months to five years. Individuals who meet State and Federal income guidelines may apply for financial assistance. Arrangements can be made by calling either 255-5725 or 255-5111 from 8:30 a.m. to 5 p.m. Monday through Friday.

College Closing or Delayed Opening. The College will either be closed or opened on a delayed schedule when inclement weather conditions warrant such a decision. Closing or delaying announcements are placed on the switchboard automated attendant, on A-B Tech Web site at www.abtech.edu and will be made on Asheville radio and television stations and some surrounding community radio stations. Separate decisions and announcements are made for the day and evening programs.

Dental Clinic. Throughout the year the Allied Dental Department provides oral health services, such as patient education, dental X-rays, cleaning the teeth, nutritional counseling, and sealants. During Spring and Summer semesters limited dental services such as fillings, crowns and partial dentures are also available. A nominal fee is charged for these services. Call the Allied Dental Clinic, Ext. 255, for an appointment and approximate charges for services.

Distance Learning and the Virtual Campus. Students who cannot fit a traditional classroom course into their schedules or who prefer to try

something new have several alternatives, including Web-based classes on the Internet, telecourses on videocassette, and interactive television classes between campuses or on the North Carolina Information Highway (NCIH). All alternative instructional formats require student workloads and outcomes comparable to a traditional class.

The **Virtual Campus** may be accessed through A-B Tech's Web page. For current offerings, times, and locations of courses, as well as phone numbers, alternative orientation formats, and specific course requirements, go to www.abtech.edu and click on the Virtual Campus link (or access the page directly at www.abtech.edu/vcampus). The Virtual Campus may be accessed from a home computer or from several open computer labs on campus.

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Honorary Societies. The College is proud to sponsor the Alpha Upsilon Eta Chapter of Phi Theta Kappa Academic Honor Society. Membership is open to any student who has a 3.5 GPA after 12 credits of completed work. Eligible students are welcome to seek more information from the Director of Student Activities in the Coman Student Activity Center.

Intramurals. A-B Tech Intramurals are an extremely popular extracurricular activity. We offer volleyball, basketball, tennis, 2-mile run, softball distance throw, football punt, and golf-closest to the pin. Intramurals are open to male and female, faculty, staff, and students, and beginners to advanced athletes. The activities are on Tuesdays and Thursdays and are one hour or less for each session. The only requirements are that you must dress in proper athletic wear and shoes, and volleyball participants need to have some former experience in the sport. Watch for signs on building entrances, the student handbook, the campus marquee, and the Coman Gymnasium Intramural bulletin board.

Learning Resources Center. The Learning Resources Center (LRC) provides information, guidance, and instruction in a wide range of resource material. All routine library functions such as catalog, circulation, and reserves are automated to provide electronic access within the main campus, Madison campus, and remotely to users who have home computers. These resources include interlibrary loans, electronic and print indexes, online full-text databases, Internet and Web-based products (including NCLIVE and NCLIVE@home). These resources are available through the College's Web site and the LRC's homepage.

The LRC is open Monday through Friday. Special needs clientele will be assisted by the LRC staff in utilization of resources. In addition, the LRC has many traditional print and non-print resources, with coin-operated copiers and microform reader/printers for use by all patrons. Audio-visual services and a computer lab are available for use by currently employed faculty and staff and by currently enrolled students.

The library makes available all of the LRC's collection of materials, both print and non-print formats. The collection is well organized for easy use. Automated catalogs, circulation, electronic indexes, and reference services provide the user with state-of-the-art access to research and recreational materials. The primary objectives of the library are to provide information services and to assist the user with utilization of the collection in an attractive, well-equipped facility that is open to the College and the community.

HOURS:	Monday-Thursday	8 a.m. - 9:00 p.m.
	Friday	8 a.m. - 4:30 p.m.

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Parking Locations and Shuttle Service. Parking is provided at various locations around campus. Please refer to the campus map located in this catalog for specific sites. Students with disabilities are provided parking at all locations. Parking areas are lighted during evening hours. Spaces marked with yellow lines are reserved for faculty, staff, disabled persons, and visitors. White-lined spaces are reserved for students. A shuttle service is provided for students who park in remote lots. Shuttle routes and schedules are available in the Azalea Building.

Placement Service. No reputable College can guarantee jobs for graduates. However, the College will assist students and alumni in every possible way to obtain suitable employment. Applied Science department chairs are particularly helpful with placing their program graduates.

Security. Security personnel are on duty 24 hours a day, seven days a week. Each security officer is certified to respond to medical emergencies.

Student Lounge. A Student Lounge is located in the Coman Student Activity Center for those students with spare time and who wish to socialize.

Student Housing. Students are responsible for their own living accommodations. A-B Tech neither approves nor maintains housing facilities. Students who are looking for housing or roommates may check bulletin boards in the Azalea Building or the Coman Student Activity Center.

Study Abroad Program. A-B Tech occasionally sponsors Study Abroad opportunities for students. Students who want to participate must be enrolled in the College, must register for the study abroad course, and must purchase health and accident insurance that is valid outside of the United States. Students who successfully complete the study abroad activity and the course requirements will receive course credit.



Allied Health and Public Service Education

The **Allied Health and Public Service Education** Division provides students with opportunities at the postsecondary level to acquire knowledge, skills, and attitudes that will enable them to become effective and safe members of the health care and public service teams.

Allied Health and Public Service Education	Associate Degree Nursing*	Criminal Justice Technology	Dental Assisting*
Recommended High School Courses			
Algebra II Advanced Biology Chemistry Composition Courses in Health Occupations Anatomy/Physiology Computer Applications including Keyboarding	English courses, particularly those with emphasis on writing skills Computer Applications including Keyboarding	Composition Chemistry Advanced Biology Courses in Health Occupations Computer Applications including Keyboarding	
A-B Tech Entrance Requirements			
Chemistry Biology English (4 units) Mathematics (2 units) Competitive selection after acceptable scores on Reading Comprehension Sentence Skills, and Arithmetic Skills, College Board Accuplacer Tests.	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Accuplacer Tests.	High school diploma or GED Competitive selection after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Accuplacer Tests.	
Program Schedule			
Day, Night/Weekend Begin Fall ADN Bridge Begins Spring	Day/Night Begin Fall. Can take single courses	Day Begins Fall	
Degree			
Associate in Applied Science	Associate in Applied Science	Diploma	
Employment Opportunities			
Hospitals Long Term Care Facilities Clinics Physicians' Offices Industry Community Health Agencies	Law Enforcement Highway Patrol Deputy Sheriff Private Security Magistrate Correctional Officer Surveillance Officer Alcohol Law Enforcement Wildlife Enforcement	V.A. Clinics Health Departments State Clinics Dental Schools Private and Group Practices	

* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.

Dental Hygiene*	Early Childhood Associate	Early Childhood/Teacher Associate	Allied Health and Public Service Education
Recommended High School Courses			
Composition Anatomy/Physiology Plane Geometry (or Algebra II) Advanced Biology Courses in Health Occupations Computer Applications including Keyboarding	Composition Literature Computer Applications including Keyboarding Courses in Childcare Occupations	Composition Literature Computer Applications including Keyboarding	
A-B Tech Entrance Requirements			
Chemistry, Biology English (4 units) Mathematics (2 units, one must be Algebra) Competitive selection after acceptable scores on Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Accuplacer Tests.	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Accuplacer Tests.	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Accuplacer Tests.	
Program Schedule			
Day Begins Fall	Day/Night Enter program at the start of any semester.	Day/Night	
Degree			
Associate in Applied Science	Associate in Applied Science	Associate in Applied Science	
Employment Opportunities			
Dental Offices Education Local, State, and Federal Government Agencies Private Industry	Child Care Worker Child Care Assistant Director, Child Care Director, Preschool	Public Schools Private Schools Child Development Programs Headstart School Age Programs	* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.

	Emergency Medical Science	Fire Protection Technology	Medical Laboratory Technology *
Allied Health and Public Service Education	Anatomy, Biology Mathematics Chemistry Composition Courses in Health Occupations Computer Applications including Keyboarding	Mathematics Chemistry Computer Applications including Keyboarding Composition	Anatomy Biology Applied Math Chemistry (strongly recommended) Geometry (strongly recommended) Computer Applications including Keyboarding
A-B Tech Entrance Requirements			
	Acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Accuplacer Tests.	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Accuplacer Tests.	Biology Algebra I English (4 units) Acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, Elementary Algebra, and College Board Accuplacer Tests.
Program Schedule			
	Day Begins Fall	Day/Night Begins Fall	Day Begins Fall
Degree			
	Associate in Applied Science	Associate in Applied Science	Associate in Applied Science
Employment Opportunities			
* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.	Emergency Medical Services Hospitals Urgent Care Clinics Physicians' Offices Private Ambulance Companies	Municipal Fire Departments Government Agencies Industrial Firms Insurance Rating Organizations Educational Organizations	Hospitals Emergency Care Clinics Health Departments Physicians' Offices General Clinics

Medical Sonography*	Phlebotomy	Practical Nursing*	Allied Health and Public Service Education
Recommended High School Courses			
Anatomy Advanced Biology Applied Math Physics Computer Applications including Keyboarding	High School Transcript or GED	Anatomy/Physiology Advanced Biology Composition Courses in Health Occupations Computer Applications including Keyboarding	
A-B Tech Entrance Requirements			
Biology Algebra I Competitive selection after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, Elementary Algebra, and College Board Accuplacer Tests.	Acceptable score on reading placement test.	English (4 units) Mathematics Biology Competitive selection after acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Accuplacer Tests.	
Program Schedule			
Day Begins Fall	Day Fall Day Spring	Day Begins Fall	
Degree			
Associate in Applied Science	Certificate	Diploma	
Employment Opportunities			
Hospitals Health Departments Physician's Offices Imaging Centers Mobile /Traveling Services	Hospitals Physician's Offices General Clinics	Hospitals Long-Term Care Facilities Physician's Offices Industry Community Health Agencies	* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.

Allied Health and Public Service Education	Radiography*	Social Services	Surgical Technology*
Recommended High School Courses			
	Anatomy Advanced Biology Applied Math Physics (strongly recommended) Computer Applications including Keyboarding	Composition Literature Computer Applications including Keyboarding Courses in Sociology and Psychology	Anatomy Biology Mathematics Chemistry Composition Health Occupations Computer Applications including Keyboarding
A-B Tech Entrance Requirements			
	Biology Algebra I Competitive Selection after acceptable scores on Reading Comprehension, Science Skills, El- ementary Algebra, and College Board Accuplacer Tests.	Acceptable scores on SAT, ACT, or Reading Compre- hension, Sentence Skills, Arithmetic Skills, and College Board Accuplacer Tests.	Biology Algebra I Acceptable scores on SAT, ACT, or Reading Compre- hension, Sentence Skills, and College Board Accuplacer Tests.
Program Schedule			
	Day Begins Fall	Day/Night Begins Fall	Day Begins Fall
Degree			
	Associate in Applied Science	Associate in Applied Science	Diploma
Employment Opportunities			
* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.	Hospitals Health Departments Physician's Offices Emergency Care Clinics Industry Imaging Centers	Case Aide Social Service Social Worker Aide	Hospitals Surgery Centers Physician's Offices Organ Harvest Organizations

Veterinary Medical Technology

Allied Health

Recommended High School Courses

Anatomy
Biology
Mathematics
Chemistry
Composition
Health Occupations
Computer Applications including Keyboarding

and Public

Service

Education

A-B Tech Entrance Requirements

Biology
Algebra I
Acceptable scores on Reading Comprehension, Science Skills, Elementary Algebra, and College Board Accuplacer Tests.

Program Schedule

Day/Night
Begins Fall

Degree

Associate in Applied Science

Employment Opportunities

Veterinary Clinics
Diagnostic Labs
Research Labs
Zoos
Animal Care Facilities

Allied Health and Public Service Education

The Allied Health and Public Service Education division offers a variety of programs designed to meet the increasing demand for specialized professionals in the burgeoning health care, child care, and public service industries. The programs in this division present a broad range of career options for individuals desiring a career in a helping profession. The division offers a variety of programs at the Associate in Applied Science degree, diploma and certificate levels. Some areas of study are offered on a day and evening basis.

In addition to classroom and laboratory instruction, each program emphasizes learning experiences at health and public service settings in the community. This extensive training at clinical, pre-hospital, laboratory, child care, or law enforcement facilities affords students a unique opportunity to develop the specialized skills required for employment in a health or public service profession.

An individual desiring training in a health or public service program should have a background in chemistry, biology, science, mathematics, and social sciences. The applicant to an area of study in this division should become familiar with the selection criteria and application deadlines for the specific program. Persons interested in a health or public service career are advised that professional licensure, certification, employment, or admission to clinical/work experience sites may be denied to anyone who has been convicted of a felony or other crime involving moral turpitude.

A.A.S. DEGREE CONFERRED

- Associate Degree Nursing
- Criminal Justice Technology
- Dental Hygiene
- Early Childhood Associate
- Early Childhood/Teacher Associate
- Emergency Medical Science
- Fire Protection Technology
- Medical Laboratory Technology
- Medical Sonography
- Radiography
- Social Services
- Veterinary Medical Technology

DIPLOMA AWARDED

- Dental Assisting
- Practical Nursing
- Surgical Technology

CERTIFICATE AWARDED

- Basic Law Enforcement Training
- Early Childhood Associate
- Fire Protection Technology
- Infant/Toddler Care
- Phlebotomy

Associate Degree Nursing

This curriculum provides individuals with the knowledge and skills necessary to provide nursing care to clients and groups of clients throughout the lifespan in a variety of settings.

Courses will include content related to the nurse's role as provider of nursing care, as manager of care, as member of the discipline of nursing, and as a member of the interdisciplinary team.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a Registered Nurse. Employment opportunities include hospitals, long term care facilities, clinics, physician's offices, industry, and community agencies.

Specific Requirements

1. Final admission to the Associate Degree Nursing program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe nursing care to the public.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. Students applying to the Associate Degree Nursing program are encouraged to have successfully completed: BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215, and a Humanities elective prior to program admission due to the rigorous nature of the A.D.N. curriculum.
5. North Carolina Board of Nursing requires criminal background checks on all applicants for initial licensure.
6. Clinical Agencies may require criminal background checks prior to admission to clinical sites.

To be eligible for admission to the Fall 2007 Associate Degree Nursing and Practical Nursing programs, applicants will be required to hold a documented current credential as a Certified Nursing Assistant I (CNA I) from the North Carolina Division of Facility Services by June 15, 2007.

Associate Degree Nursing – Associate in Applied Science Degree – Day Option

This program consists of:

Major courses (BIO, NUR prefix)

Credit Hrs.

52

Related and general education courses including:

23

English/Oral Communications

6

Humanities/Fine Arts

3

Natural Science/Mathematics

8

Social Sciences

3

Other

3

PROGRAM TOTAL

75

Allied Health
and Public
Service
Education

Allied Health

and Public
Service
Education

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Weekly Credit Hrs.
		First Semester (Fall)				
	BIO 168	Anatomy and Physiology I	3	3	0	4
	ENG 111	Expository Writing	3	0	0	3
	NUR 115	Fundamentals of Nursing	2	3	6	5
	NUR 117	Pharmacology	1	3	0	2
	NUR 133	Nursing Assessment	2	3	0	3
			11	12	6	17
		Second Semester (Spring)				
	BIO 169	Anatomy and Physiology II	3	3	0	4
	CIS 110	Computer Concepts	2	2	0	3
	NUR 135	Adult Nursing I	5	3	9	9
			10	8	9	16
		Third Semester (Summer)				
	NUR 185	Mental Health Nursing	3	0	6	5
	NUR 188	Nursing in the Community	1	0	6	3
	SOC 215	Group Processes	3	0	0	3
			7	0	12	11
		Fourth Semester (Fall)				
	ENG 114	Professional Research and Reporting	3	0	0	3
	NUR 125	Maternal-Child Nursing	5	3	6	8
	NUR 255	Professional Issues	3	0	0	3
		Humanities Elective	3	0	0	3
			14	3	6	17
		Fifth Semester (Spring)				
	NUR 116	Nursing of Older Adults	2	3	3	4
	NUR 235	Adult Nursing II	4	3	15	10
			6	6	18	14
		Program Totals				
			48	29	51	75

Associate Degree Nursing – Evening and Weekend Option

This curriculum provides individuals with the knowledge and skills necessary to provide nursing care to clients and groups of clients throughout the lifespan in a variety of settings.

Courses will include content related to the nurse's role as provider of nursing care, as manager of care, as member of the discipline of nursing, and as a member of the interdisciplinary team.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-RN), which is required for practice as a Registered Nurse. Employment opportunities include hospitals, long term care facilities, clinics, physician's offices, industry, and community agencies.

Specific Requirements

1. Final admission to the Associate Degree Nursing program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe nursing care to the public.
2. Satisfactory completion of required immunizations.

3. Current CPR for the Professional Rescuer certification is a pre-requisite to admission and must be maintained throughout the program.
4. Students applying to the Associate Degree Nursing program are encouraged to have successfully completed: BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215, and a Humanities elective prior to program admission due to the rigorous nature of the A.D.N. curriculum.
5. North Carolina Board of Nursing requires criminal background checks on all applicants for initial licensure.
6. Clinical Agencies may require criminal background checks prior to admission to clinical sites.

Allied Health
and Public
Service
Education

To be eligible for admission to the Fall 2007 Associate Degree Nursing and Practical Nursing programs, applicants will be required to hold a documented current credential as a Certified Nursing Assistant I (CNA I) from the North Carolina Division of Facility Services by June 15, 2007.

Associate Degree Nursing – Associate in Applied Science Degree – Evening and Weekend Option

This program consists of:

Major Courses (BIO, NUR Prefix)	Credit Hrs.
	52
Related and General Education Courses	
including:	
<i>English/Oral Communication</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	8
<i>Social Sciences</i>	3
<i>Other</i>	3
PROGRAM TOTAL	
	75

Weekly	Weekly	Weekly	
Class Hrs.	Lab Hrs.	Clinic Hrs.	Credit Hrs.

First Semester (Fall)

BIO 168 Anatomy and Physiology	3	3	0	4
NUR 115 Fundamentals of Nursing	2	3	6	5
NUR 117 Nursing Pharmacology	1	3	0	2
NUR 133 Nursing Assessment	2	3	0	3
	8	12	6	14

Second Semester (Spring)

BIO 169 Anatomy and Physiology II	3	3	0	4
NUR 135 Adult Nursing I	5	3	9	9
	8	6	9	13

Third Semester (Summer)

CIS 110 Computer Concepts	2	2	0	3
NUR 188 Nursing in the Community	1	0	6	3
SOC 215 Group Processes	3	0	0	3
	6	2	6	9

Allied Health and Public Service Education	Fourth Semester (Fall)	NUR 185 Mental Health Nursing NUR 255 Professional Issues ENG 111 Expository Writing	3 0 6 5 3 0 0 3 3 0 0 3
			9 0 6 11
	Fifth Semester (Spring)		
		NUR 125 Maternal Child Nursing ENG 114 Professional Research and Reporting	5 3 6 8 3 0 0 3
			8 3 6 11
	Sixth Semester (Summer)		
		NUR 235(A)Adult Nursing II Humanities Elective	2 2 7 5 3 0 0 3
			5 2 7 8
	Seventh Semester (Fall)		
		NUR 116 Nursing of Older Adults NUR 235(B)Adult Nursing II	2 3 3 4 2 1 8 5
			4 4 11 9
	Program Totals		48 29 51 75

Associate Degree Nursing Bridge Option

Specific Requirements

1. Final admission to the Associate Degree Nursing program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe nursing care to the public.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. Current, unrestricted license to practice as an LPN in the state of North Carolina is a prerequisite to admission and must be maintained throughout the program.
5. The North Carolina Board of Nursing requires criminal background checks on all applicants.
6. Clinical agencies may require criminal background checks prior to admission to clinical sites.

Licensed Practical Nurses in the bridge program will receive credit for NUR 115 Fundamentals of Nursing, NUR 117 Pharmacology, and NUR 135 Adult Nursing I upon successful completion of NUR 189 Nursing Transition. Licensed Practical Nurses in the Bridge Program must complete all general education courses required in the generic Associate Degree Nursing program prior to application deadline. These courses include: BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215, and one 3-hour Humanities elective.

** Applicants must obtain nursing department chair approval to enroll in ENG 114.*

*** Licensed Practical Nurses completing BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215 and a Humanities elective and receiving credit for NUR 115, NUR 117, and NUR 135 must complete the additional 38 credit hours listed to receive the Associate in Applied Science degree in nursing.*

Associate Degree Nursing Bridge Option

This program consists of:

Major courses (BIO, NUR prefix)

Related and general education courses including:

- English/Communications* 6
- Humanities/Fine Arts* 3
- Natural Science/Mathematics* 8
- Social Sciences* 3
- Other* 3

PROGRAM TOTAL

Credit Hrs.

52

Allied Health

23

and Public

Service

Education

75*

Weekly Weekly Weekly

Class Hrs.	Lab Hrs.	Clinic Hrs.	Credit Hrs.
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Second Semester (Spring)

NUR 133	Nursing Assessment	2	3	0	3
NUR 189	Nursing Transition	1	3	0	2
		3	6	0	5

Third Semester (Summer)

NUR 185	Mental Health Nursing	3	0	6	5
NUR 188	Nursing in the Community	1	0	6	3
		4	0	12	8

Fourth Semester (Fall)

NUR 125	Maternal-Child Nursing	5	3	6	8
NUR 255	Professional Issues	3	0	0	3
		8	3	6	11

Fifth Semester (Spring)

NUR 116	Nursing of Older Adults	2	3	3	4
NUR 235	Adult Nursing II	4	3	15	10
		6	6	18	14

Program Totals

21 15 36 38*

Associate Degree Nursing Bridge Option – Evening and Weekend Option

This program consists of:

Major courses (BIO, NUR prefix)

Credit Hrs.

52

Related and general education courses

23

including:

- English/Communications* 6
- Humanities/Fine Arts* 3
- Natural Science/Mathematics* 8
- Social Sciences* 3
- Other* 3

PROGRAM TOTAL

75*

Weekly Weekly Weekly

Class Hrs.	Lab Hrs.	Clinic Hrs.	Credit Hrs.
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Second Semester (Spring)

NUR 133	Nursing Assessment	2	3	0	3
NUR 189	Nursing Transition	1	3	0	2
		3	6	0	5

Third Semester (Summer)

NUR 188	Nursing in the Community	1	0	6	3
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Allied Health	Fourth Semester (Fall)	NUR 185 Mental Health Nursing	3	0	6	5
		NUR 255 Professional Issues	3	0	0	3
			6	0	6	8
and Public	Fifth Semester (Spring)	NUR 125 Maternal Child Nursing	5	3	6	8
Service						
Education	Sixth Semester (Summer)	NUR 235(A)Adult Nursing II	2	2	7	5
	Seventh Semester (Fall)	NUR 116 Nursing of Older Adults	2	3	3	4
		NUR 235(B)Adult Nursing II	2	1	8	5
			4	4	11	9
	Program Totals:		21	15	36	38

Basic Law Enforcement Training

Basic Law Enforcement Training (BLET) is designed to give students essential skills required for entry-level employment as law enforcement officers with state, county, or municipal governments, or with private enterprise.

This program utilizes state-commission-mandated topics and methods of instruction. General subjects include, but are not limited to, criminal, juvenile, civil, traffic, and alcoholic beverage laws; investigative, patrol, custody, and court procedures; emergency responses; and ethics and community relations.

Successful graduates receive a curriculum certificate and are qualified to take certification examinations mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or the North Carolina Sheriffs Education and Training Standards Commission.

Specific Requirements

1. General college admission requirements.
2. Individuals must meet the Minimum Standard for Employment Criteria outlined in North Carolina Code Book—General Statute 17-A and Title-12 Chapter 9 North Carolina Administrative Code.
3. Individuals must be sponsored by a North Carolina law enforcement agency. The letter of sponsorship must:
 - a. be signed by the agency head; i.e., Chief or Sheriff.
 - b. include a statement of sponsorship that certifies that the applicant meets the standards for certification as stated in number two above.
 - c. state that a background investigation was conducted.
4. Individuals must submit their sponsorship letter and college application to the Law Enforcement Training Center director at least 15 days prior to the courses scheduled start date. Applicants are accepted on a first-come, first-serve basis. Priority will be given to full-time employees of law enforcement agencies.

5. If accepted into the program, the student must submit completed North Carolina State Forms F-1 and F-2 on the first day of class. These forms are provided by the sponsoring agency and are not available at the College.
6. Prior to admission each student must achieve a reading score of at least the tenth grade. This testing can be done AFTER submitting your application for enrollment. The testing is done in the Azalea Building Monday through Thursdays: 8:30 am, 10:30 am, 1:30 pm, 3:30 pm, and 5:30 pm and Fridays: 8:30 am, 10:30 am, and 1:30 pm. Arrive 20 minutes early; no appointment is necessary.

Allied Health
and Public
Service
Education

Basic Law Enforcement Training – Certificate Program – Day and Evening Schedule

This program consists of:	Credit Hrs.		
One major course	19		
	Weekly	Weekly	
	Class	Lab	Credit
	Hrs.	Hrs.	Hrs.
CJC 100 Basic Law Enforcement Training	9	30	19

Criminal Justice Technology

This curriculum is designed to provide practical knowledge of criminal justice systems and operations. Study will focus on local, state, and federal law enforcement, judicial processes, corrections and security services. The criminal justice system's role within society will be explored.

Emphasis is on criminal justice systems, criminology, juvenile justice, criminal and constitutional law, investigative principles, ethics and community relations. Additional study may include issues and concepts of government, counseling, communications, computers and technology.

Employment opportunities exist in a variety of local, state, and federal law enforcement, corrections, and security fields. Examples include police officer, deputy sheriff, county detention officer, state trooper, intensive probation/parole surveillance officer, correctional officer, and loss prevention specialist.

Criminal Justice Technology – Associate in Applied Science Degree

This program consists of:	Credit Hrs.
Major courses (CJC prefix)	51
Related and general education courses including:	25
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Sciences</i>	6
<i>Other</i>	7
PROGRAM TOTAL	76

Allied Health

and Public
Service
Education

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
	First Semester (Fall)				
	ACA 115	First-Year Seminar	0	2	1
	CIS 110	Computer Concepts	2	2	3
	CJC 111	Introduction to Criminal Justice	3	0	3
	CJC 121	Law Enforcement Operations	3	0	3
	CJC 231	Constitutional Law	3	0	3
	ENG 111	Expository Writing	3	0	3
			14	4	16
	Second Semester (Spring)				
	CJC 112	Criminology	3	0	3
	CJC 132	Court Procedure	3	0	3
	CJC 222	Criminalistics	3	0	3
	HUM 115	Critical Thinking	3	0	3
		Major Elective*	3	0	3
			15	0	15
	Third Semester (Summer)				
	CJC 113	Juvenile Justice	3	0	3
	CJC 114	Investigative Photography or CJC 120	1	2	2
	CJC 131	Criminal Law	3	0	3
	PSY 150	General Psychology	3	0	3
		Major Elective*	3	0	3
			13	2	14
	Fourth Semester (Fall)				
	CJC 213	Substance Abuse	3	0	3
	CJC 221	Investigative Principles	3	2	4
	ENG 114	Professional Research & Reporting	3	0	3
	SOC 225	Social Diversity (Or PSY 281) Major Elective*	3	0	3
			15	2	16
	Fifth Semester (Spring)				
	CJC 122	Community Policing	3	0	3
	CJC 212	Ethics and Community Relations	3	0	3
	MAT 115	Mathematical Models (or MAT 161)	2	2	3
	SPA 120	Spanish for the Workplace or SPA 111 Major Elective*	3	0	3
			14	2	15
	Program Totals				
			71	10	76*

*Totals include a minimum of twelve credit hours of major electives to be selected from: CJC 120, CJC 151, CJC 160, CJC 170, CJC 211, CJC 214, CJC 215, CJC 223, CJC 225, CJC 232, CJC 251, CJC 252, CJC 255, CCT 110, CCT 121, or CCT 231.

Students who have successfully completed a curriculum offering of Basic Law Enforcement Training within 10 years of their application to the Criminal Justice Technology Program will receive credit for CJC 121, 131, 132, 221, and 231.

Criminal Justice Technology – Associate in Applied Science Degree – Evening Schedule

Allied Health

and Public

Service

First Semester (Fall)

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
ACA	115	First-Year Seminar	0	2	1	
CIS	110	Computer Concepts	2	2	3	
CJC	111	Introduction to Criminal Justice	3	0	3	
CJC	121	Law Enforcement Operations	3	0	3	
CJC	231	Constitutional Law	3	0	3	
			11	4	13	

Second Semester (Spring)

CJC	112	Criminology	3	0	3	
CJC	132	Court Procedure and Evidence	3	0	3	
ENG	111	Expository Writing	3	0	3	
		Major Elective*	3	0	3	
			12	0	12	

Third Semester (Summer)

CJC	131	Criminal Law	3	0	3	
ENG	114	Professional Research and Reporting	3	0	3	
			6	0	6	

Fourth Semester (Fall)

CJC	113	Juvenile Justice	3	0	3	
CJC	114	Investigative Photography or CJC 120	1	2	2	
CJC	221	Investigative Principles	3	2	4	
			7	4	9	

Fifth Semester (Spring)

CJC	122	Community Policing	3	0	3	
CJC	213	Substance Abuse	3	0	3	
MAT	115	Mathematical Models (or MAT 161)	2	2	3	
			8	2	9	

Sixth Semester (Summer)

CJC	222	Criminalistics	3	0	3	
HUM	115	Critical Thinking	3	0	3	
			6	0	6	

Seventh Semester (Fall)

SOC	225	Social Diversity (Or PSY 281)	3	0	3	
		Major Elective*	3	0	3	
		Major Elective*	3	0	3	
			9	0	9	

Eighth Semester (Spring)

CJC	212	Ethics and Community Relations	3	0	3	
PSY	150	General Psychology	3	0	3	
SPA	120	Spanish for the Workplace or SPA 111	3	0	3	
		Major Elective*	3	0	3	
			12	0	12	

Program Totals

71 10 76

* Totals include a minimum of twelve credit hours of major electives to be selected from: CJC 120, CJC 151, CJC 160, CJC 170, CJC 211, CJC 214, CJC 215, CJC 223, CJC 225, CJC 232, CJC 251, CJC 252, CJC 255, CCT 110, CCT 121, or CCT 231.

Allied Health
and Public

Service

Education

Students who have successfully completed a curriculum offering of Basic Law Enforcement Training within 10 years of their application to the Criminal Justice Technology Program will receive credit for CJC 121, 131, 132, 221, and 231.

Dental Assisting

This curriculum prepares individuals to assist the dentist in the delivery of dental treatment and to function as integral members of the dental team while performing chairside and related office and laboratory procedures.

Course work includes instruction in general studies, biomedical sciences, dental sciences, clinical sciences, and clinical practice. A combination of lecture, laboratory, and clinical experiences provide students with knowledge in infection/hazard control, radiography, dental materials, preventive dentistry, and clinical procedures.

Graduates of this program may be eligible to take the Dental Assisting National Board Examination to become Certified Dental Assistants.

As Dental Assistant II's, defined by the Dental Laws of North Carolina, graduates work in dental clinics/offices, and insurance companies.

Specific Requirements

1. General college admission requirements.
2. Acceptable report of medical examination by first day of class.
3. Completion of required immunizations by first day of class, including first two doses of Hepatitis B vaccine.
4. Students applying to the Dental Assisting program are encouraged to have successfully completed BIO 106, CIS 110 or CIS 111, ENG 102 or ENG 111 and COM 231, and PSY 150 prior to program admission due to the rigorous nature of the Dental Assisting curriculum.

Dental Assisting Diploma

This program consists of:

Major courses (DEN prefix)

Credit Hrs.

37

Related and general education courses

11

including:

<i>English/Communications</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	2

PROGRAM TOTAL

48

Weekly	Weekly	Weekly	
Class	Lab	Clinic	Credit
Hrs.	Hrs.	Hrs.	Hrs.

First Semester (Fall)

BIO 106	Introduction to Anatomy/ Physiology/Microbiology	2	2	0	3
DEN 101	Preclinical Procedures	4	6	0	7
DEN 103	Dental Sciences	2	0	0	2
DEN 110	Orofacial Anatomy	2	2	0	3
DEN 111	Infection/Hazard Control	2	0	0	2
DEN 112	Dental Radiography	2	3	0	3
		14	13	0	20

Second Semester (Spring)

DEN 102	Dental Materials	3	4	0	5	Allied Health
DEN 104	Dental Health Education	2	2	0	3	
DEN 105	Practice Management	2	0	0	2	and Public
DEN 106	Clinical Practice I	1	0	12	5	
		8	6	12	15	Service
Third Semester (Summer)						
CIS 111	PC Literacy	1	2	0	2	Education
DEN 107	Clinical Practice II	1	0	12	5	
ENG 102	Applied Communication II	3	0	0	3	
PSY 150	General Psychology	3	0	0	3	
		8	2	12	13	
Program Totals		30	21	24	48	

Program Totals**Dental Hygiene**

This curriculum prepares individuals with the knowledge and skills to assess, plan, implement, and evaluate dental hygiene care for the individual and the community.

Students will learn to prepare the operatory, take patient histories, note abnormalities, plan care, teach oral hygiene, clean teeth, take x-rays, apply preventive agents, complete necessary chart entries, and perform other procedures related to dental hygiene care.

Graduates of this program may be eligible to take national and state/regional examinations for licensure which are required to practice dental hygiene. Employment opportunities include dental offices, clinics, schools, public health agencies, industry, and professional education.

Specific Requirements

1. General college admission requirements.
2. Have high school credit with grade of at least "C" for four units of English, two units of mathematics (one of which must be algebra), one unit of chemistry, and one unit of biology. Science oriented college preparatory courses are recommended.
3. Acceptable report of medical examination by the first day of class.
4. Completion of required immunizations by first day of class, including first two doses of Hepatitis B vaccine.
5. Students applying to the Dental Hygiene program are encouraged to have successfully completed: BIO 168, BIO 169, BIO 175, CIS 110 or CIS 111, COM 231, ENG 111, HUM 115, and SOC 240 prior to program admission due to the rigorous nature of the Dental Hygiene curriculum.
6. The North Carolina Board of Dental Examiners may deny license to individuals convicted of a felony or any other crime involving moral turpitude.

Dental Hygiene – Associate in Applied Science Degree

Allied Health

and Public

Service

Education

	This program consists of:	Credit Hrs.
	Major courses (DEN prefix)	49
	Related and general education courses including:	25

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	11
<i>Social Sciences</i>	3
<i>Other</i>	2

PROGRAM TOTAL	74
	Weekly

Class	Lab	Clinic	Credit
Hrs.	Hrs.	Hrs.	Hrs.

First Semester (Fall)

BIO 168	Anatomy and Physiology I	3	3	0	4
DEN 110	Orofacial Anatomy	2	2	0	3
DEN 111	Infection/Hazard Control	2	0	0	2
DEN 112	Dental Radiography	2	3	0	3
DEN 120	Dental Hygiene Preclinic Lecture	2	0	0	2
DEN 121	Dental Hygiene Preclinic Laboratory	0	6	0	2
		11	14	0	16

Second Semester (Spring)

BIO 169	Anatomy and Physiology II	3	3	0	4
DEN 124	Periodontology	2	0	0	2
DEN 125	Dental Office Emergencies	0	2	0	1
DEN 130	Dental Hygiene Theory I	2	0	0	2
DEN 131	Dental Hygiene Clinic I	0	0	9	3
DEN 223	Dental Pharmacology	2	0	0	2
ENG 111	Expository Writing	3	0	0	3
		12	5	9	17

Third Semester (Summer)

BIO 175	General Microbiology	2	2	0	3
CIS 111	PC Literacy	1	2	0	2
DEN 140	Dental Hygiene Theory II	1	0	0	1
DEN 141	Dental Hygiene Clinic II	0	0	6	2
DEN 222	General and Oral Pathology	2	0	0	2
		6	4	6	10

Fourth Semester (Fall)

COM 231	Public Speaking	3	0	0	3
DEN 123	Nutrition/Dental Health	2	0	0	2
DEN 220	Dental Hygiene Theory III	2	0	0	2
DEN 221	Dental Hygiene Clinic III	0	0	12	4
DEN 224	Materials and Procedures	1	3	0	2
SOC 240	Social Psychology	3	0	0	3
		11	3	12	16

Fifth Semester (Spring)

DEN 230	Dental Hygiene Theory IV	1	0	0	1	Allied Health
DEN 231	Dental Hygiene Clinic IV	0	0	12	4	
DEN 232	Community Dental Health	2	0	3	3	and Public
DEN 233	Professional Development	2	0	0	2	
DEN 235	Dental Hygiene Concepts	2	0	0	2	Service
HUM 115	Critical Thinking	3	0	0	3	
		10	0	15	15	
Program Totals		50	26	42	74	Education

Program Totals**Early Childhood Associate**

This curriculum prepares individuals to work with children from infancy through early childhood in diverse learning environments. Students will combine learned theories with practice in actual settings with young children under the supervision of qualified teachers.

Course work includes childhood growth and development, physical/nutritional needs of children, care and guidance of children, and communication skills with parents and children. Students will foster the cognitive/language, physical/motor, social/emotional and creative development of young children.

Graduates are prepared to plan and implement developmentally appropriate programs in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Head Start Programs, and school age programs.

Specific Requirements

1. General college admission requirements.
2. Acceptable reports of medical examination by the first day of class.
3. Three character/employment references by the first day of class.
4. According to GS 110-91, "No person shall be an operator of nor an employee in a day care facility who has been convicted of a crime involving child neglect, child abuse, or moral turpitude, or who is a habitually excessive user of alcohol or who illegally uses narcotics or other impairing drugs, or who is mentally retarded or mentally ill to an extent that may be injurious to children."
5. Criminal background checks are required prior to assignment to cooperative work experience sites.

Early Childhood Associate – Associate in Applied Science Degree

Allied Health

and Public

Service

Education

This program consists of:

Major courses (COE, EDU prefix)

Other major hours (ART, SOC, CIS)

Related and general education courses including:

<i>English/Communication</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>4 (3)</i>
<i>Social Sciences</i>	<i>3</i>
<i>Other</i>	<i>1</i>

PROGRAM TOTAL

Credit Hrs

58 (57)

17 (16)

75 (73)

Weekly	Weekly	Weekly	
Class	Lab	Clinic	Credit
Hrs.	Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	0	1
EDU 119	Early Childhood Education	4	0	0	4
EDU 144	Child Development I	3	0	0	3
EDU 151	Creative Activities	3	0	0	3
EDU 151A	Creative Activities Lab	0	2	0	1
ENG 111	Expository Writing	3	0	0	3
		13	4	0	15

Second Semester (Spring)

COE 111EC	Work Experience I	0	0	10	1
COE 115EC	Work Experience I Seminar	1	0	0	1
EDU 145	Child Development II	3	0	0	3
EDU 234	Infants. Toddlers, Twos or Art 111 Art Appreciation	3	0	0	3
(3)		(3)	0	0	3)
ENG 114	Research and Report Writing	3	0	0	3
CIS 110	Computer Concepts	2	2	0	3
		12	2	10	14

Third Semester (Summer)

MAT 161	College Algebra	3	0	0	3
MAT 161A	College Algebra Lab or MAT 140 Survey of Mathematics	0	2	0	1
(3)		(3)	0	0	3)
EDU 251	Exploration Activities	3	0	0	3
EDU 271	Educational Technology	3	0	0	3
		9	2 (0)	0	10 (9)

Fourth Semester (Fall)

COE 121EC	Work Experience II	0	0	10	1
COE 125EC	Work Experience II Seminar	1	0	0	1
EDU 146	Child Guidance	3	0	0	3
EDU 280	Literacy Experiences	3	0	0	3
EDU 131	Child, Family & Community	3	0	0	3
SOC 213	Sociology of the Family or EDU 261 Administration I	3	0	0	3
(3)		(3)	0	0	3)
		13	0	10	14

Fifth Semester (Spring)

COE 131EC	Work Experience III	0	0	10	1	Allied Health	
COE 135EC	Work Experience III Seminar	1	0	0	1		
EDU 221	Children with Exceptionalities	3	0	0	3	and Public	
EDU 153	Health, Safety & Nutrition	3	0	0	3		
EDU 153A	Health, Safety & Nutrition Lab	0	2	0	1	Service	
BIO 110	Principles of Biology or EDU 262 Administration II	3	3	0	4		
		(3)	0	0	3)	Education	
				10	5 (2)	10	13(12)

Sixth Semester (Summer)

EDU 259	Curriculum Planning	3	0	0	3	
PSY 150	General Psychology	3	0	0	3	
	Humanities Elective	3	0	0	3	
		9	0	0	9	

Program Totals

		66	13(8)	30	75 (73)	
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Total credit hours required for certificate: 17.

Required courses for certificate program: EDU 119, EDU 144, ENG 111, EDU 146, EDU 151 and EDU 151A. This certificate is also offered in the evening schedule.

Early Childhood Certificate

The Early Childhood Certificate program is designed to provide students minimum entry level skills to work with children from infancy through early childhood. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Head Start programs, and school age programs.

Specific Requirements

1. General college admission requirements.
2. Three character/employee references by the first day of class.
3. According to GS 110-91, "No person shall be an operator of nor an employee in a day care facility who has been convicted of a crime involving child neglect, child abuse, or moral turpitude, or who is a habitually excessive user of alcohol or who illegally uses narcotics or other impairing drugs, or who is mentally retarded or mentally ill to an extent that may be injurious to children."
4. Criminal background checks are required prior to credentialing.

Early Childhood Certificate Program

This program consists of:

Major courses (EDU)

And Gen ED (ENG)

Credit Hrs.

17

Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Credit Hrs.
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First Semester (Fall)

EDU 119	Early Childhood Education	4	0	0	4
EDU 144	Child Development I	3	0	0	3
ENG 111	Expository Writing	3	0	0	3
		10	0	0	10

Allied Health
and Public
Service
Education

Second Semester (Spring)			
EDU 146	Child Guidance	3	0
EDU 151	Creative Activities	3	0
EDU 151A	Creative Activities Lab	0	2
		<u>6</u>	<u>2</u>
Program Totals		16	2
		0	17

Infant/Toddler Care Certificate*

The curriculum prepares individuals to work with children from infancy to three years of age in diverse learning environments. Students will combine learned theories, competency-based knowledge, and practice in actual settings with young children under the supervision of qualified teachers.

Coursework includes infant/toddler growth and development: physical/nutritional needs of infants and toddlers; safety issues in the care of infants and toddlers; care and guidance; communication skills with parents and children; design and implementation of appropriate curriculum; and other related topics.

Graduates should be prepared to plan and implement developmentally appropriate infant/toddler programs in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Early Head Start Programs, and other infant/toddler programs.

Specific Requirements:

1. General college admission requirements.
2. Three character/employee references by the first day of class.
3. Criminal background checks are required prior to credentialing. According to GS 110-91, "No person shall be an operator of nor an employee in a day care facility who has been convicted of a crime involving child neglect, child abuse, or moral turpitude, or who is a habitually excessive user of alcohol or who illegally uses narcotics or other impairing drugs, or who is mentally ill to an extent that may be injurious to children."

* This program will begin Fall 2006 pending State Board of Community Colleges approval.

Infant/Toddler Care Certificate Program

This program consists of:
Major Courses (EDU prefix)

	Credit Hrs.			
	Weekly	Weekly	Weekly	Credit
	Class	Lab	Clinic	Hrs.
				17
First Semester (Fall)				
EDU 119	Introduction to Early Childhood Ed.	4	0	0 4
EDU 144	Child Development I	3	0	0 3
EDU 131	Child, Family and Community	3	0	0 3
		10	0	0 10

Second Semester (Spring)

EDU 153	Health, Safety and Nutrition	3	0	0	3	Allied Health
EDU 153A	Health, Safety and Nutrition Lab	0	2	0	1	
EDU 234	Infant, Toddlers, and Twos	3	0	0	3	and Public
		6	2	0	7	
Program Totals		16	2	0	17	Service

Early Childhood/Teacher Associate

Teacher Associate is a concentration under the curriculum title of Early Childhood Associate. This curriculum prepares individuals to work with children from infancy through middle childhood. Students will combine the theories learned in class with practice in elementary school settings under the supervision of certified teachers. Courses include childhood growth and development, physical/nutritional needs of children, guidance of children, professional responsibilities and ethics, and curriculum principles and practices.

Graduates are prepared to work in any elementary school setting, whether public or private. Employment opportunities include teacher assistants in elementary schools, lead teachers in child development programs, Head Start Programs and school age programs.

Specific Requirements

1. General college admission requirements.
2. Acceptable reports of medical examination by the first day of class.
3. Three character/employment references by the first day of class.
4. Criminal background checks are required prior to assignment to cooperative work experience sites.

**Early Childhood/Teacher Associate
Associate in Applied Science Degree**

This program consists of:

Credit Hrs.

Major Courses (COE, EDU prefix)

51

Related and General Education courses

24

including:

<i>English/Oral Communications</i>	9
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	5
<i>Social Sciences</i>	3
<i>Other</i>	4

PROGRAM TOTAL

75

Weekly Weekly Weekly

Class Hrs.	Lab Hrs.	Clinic Hrs.	Credit Hrs.
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First Semester (Fall)

ACA 115	First Year Seminar	0	2	0	1
CIS 110	Computer Concepts	2	2	0	3
EDU 119	Early Childhood Education	4	0	0	4
EDU 131	Child, Family & Community	3	0	0	3
EDU 144	Child Development I	3	0	0	3
EDU 186	Reading and Writing Methods	3	0	0	3
ENG 111	Expository Writing	3	0	0	3
		18	4	0	20

		Second Semester (Spring)			
Allied Health and Public Service Education	COE 111E	Work Experience I	0	0	10
	COE 115	Work Experience I Seminar	1	0	0
	EDU 118	Teacher Associate Principles	3	0	0
	EDU 145	Child Development II	3	0	0
	EDU 151	Creative Activities	3	0	0
	EDU 151A	Creative Activities Lab	0	2	0
	PSY 150	General Psychology	3	0	0
			13	2	10
					15
Third Semester (Summer)					
	BIO 143	Field Biology Minicourse	1	2	0
	EDU 251	Exploration Activities	3	0	0
	EDU 251A	Exploration Activities Lab	0	2	0
		Humanities Elective	3	0	0
			7	4	0
					9
Fourth Semester (Fall)					
	BIO 226	Local Fall Flora	2	2	0
	EDU 146	Child Guidance	3	0	0
	EDU 153	Health, Safety & Nutrition	3	0	0
	EDU 153A	Health, Safety & Nutrition Lab	0	2	0
	EDU 275	Effective Teacher Training	2	0	0
	EDU 280	Literacy Experiences	3	0	0
			13	4	0
					15
Fifth Semester (Spring)					
	COE 121E	Coop Seminar	0	0	10
	COM 231	Oral Communications	3	0	0
	EDU 221	Special Needs	3	0	0
	EDU 235	School Age Programming	2	0	0
	EDU 285	Internship Experience-School Age	1	0	0
	ENG 114	Research & Report Writing	3	0	0
	PSY 237	Social Psychology	3	0	0
			15	0	10
					16
Program Totals					
			66	14	20
					75

Emergency Medical Science

This curriculum is designed to prepare graduates to enter the workforce as paramedics. Additionally, the program can provide an Associate Degree for individuals desiring an opportunity for career enhancement.

The course of study provides the student an opportunity to acquire basic and advanced life support knowledge and skills by utilizing classroom instruction, practical laboratory sessions, hospital clinical experience, and field internships with emergency medical service agencies.

Students progressing through the program become eligible to apply for both state and national certification exams. Employment opportunities include ambulance services, fire and rescue agencies, air medical services, specialty areas of hospitals, industry, educational institutions, and government agencies.

Specific Requirements

1. General college admission requirements.
2. Must be 18 years of age at the end of the first semester of the program.

3. Current N.C. driver's license.
4. Acceptable reports of medical examinations and immunizations.
5. Criminal background checks may be required prior to admission to clinical sites.

Allied Health
and Public
Service
Education

Emergency Medical Science – Associate in Applied Science Degree

This program consists of:

Major courses (EMS prefix)

Credit Hrs.

52(53)

Related and general education courses

23

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	8
<i>Social Sciences</i>	3
<i>Other</i>	3

PROGRAM TOTAL

75(76)

Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Credit Hrs.
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First Semester (Fall)

ACA 115	First-Year Seminar	0	2	0	1
BIO 168	Anatomy and Physiology I	3	3	0	4
CIS 110	Computer Concepts or CIS 111 PC Literacy	2	2	0	3
EMS 110	EMT-Basic	5	6	0	7
EMS 115	Defense Tactics for EMS or EMS 111 Prehospital Environment	1	3	0	2
EMS 150	Emergency Vehicles and EMS Communication	(2	2	0	(3)
		1	3	0	2
		12	19	0	18(19)

Second Semester (Spring)

BIO 169	Anatomy and Physiology II	3	3	0	4
EMS 120	Intermediate Interventions	2	3	0	3
EMS 121	EMS Clinical Practicum I	0	0	6	2
EMS 130	Pharmacology I for EMS	1	3	0	2
EMS 131	Advanced Airway Management	1	2	0	2
ENG 111	Expository Writing	3	0	0	3
		10	11	6	16

Third Semester (Summer)

EMS 210	Advanced Patient Assessment	1	3	0	2
EMS 220	Cardiology	2	6	0	4
EMS 221	Clinical Practicum II	0	0	9	3
		3	9	9	9

Fourth Semester (Fall)

EMS 140	Rescue Scene Management	1	3	0	2
EMS 140A	Rescue Skills Lab	0	3	0	1
EMS 231	Clinical Practicum III	0	0	9	3
EMS 250	Advanced Medical Emergencies	2	3	0	3
EMS 260	Advanced Trauma Emergencies	1	3	0	2
ENG 114	Professional Research and Reporting	3	0	0	3
SOC 225	Social Diversity	3	0	0	3
		10	12	9	17

		Fifth Semester (Spring)			
Allied Health and Public Service Education	EMS 230	Pharmacology II For EMS	1	3	0
	EMS 240	Special Needs Patients	1	2	0
	EMS 241	Clinical Practicum IV	0	0	9
	EMS 270	Life Span Emergencies	2	2	0
	EMS 285	EMS Capstone	1	3	0
	PHI 240	Introduction to Ethics	3	0	0
			<u>8</u>	<u>10</u>	<u>9</u>
Program Totals			43	60(61)	33
					75(76)

Emergency Medical Science Bridge Program

The Emergency Medical Science Bridge Program is designed to allow currently certified non-degree paramedics to earn an Associate in Applied Science (A.A.S.) degree in Emergency Medical Science. Paramedics enrolled in the bridge program must complete the EMS Bridge, Rescue Scene Management, Pharmacology II for EMS, Emergency Vehicles and EMS Communications, and EMS Capstone courses along with all related and general education course requirements for the EMS degree.

Specific Requirements

1. General college admission requirements.
 - a. Complete application for admission.
 - b. Successfully complete College Placement Test.
 - c. High School transcript or GED scores on file with admissions office.
 - d. Official transcript of any prior college credit on file with admissions office.
2. Possess current North Carolina driver's license.
3. Complete interview with EMS Department faculty.
4. At least 4,000 hours of patient contact at the paramedic level as evidenced by the signature of the director of the EMS agency with which the paramedic is affiliated and the medical director of the ALS system with which the paramedic is affiliated.
5. Current EMT-Paramedic certification.* (A copy of the paramedic education program transcript must be on file in the EMS Department.)
6. Current Basic Cardiac Life Support certification.*
7. Current Advanced Cardiac Life Support certification.*
8. Current Basic Trauma Life Support certification.*
9. Current Pediatric Advanced Life Support certification.*

* Copies of all current certifications must be on file in the EMS Department.

The above certifications and experience (4-9) will provide 41 hours of proficiency credit toward the A.A.S. degree and will count toward the A-B Tech residency requirement. These 41 hours represent the major

area (EMS) courses required for EMT-Basic, EMT-Intermediate, and Paramedic certification that are not required as part of the EMS Bridge Program.

Allied Health

and Public

Service

Education

Emergency Medical Science Bridge Program – Associate in Applied Science Degree

This program consists of:

Major courses (EMS prefix)

Credit Hrs.

53

Related and general education courses

22 (23)

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	8
<i>Social Sciences</i>	3
<i>Other</i>	2

PROGRAM TOTAL

75 (76)

Weekly Weekly Weekly

Class Hrs.	Lab Hrs.	Clinic Hrs.	Credit Hrs.
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First Semester (Fall)

BIO 168	Human Anatomy and Physiology I	3	3	0	4
CIS 110	Computer Concepts	2	2	0	3
	or CIS 111 PC Literacy	(1)	2	0	2
EMS 140	Rescue Scene Management	1	3	0	2
EMS 140A	Rescue Skills Lab	0	3	0	1
EMS 150	Emergency Vehicles and EMS Communications	1	3	0	2
ENG 111	Expository Writing	3	0	0	3
		9(10)	14	0	14(15)

Second Semester (Spring)

BIO 169	Human Anatomy and Physiology II	3	3	0	4
EMS 230	Pharmacology II For EMS	1	3	0	2
EMS 280	EMS Bridge Course	2	2	0	3
EMS 285	EMS Capstone	1	3	0	2
		7	11	0	11

Third Semester (Summer)

ENG 114	Professional Research and Reporting	3	0	0	3
PHI 240	Introduction to Ethics	3	0	0	3
SOC 225	Social Diversity	3	0	0	3
		9	0	0	9
	Program Totals	25	25	0	34*(35)

* At least 25% of required credit hours (19 credit hours) must be earned at A-B Tech.

Fire Protection Technology

This curriculum is designed to provide individuals with technical and professional knowledge to make decisions regarding fire protection for both public and private sectors. It also provides a sound foundation for continuous higher learning in fire protection, administration, and management.

Coursework includes classroom and laboratory exercises to introduce the student to various aspects of fire protection. Students will learn technical and administrative skills such as hydraulics, hazardous

materials, arson investigation, fire protection safety, fire suppression management, law, and codes.

Graduates should qualify for employment or advancement in governmental agencies, industrial firms, insurance rating organizations, educational organizations, and municipal fire departments. Employed persons should have opportunities for skilled and supervisory-level positions with their current organizations.

Fire Protection Technology – Associate in Applied Science Degree – Day and Evening Schedule

This program consists of:	Credit Hrs.
Major courses (FIP prefix)	51
Minimum of 15 semester hours in	
Related and general education courses including:	22
<i>English/Oral Communications</i>	9
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Computer Literacy</i>	3
<i>Social Sciences</i>	3
<i>Other</i>	1
PROGRAM TOTAL	73

		Weekly	Weekly	
		Class Hrs.	Lab Hrs.	Credit Hrs.
First Semester (Fall)				
ACA	115	First-Year Seminar	0	2
CIS	110	Computer Concepts	2	2
ENG	111	Expository Writing	3	0
FIP	120	Introduction to Fire Protection	3	0
		8	4	10
Second Semester (Spring)				
ENG	114	Professional Research and Reporting	3	0
FIP	124	Fire Prevention and Public Education	3	0
FIP	128	Detection and Investigation	3	0
		9	0	9
Third Semester (Summer)				
FIP	140	Industrial Fire Protection	3	0
FIP	228	Local Government Finance	3	0
		6	0	6
Fourth Semester (Fall)				
FIP	132	Building Construction	3	0
FIP	230	Chemistry of Hazardous Materials I	5	0
MAT	115	Mathematical Models	2	2
		10	2	11
Fifth Semester (Spring)				
COM	231	Public Speaking	3	0
FIP	136	Inspections and Codes	3	0
FIP	152	Fire Protection Law	3	0
FIP	220	Fire Fighting Strategies	3	0
		12	0	12

Sixth Semester (Summer)

FIP 232	Hydraulics and Water Distribution	2	2	3	Allied Health
FIP 236	Emergency Management	3	0	3	
		5	2	6	and Public

Seventh Semester (Fall)

FIP 224	Instructional Methodology	4	0	4	Service
FIP 240	Fire Service Supervision	3	0	3	
PSY 150	General Psychology	3	0	3	Education
		10	0	10	

Eighth Semester (Spring)

FIP 260	Fire Protection Planning	3	0	3	
FIP 276	Managing Fire Services	3	0	3	
	Humanities Elective	3	0	3	
		9	0	9	
Program Totals		69	8	73	

Fire Protection Technology Certificate – Day and Evening Schedule

The certificate in Fire Protection Technology provides recognition of the accomplishment of selected courses within the Fire Protection Technology program. These courses should be of particular value to those who are serving or who aspire to serve as officers in fire departments and similar organizations as these courses are comparable with the requirements of NFPA 1021, the national Standard for Fire Officer Professional Qualifications, for Fire Officer 1 and 2.

This program consists of:	Credit Hrs.
Major courses (FIP prefix)	15
Related general education courses	3
PROGRAM TOTAL	18

Weekly Class	Weekly Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ENG 111	Expository Writing	3	0	3	
FIP 132	Building Construction	3	0	3	
FIP 276	Managing Fire Services	3	0	3	
		9	0	9	

Second Semester (Spring)

FIP 152	Fire Protection Law	3	0	3	
FIP 220	Fire Fighting Strategies	3	0	3	
		6	0	6	

Third Semester (Summer)

FIP 240	Fire Service Supervision	3	0	3	
		3	0	3	
Certificate Totals		18	0	18	

Medical Laboratory Technology

This curriculum prepares individuals to perform clinical laboratory procedures in chemistry, hematology, microbiology, and immunohematology that may be used in the maintenance of health and diagnosis/treatment of disease.

Course work emphasizes mathematical and scientific concepts related to specimen collection, laboratory testing and procedures, quality

assurance, and reporting/recording and interpreting findings involving tissues, blood, and body fluids.

Graduates may be eligible to take examinations given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists or the National Certifying Agency. Employment opportunities include laboratories in hospitals, medical offices, industry and research facilities.

Specific Requirements

1. General college admission requirements.
2. High School units:
 - a. Algebra required.
 - b. Biology, chemistry, and geometry strongly recommended.
3. Acceptable reports of medical examinations by first day of Practicum MLT 252.
4. Completion of required immunizations including one dose of Hepatitis B vaccine.
5. Criminal background checks may be required prior to admission to clinical sites.
6. Current CPR certification for the Professional Rescuer or Healthcare Provider by the first day of MLT 252 Practicum I.

Medical Laboratory Technology – Associate in Applied Science Degree

This program consists of:

Major courses (BIO, CHM, MLT prefix)

Credit Hrs.

56

Related and general education courses

18

including:

<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>3</i>
<i>Social Sciences</i>	<i>3</i>
<i>Other</i>	<i>3</i>

PROGRAM TOTAL

74

Weekly	Weekly	Weekly	
Class	Lab	Clinic	Credit
Hrs.	Hrs.	Hrs.	Hrs.

First Semester (Fall)

BIO 163	Basic Anatomy and Physiology	4	2	0	5
CHM 130	General, Organic and Biochemistry	3	0	0	3
CHM 130A	General, Organic and Biochemistry Lab	0	2	0	1
MAT 115	Mathematics Models or MAT 140	2	2	0	3
MLT 110	Introduction to MLT	2	3	0	3
MLT 140	Introduction to Microbiology	2	3	0	3
		13	12	0	18

Second Semester (Spring)

MLT	120	Hematology/Hemostasis	3	3	0	4	Allied Health
MLT	126	Immunology and Serology	1	2	0	2	
MLT	130	Clinical Chemistry	3	3	0	4	and Public
MLT	240	Special Clinical Microbiology	2	3	0	3	
ENG	111	Expository Writing	3	0	0	3	Service
			12	11	0	16	

Third Semester (Summer)

MLT	111	Urinalysis and Body Fluids	1	3	0	2	Education
MLT	127	Transfusion Medicine	2	3	0	3	
MLT	252	MLT Practicum I	0	0	6	2	
			3	6	6	7	

Fourth Semester (Fall)

CIS	110	Computer Concepts	2	2	0	3	
SOC	215	Group Processes or PSY 150	3	0	0	3	
MLT	254	MLT Practicum I	0	0	12	4	
MLT	255	MLT Practicum I	0	0	15	5	
MLT	261	MLT Practicum II	0	0	3	1	
			5	2	30	16	

Fifth Semester (Spring)

ENG	114	Professional Research and Reporting	3	0	0	3	
PHI	240	Introduction to Ethics	3	0	0	3	
MLT	215	Professional Issues	1	0	0	1	
MLT	265	MLT Practicum II	0	0	15	5	
MLT	275	MLT Practicum III	0	0	15	5	
			7	0	30	17	

Program Totals

40	31	66	74
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Medical Sonography

The medical sonography curriculum provides knowledge and clinical skills in the application of high frequency sound waves to image internal body structures.

Course work includes physics, cross-sectional anatomy, abdominal, introductory vascular, and obstetrical/gynecological sonography. Competencies are attained in identification of normal anatomy and pathological processes, use of equipment, fetal growth and development, integration of related imaging, and patient interaction skills.

Graduates of accredited programs may be eligible to take examinations in ultrasound physics and instrumentation and specialty examinations administered by the American Registry of Diagnostic Medical Sonographers and find employment in clinics, physicians' offices, mobile services, hospitals, and educational institutions.

Specific Requirements

1. General college admission requirements.
2. High school biology and one unit of high school algebra.
3. Keyboarding skills are highly recommended.
4. Satisfactory completion of medical examination and reports of immunization within 90 days before beginning major area classes. Completed medical and immunization records must be submitted to department chair before classes begin.

5. Either first dose of Hepatitis B vaccine or completion of series.
6. Documentation of current CPR certification for the Professional Rescuer or Healthcare Provider, which must be renewed annually.
7. Completion of an observation in an approved Sonography area. Details are available from the Medical Sonography faculty.
8. Completion of all requirements for Sonography published in the current admissions criteria, which is available in the Admissions Office or online at www.abtech.edu.
9. Criminal background checks may be required prior to admission to clinical sites.

Medical Sonography – Associate in Applied Science Degree

This program consists of:	Credit Hrs.
Major courses (SON prefix)	54
Related and general education courses including:	22
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	7
PROGRAM TOTAL	76

First Semester (Fall)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Credit Hrs.
BIO	163	Basic Anatomy and Physiology	4	2	0	5
ENG	111	Expository Writing	3	0	0	3
PHY	125	Health Sciences Physics	3	2	0	4
SON	110	Intro to Sonography	1	3	3	3
SON	130	Abdominal Sonography I	2	3	0	3
			13	10	3	18

Second Semester (Spring)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Credit Hrs.
MAT	115	Mathematical Models	2	2	0	3
SON	111	Sonographic Physics	3	3	0	4
SON	120	SON Clinical Ed I	0	0	15	5
SON	131	Abdominal Sonography II	1	3	0	2
SON	140	Gynecological Sonography	2	0	0	2
			8	8	15	16

Third Semester (Summer)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Credit Hrs.
SON	121	SON Clinical Ed II	0	0	15	5
SON	241	Obstetrical Sonography I	2	0	0	2
			2	0	15	7

Fourth Semester (Fall)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Credit Hrs.
CIS	110	Computer Concepts	2	2	0	3
COM	231	Public Speaking	3	0	0	3
SON	220	SON Clinical Ed III	0	0	24	8
SON	242	Obstetrical Sonography II	2	0	0	2
SON	250	Vascular Sonography	1	3	0	2
			8	5	24	18

Fifth Semester (Spring)

SON 221	SON Clinical Ed IV	0	0	24	8	Allied Health
SON 225	Case Studies	0	3	0	1	
SON 289	Sonographic Topics	2	0	0	2	and Public
	Humanities Elective	3	0	0	3	
	Social Science Elective	3	0	0	3	Service
		<u>8</u>	<u>3</u>	<u>24</u>	<u>17</u>	
Program Totals		39	26	81	76	Education

Phlebotomy

This curriculum prepares individuals to obtain blood and other specimens for the purpose of laboratory analysis. Course work includes proper specimen collection and handling, communication skills and maintaining patient data.

Graduates may qualify for employment in hospitals, clinics, physician's offices, and other health care settings, and may be eligible to test for national certification as phlebotomy technicians.

Specific Requirements

1. General college admission requirements.
 - a. Application
 - b. High school transcript
 - c. Acceptable reading score on placement test
2. Acceptable reports of medical examinations by first day of class.
3. Completion of required immunizations including one dose of Hepatitis B vaccine.
4. Criminal background checks may be required prior to admission to clinical sites.
5. Current CPR certification for the Professional Rescuer or Healthcare Provider by the first day of class.

Phlebotomy Certificate

	Weekly	Weekly	Weekly	
	Class Hrs.	Lab Hrs.	Clinic Hrs.	Credit Hrs.
Program offered Fall or Spring				
PBT 100	Phlebotomy Technology	5	2	0 6
PBT 101	Phlebotomy Practicum	0	0	9 3
PSY 118	Interpersonal Psychology	3	0	0 3
Program Totals		8	2	9 12

Practical Nursing

This curriculum prepares individuals with the knowledge and skills to provide nursing care to children and adults. Students will participate in assessment, planning, implementing, and evaluating nursing care.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-PN) which is required for practice as a Practical Nurse. Employment opportunities include hospitals,

rehabilitation facilities, long term care facilities, clinics, physician's offices, and home health agencies.

Specific Requirements

1. Final admission to the Practical Nursing program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe nursing care to the public.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. The North Carolina Board of Nursing requires criminal background checks on all applicants.
5. Criminal background checks may be required prior to admission to clinical sites.

If your goal is to eventually enroll in the Associate Degree nursing Program, consider the following course substitutions.

Required Course for Practical Nursing	Course Substitution
BIO 163	BIO 168 and BIO 169
ENG 102	ENG 111 and ENG 114 or ENG 111 and COM 231
PSY 110	PSY 241

To be eligible for admission to the Fall 2007 Associate Degree Nursing and Practical Nursing programs, applicants will be required to hold a documented current credential as a Certified Nursing Assistant I (CNA I) from the North Carolina Division of Facility Services by June 15, 2007.

Practical Nursing – Diploma

This program consists of:

Major courses (BIO, NUR prefix)

Credit Hrs.

41

Related and general education courses

6

including:

<i>English/Communications</i>	3
<i>Other</i>	3

PROGRAM TOTAL

47

Weekly	Weekly	Weekly	
Class	Lab	Clinic	Credit
Hrs.	Hrs.	Hrs.	Hrs.

First Semester (Fall)

BIO 163 Basic Anatomy and Physiology	4	2	0	5
NUR 101 Practical Nursing I	7	6	6	11
PSY 110 Life Span Development	3	0	0	3
	14	8	6	19

Second Semester (Spring)

CIS 110 Computer Concepts	2	2	0	3
ENG 102 Applied Communications II	3	0	0	3
NUR 102 Practical Nursing II	8	0	12	12
	13	2	12	18

Third Semester (Summer)

NUR 103 Practical Nursing III

6	0	12	10
6	0	12	10
33	10	30	47

Program Totals

Allied Health

and Public

Service

Education

Radiography

The Radiography curriculum prepares the graduate to be a radiographer, a skilled health care professional who uses radiation to produce images of the human body.

Course work includes clinical rotations to area health care facilities, radiographic exposure, image processing, radiographic procedures, physics, pathology, patient care and management, radiation protection, quality assurance, anatomy and physiology, and radiobiology.

Graduates of accredited programs are eligible to apply to take the American Registry of Radiologic Technologists national examination for certification and registration as medical radiographers. Graduates may be employed in hospitals, clinics, physicians' offices, medical laboratories, government agencies, and industry.

Specific Requirements

1. General college admission requirements.
2. High school biology and one unit of high school algebra.
3. Keyboarding skills are highly recommended.
4. Satisfactory completion of medical examination and reports of immunization within 90 days before beginning major area classes. Completed medical and immunization records must be submitted to the department chair before classes begin.
5. Either first dose of Hepatitis B vaccine or completion of series.
6. Documentation of current CPR certification for the Professional Rescuer or Healthcare Provider which must be renewed annually.
7. Completion of a 12-hour observation in the Radiology department at one of the clinical affiliates. Details are available in the Admissions Office.
8. Completion of all requirements published in the current admissions criteria for Radiography which are available in the admissions office or online at www.abtech.edu.
9. Criminal background checks may be required prior to admission to clinical sites.

Notice

Candidates for certification from the American Registry of Radiologic Technologists (ARRT) must comply with the "Rules of Ethics" contained in the ARRT Standards of Ethics. Any conviction of a crime, including a felony, a gross misdemeanor, or a misdemeanor with the sole exception of speeding and parking violations must be investigated by the ARRT in order to determine eligibility for the certification examination. Additional information may be obtained from the department chairperson or on the ARRT website at www.arrt.org.

Allied Health
and Public
Service

Education

Radiography students will be required to complete clinical rotations which may require them to travel as much as one hour from campus. Clinical affiliates are currently located in Asheville, Hendersonville, Fletcher, Brevard, and Marion. All radiography students will complete a four to eight week rotation during the late afternoon-early evening hours (3:30 - 10 p.m.) at some time during their clinic education.

Radiography – Associate in Applied Science Degree

This program consists of:

Major courses (RAD prefix) **Credit Hrs.** **52**

Related and general education courses **Credit Hrs.** **23**

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	5
<i>Social Sciences</i>	3
<i>Other</i>	6

PROGRAM TOTAL

75

Weekly Weekly Weekly

Class	Lab	Clinic	Credit
Hrs.	Hrs.	Hrs.	Hrs.

First Semester (Fall)

BIO 163	Basic Anatomy and Physiology	4	2	0	5
ENG 111	Expository Writing	3	0	0	3
RAD 110	Radiography Introduction and Patient Care	2	3	0	3
RAD 111	RAD Procedures I	3	3	0	4
RAD 151	RAD Clinical Education I	0	0	6	2
RAD 182	RAD Clinical Elective	0	0	6	2
PROGRAM TOTAL		12	8	12	19

Second Semester (Spring)

CIS 110	Computer Concepts	2	2	0	3
COM 231	Public Speaking	3	0	0	3
RAD 112	RAD Procedures II	3	3	0	4
RAD 121	Radiographic Imaging I	2	3	0	3
RAD 161	RAD Clinical Education II	0	0	15	5
PROGRAM TOTAL		10	8	15	18

Third Semester (Summer)

RAD 122	Radiographic Imaging II	1	3	0	2
RAD 131	Radiographic Physics I	1	3	0	2
RAD 171	RAD Clinical Education III	0	0	12	4
PROGRAM TOTAL		2	6	12	8

Fourth Semester (Fall)

RAD 211	RAD Procedures III	2	3	0	3
RAD 231	Radiographic Physics II	1	3	0	2
RAD 241	Radiobiology/Protection	2	0	0	2
RAD 251	RAD Clinical Education IV Social Science Elective	0	0	21	7
PROGRAM TOTAL		3	0	0	3
PROGRAM TOTAL		8	6	21	17

Fifth Semester (Spring)

PHI 240	Introduction to Ethics	3	0	0	3	Allied Health
RAD 245	RAD Quality Management	1	3	0	2	
RAD 261	RAD Clinical Education V	0	0	21	7	and Public
RAD 271	Radiography Capstone	0	3	0	1	
		4	6	21	13	
Program Totals		36	34	81	75	Service

Education

Social Services

The Human Services Technology/Social Services concentration prepares students for direct service delivery work in social service agencies. The curriculum enables students to link theory and practice through interactive classroom activities developing a skill-based academic foundation.

Course work includes the history of the social service movement, ethical issues, case management, diversity issues, law in the practice of social work, and community resources. Students also gain skills in interviewing and counseling techniques.

Graduates should qualify for employment with local, county, state, and federal government social service agencies. Employment includes family and child assistance, rehabilitation health services, medical assistance, youth services, aging, and developmentally disabled programs in public and private settings.

Specific Requirements

1. General college admission requirements.
2. Acceptable reports of medical examinations and immunizations by the end of the first semester of enrollment in the Social Services program.
3. Three character/employment references by the end of the first semester of enrollment in this program.

Human Services Technology/Social Services – Associate in Applied Science Degree

This program consists of:	Credit Hrs.
Major courses (COE, DDT, HSE, SAB, SWK prefix)	53
Related and general education courses including:	19
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	4
PROGRAM TOTAL	72

Allied Health

and Public

Service

Education

		Weekly Class		Weekly Lab		Weekly Clinic		Weekly Credit	
		Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.		
First Semester (Fall)									
ACA	115	First-Year Seminar	0	2	0	0	1		
CIS	110	Computer Concepts	2	2	0	0	3		
ENG	111	Expository Writing	3	0	0	0	3		
HSE	110	Introduction to Human Services	2	2	0	0	3		
HSE	112	Group Process I	1	2	0	0	2		
PSY	150	General Psychology	3	0	0	0	3		
			11	8	0	0	15		
Second Semester (Spring)									
HSE	123	Interview Techniques	2	2	0	0	3		
HSE	220	Case Management	2	2	0	0	3		
MAT	115	Mathematical Models	2	2	0	0	3		
SOC	210	Introduction to Sociology	3	0	0	0	3		
SWK	110	Introduction to Social Work	3	0	0	0	3		
			12	6	0	0	15		
Third Semester (Summer)									
ENG	114	Professional Research and Reporting	3	0	0	0	3		
HSE	225	Crisis Intervention	3	0	0	0	3		
HUM	115	Critical Thinking	3	0	0	0	3		
PSY	281	Abnormal Psychology	3	0	0	0	3		
SWK	115	Community Resources	2	2	0	0	3		
			14	2	0	0	15		
Fourth Semester (Fall)									
COE	111SS	Co-op Work Experience I	0	0	10	0	1		
COE	115SS	Work Experience Seminar I	1	0	0	0	1		
HSE	125	Counseling	2	2	0	0	3		
SOC	213	Sociology of the Family	3	0	0	0	3		
SWK	113	Working with Diversity	3	0	0	0	3		
SWK	214	Social Work Law	3	0	0	0	3		
			12	2	10	0	14		
Fifth Semester (Spring)									
COE	121SS	Co-op Work Experience II	0	0	10	0	1		
COE	125SS	Work Experience Seminar II	1	0	0	0	1		
DDT	110	Developmental Disabilities	3	0	0	0	3		
HSE	210	Human Services Issues	2	0	0	0	2		
SAB	110	Substance Abuse Overview	3	0	0	0	3		
SWK	220	Social Work in Client Services	3	0	0	0	3		
			12	0	10	0	13		
Program Totals									
			61	18	20	0	72		

Human Services Technology/Social Services – Associate in Applied Science Degree – Evening Schedule

Allied Health

and Public

Service

Education

First Semester (Fall)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Weekly Credit Hrs.
ACA	115	First-Year Seminar	0	2	0	1
CIS	110	Computer Concepts	2	2	0	3
HSE	110	Introduction to Human Services	2	2	0	3
HSE	112	Group Process I	1	2	0	2
PSY	150	General Psychology	3	0	0	3
			8	8	0	12

Second Semester (Spring)

ENG	111	Expository Writing	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
SWK	110	Introduction to Social Work	3	0	0	3

12	0	0	12
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Third Semester (Summer)

PSY	281	Abnormal Psychology	3	0	0	3
SWK	115	Community Resources	2	2	0	3

5	2	0	6
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Fourth Semester (Fall)

HSE	123	Interviewing Techniques	2	2	0	3
SOC	213	Sociology of the Family	3	0	0	3
SWK	113	Working with Diversity	3	0	0	3

8	2	0	9
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Fifth Semester (Spring)

HSE	225	Crisis Intervention	3	0	0	3
MAT	115	Mathematical Models	2	2	0	3
SWK	220	Social Work in Client Services	3	0	0	3

8	2	0	9
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Sixth Semester (Summer)

ENG	114	Professional Research and Reporting	3	0	0	3
HSE	125	Counseling	2	2	0	3

5	2	0	6
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Seventh Semester (Fall)

DDT	110	Developmental Disability	3	0	0	3
HSE	220	Case Management	2	2	0	3
SAB	110	Substance Abuse Overview	3	0	0	3

8	2	0	9
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Eighth Semester (Spring)

*COE	111SS	Co-op Work Experience I	0	0	10	1
*COE	115SS	Work Experience Seminar I	1	0	0	1
HSE	210	Human Services Issues	2	0	0	2

3	0	10	4
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Ninth Semester (Summer)

*COE	121SS	Co-op Work Experience II	0	0	10	1
*COE	125SS	Work Experience Seminar II	1	0	0	1
SWK	214	Social Work Law	3	0	0	3

4	0	10	5
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Program Totals

61	18	20	72
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*COE courses must be taken during the day schedule.

Surgical Technology

Allied Health
and Public

Service
Education

This curriculum prepares individuals to assist in the care of the surgical patient in the operating room and to function as a member of the surgical team.

Students will apply theoretical knowledge to the care of patients undergoing surgery and develop skills necessary to prepare supplies, equipment, and instruments; maintain aseptic conditions; prepare patients for surgery; and assist surgeons during operations.

Graduates of this program will be eligible to apply to take the Liaison Council's Certification Examination for Surgical Technologists. Employment opportunities include labor/delivery/emergency departments, in-patient/outpatient surgery centers, dialysis units/facilities, physicians' offices, and central supply processing units.

Specific Requirements

1. Final admission to the Surgical Technology program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe care to the public.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. Clinical agencies and/or credentialing bodies may require criminal background checks prior to admission to clinical sites or issuance of credentials.

Surgical Technology Diploma

This program consists of:

Major courses (BIO, SUR)

Credit Hrs.

41

Related and general education courses

7

including:

<i>English/Communications</i>	3
<i>Humanities/Fine Arts</i>	0
<i>Natural Science/Mathematics</i>	0
<i>Social Sciences</i>	0
<i>Other</i>	4

PROGRAM TOTAL

48

Weekly	Weekly	Weekly	
Class	Lab	Clinic	Credit
Hrs.	Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA	115	First Year Seminar	0	2	0	1
BIO	163	Basic Anatomy and Physiology	4	2	0	5
ENG	111	Expository Writing	3	0	0	3
SUR	110	Introduction to Surgical Technology	3	0	0	3
SUR	111	Perioperative Patient Care	5	6	0	7
			15	10	0	19

Second Semester (Spring)

BIO 175	General Microbiology	2	2	0	3	Allied Health
SUR 122	Surgical Procedures I	5	3	0	6	
SUR 123	Surgical Clinical I	0	0	21	7	and Public
		7	5	21	16	
Third Semester (Summer)						
CIS 110	Computer Concepts	2	2	0	3	Service
SUR 134	Surgical Procedures II	5	0	0	5	
SUR 135	Surgical Clinical II	0	0	12	4	Education
SUR 137	Professional Success Preparation	1	0	0	1	
		8	2	12	13	
Program Totals		30	17	33	48	

Veterinary Medical Technology

The Veterinary Medical Technology curriculum prepares individuals to assist veterinarians in preparing animals, equipment, and medications for examination and surgery; collecting specimens; performing laboratory, radiographic, anesthetic, and dental procedures; assisting in surgery; and providing proper husbandry of animals and their environment.

Coursework includes instruction in veterinary anatomy, nutrition, parasitology, pathology, physiology, radiology, terminology, zoology, office practices, laboratory techniques, dentistry, and small and large animal clinical practices. Students also take courses in English, humanities, psychology, mathematics, chemistry, and computer technology.

Specific Requirements

1. General college admission requirements.
2. Final admission to the Veterinary Medical Technology program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe care to animals.
3. Satisfactory completion of required immunizations.
4. North Carolina Board for Veterinary Medicine may require criminal background checks on all applicants for initial credentialing.

**Veterinary Medical Technology – Associate
in Applied Science Degree**

This program consists of:

Credit Hrs.

Major courses (VET, CHM)

55

Related and general education courses

19

including:

<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>3</i>
<i>Social Sciences</i>	<i>3</i>
<i>Other</i>	<i>4</i>

PROGRAM TOTAL

74

Allied Health

and Public
Service

Education

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Weekly Credit Hrs.
First Semester (Fall)						
	ACA 115	First Year Seminar	0	2	0	1
	MAT 121	Algebra/Trigonometry I or MAT 140	2	2	0	3
	VET 121	Vet Medical Terminology	3	0	0	3
	VET 110	Animal Breeds and Husbandry	2	2	0	3
	VET 114	Intro to Veterinary Medical Tech	1	0	0	1
	VET 120	Veterinary Anatomy and Physiology	3	3	0	4
			11	9	0	15
Second Semester (Spring)						
	CHM 130	General Organic and Biochemistry	3	0	0	3
	CHM 130A	General Organic and Biochemistry Lab	0	2	0	1
	CIS 110	Computer Concepts	2	2	0	3
	ENG 111	Expository Writing	3	0	0	3
	VET 123	Veterinary Parasitology	2	3	0	3
	VET 125	Veterinary Disease I	2	0	0	2
			12	7	0	15
Third Semester (Summer)						
	VET 131	Veterinary Laboratory Techniques I	2	3	0	3
	VET 133	Veterinary Clinical Practices I	2	3	0	3
	VET 137	Veterinary Office Practices	1	2	0	2
			5	8	0	8
Fourth Semester (Fall)						
	ENG 114	Professional Research and Reporting	3	0	0	3
	VET 126	Veterinary Diseases II	1	3	0	2
	VET 211	Veterinary Laboratory Techniques II	2	3	0	3
	VET 213	Veterinary Clinical Practices II	1	9	0	4
	VET 215	Veterinary Pharmacology Humanities Elective	3	0	0	3
			13	15	0	18
Fifth Semester (Spring)						
	VET 212	Veterinary Laboratory Techniques III	2	3	0	3
	VET 214	Veterinary Clinical Practices III	1	9	0	4
	VET 217	Large Animal Clinical Practices	2	3	0	3
	VET 237	Animal Nutrition Social Science Elective	3	0	0	3
			11	17	0	16
Sixth Semester (Summer)						
	COE 112	Co-op Work Experience	0	0	20	2
			0	0	20	2
Program Totals			52	54	20	74



Business and Hospitality Education

The **Business and Hospitality Education** Division provides technical postsecondary education for students of business programs, computer technologies, and hospitality education. Programs of study emphasize critical skill development for successful entry into the job market.

Accounting***Baking and Pastry Arts****Business Administration***

Business and

Hospitality

Education

Recommended High School Courses

Keyboarding
Accounting
English
Business electives
Algebra

Keyboarding
Computer Applications
Algebra
English
Nutrition
Food Science
Food Service
Commercial Foods
Sanitation
Art

Keyboarding
Accounting
plus any other
Business electives

A-B Tech Entrance Requirements

Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).

Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).

Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).

Program Schedule

Day/Night begins Fall
Can take single courses any semester.

Day begins Fall.
Can take single courses any semester.

Day/Night begin Fall.
Can take single courses any semester.

Degree

Associate in Applied Science

Associate in Applied Science

Associate in Applied Science

Employment Opportunities

Accountant
Estimator
Bookkeeper I

Pastry/Bakery Assistant
Assistant Pastry Chef
Cake Decorator
Baker

Purchasing Agent
Sales Manager
General Supervisor
Operations Officer
Loan Officer
Office Manager

* Tech Prep agreements with regional high schools.

Computer Information Technology	Culinary Technology	Digital Media Technology	
Recommended High School Courses			Business and Hospitality Education
Keyboarding Computer Applications English	Computer Applications Keyboarding Algebra English Nutrition Food Service Food Science Commercial Foods Sanitation	Keyboarding Computer Applications Algebra English	
A-B Tech Entrance Requirements			
Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	
Program Schedule			
Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.	Day begins Fall Can take single courses any semester.	Day/Night begins Fall. Night begins in even numbered years. Can take single courses any semester.	
Degree			
Associate in Applied Science	Associate in Applied Science	Associate in Applied Science	
Employment Opportunities			
Computer Technician Hardware Engineer Help Desk Technician Information Systems Manager PC Support Specialist Webmaster Database Administrator(DBA)	Saute Chef Grill Chef Gardemanger Chef Soup/Sauce Chef Kitchen Manager Catering Banquet Manager Dining Room Manager Food/Beverage Manager Purchasing Agent Steward Food, Beverage and Equipment Purveyor	Graphic Artist/Designer Multimedia Specialist Web Content Specialist Digital Media Specialist Interface Designer and many new jobs yet to be defined in this expanding field.	* Tech Prep agreements with regional high schools.

	Hotel and Restaurant Management*	Human Resources Management	Information Systems Security
Business and Hospitality Education	Recommended High School Courses <p>Computer Applications Keyboarding Algebra Oral Communication English Food Service Accounting Marketing Sanitation</p>	<p>Keyboarding Accounting English Business Electives</p>	<p>Keyboarding Computer Applications Algebra English</p>
	A-B Tech Entrance Requirements <p>Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).</p>	<p>Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).</p>	<p>Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).</p>
	Program Schedule <p>Day begins Fall Can take single courses any semester.</p>	<p>Night begins Fall. Can take single courses any semester.</p>	<p>Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.</p>
	Degree <p>Associate in Applied Science</p>	<p>Associate in Applied Science</p>	<p>Associate in Applied Science</p>
	Employment Opportunities <p>Catering Manager Management Trainee Restaurant Manager Director of Food Services Reservations Manager Front Office Manager Country Club Manager Food/Beverage Manager</p>	<p>HR Technician HR Specialist HR Manager Payroll Officer Benefits Administrator Team Leadership Training and Development Facilitator General Supervisor</p>	<p>Database Security Analyst Information Security Analyst Information Security Assistant Information Security Specialist Information Security Support Specialist Information Security Technician Network Security Specialist Network Security Technician</p>

* Tech Prep agreements with regional high schools.

Marketing and Retailing*	Medical Office Administration	Medical Transcription
Recommended High School Courses		
Keyboarding Accounting Plus any other business electives	Advanced Keyboarding Computer Applications Courses in Health Occupations	Advanced Keyboarding Computer Applications Courses in Health Occupations Anatomy/Physiology
A-B Tech Entrance Requirements		
Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).
Program Schedule		
Day/Night begin Fall. Can take single courses any semester.	Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.	Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.
Degree		
Associate in Applied Science	Diploma	Diploma
Employment Opportunities		
Assistant Manager Department Manager Sales Representative Salesperson Retail Buyer	Medical Office Admin in: Medical and Dental Offices Hospitals Insurance Companies	Medical Transcription in: Medical Office, Critical Care Facility, or for Transportation Service Provider
Business and Hospitality Education		

* Tech Prep agreements with regional high schools.

	Networking Technology	Office Systems Technology*	Real Estate Appraisal
Business and Hospitality Education	Recommended High School Courses		
	Keyboarding Computer Applications Algebra English	Keyboarding Computer Applications Accounting plus any other Business electives	Keyboarding Accounting Algebra English
	A-B Tech Entrance Requirements		
	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).
	Program Schedule		
	Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.	Day begins Fall. Can take single courses any semester.	Night
	Degree		
	Associate in Applied Science	Associate in Applied Science or Diploma	Associate in Applied Science
	Employment Opportunities		
	Network Managers Operators Analysis Technicians	Administrative Assistant Office Manager Word Processor Information Processing Specialist Administrative Support	Appraiser Trainee With required experience: Certified Appraiser (Residential) General Appraiser (Commercial) Right of Way Procurement

* Tech Prep agreements with regional high schools.

Web Technologies

Recommended High School Courses

Keyboarding
Computer Applications
Algebra
English

Business and
Hospitality
Education

A-B Tech Entrance Requirements

Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).

Program Schedule

Day/Night begins Fall.
Night begins in even numbered years.
Can take single courses any semester.

Degree

Associate in Applied Science

Employment Opportunities

Web Designer
Web Administrator
Web Developer
Web Master
Web Database Programmer/
Developer

Business and Hospitality Education

The Business and Hospitality Education Division provides technical postsecondary education in the academic departments of Hospitality Education, Business Administration and Computer Technologies. Programs of study are specifically designed to provide students with necessary job skills to meet the personnel needs of local employers. All programs emphasize the mastery of analytical and technology-related skills. Business and Hospitality faculty work in partnership with local employers and program advisory committees to provide students with an appropriate foundation of theoretical and hands-on experiences. Day and evening classes are available for most programs. The Business and Hospitality Education Division is an associate member of the National Alliance of Business, the International Council of Hotel, Restaurant and Institutional Education and the National Restaurant Association.

Objectives of Business and Hospitality Programs

1. To provide students with the necessary skills to compete in local business or hospitality job markets while gaining an appreciation for global markets.
2. To provide students with a challenging and rigorous program of study emphasizing oral and written communication skills along with analytical, computational, and technical proficiencies.
3. To provide an interactive partnership between students, employers and faculty through a variety of methods including cooperative work experiences, guest lecturers, field trips, and advisory committee input.
4. To invest in the human capital of Buncombe and Madison counties and contribute to the economic development of the business and hospitality community.

A.A.S. Degrees Conferred

Accounting
Baking and Pastry Arts
Business Administration
Computer Information Technology
Culinary Technology
Digital Media Technology
Hotel and Restaurant Management
Human Resources Management
Information Systems Security
Marketing and Retailing
Networking Technology
Office Systems Technology
Real Estate Appraisal
Web Technologies

All degree programs in the Division of Business and Hospitality Education are five semesters in duration and will require from 20 to 30 hours per week of course work. If a student elects to enroll in the Business and Hospitality Division through the evening program, the time required for completion will be extended.

Business and

Hospitality

Education

Diplomas Awarded

Medical Office Administration
Medical Transcription
Office Systems Technology

Certificates Awarded

Accounting
Bed and Breakfast/Inn Management
Cake Designs
Cisco Certified Network Associate
Cisco Certified Network Professional
Database Management
Hospitality Management
Medical Coding
Microcomputer Applications
Networking
Networking Security
Open Source Operating Systems
PC Installation and Maintenance
Real Estate
Real Estate Appraisal
Restaurant Desserts
Retail Marketing
Word Processing and Desktop Publishing

Accounting (A25100)

The Accounting curriculum is designed to provide students with the knowledge and the skills necessary for employment and growth in the accounting profession. Using the "language of business" accountants assemble, analyze, process, and communicate essential information about financial operations.

In addition to course work in accounting principles, theories, and practice, students will study business law, finance, management, and economics. Related skills are developed through the study of communications, computer applications, financial analysis, critical thinking skills, and ethics.

Graduates should qualify for entry-level accounting positions in many types of organizations including accounting firms, small businesses, manufacturing firms, banks, hospitals, school systems, and governmental agencies. With work experience and additional education, an individual may advance in the accounting profession.

Accounting – Associate in Applied Science Degree

		Credit Hrs.
Business and Hospitality Education	This program consists of Major courses (ACC, BUS, CIS, CTS, ECO, MKT prefix) Related and general education courses including:	55 19
	<i>English/Communications</i>	<i>6</i>
	<i>Humanities/Fine Arts</i>	<i>3</i>
	<i>Natural Sciences/Mathematics</i>	<i>3</i>
	<i>Social/Behavioral Science</i>	<i>3</i>
	<i>Other</i>	<i>4</i>
	PROGRAM TOTAL	74

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)				
ACA 115	First-Year Seminar	0	2	1
ACC 120	Principles of Financial Accounting	3	2	4
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
MAT 115	Mathematical Models	<u>2</u>	<u>2</u>	<u>3</u>
		10	8	14
Second Semester (Spring)				
ACC 121	Principles of Managerial Accounting	3	2	4
BUS 137	Principles of Management	3	0	3
CTS 130	Spreadsheet	2	2	3
MKT 120	Principles of Marketing	3	0	3
	Humanities Elective	<u>3</u>	<u>0</u>	<u>3</u>
		14	4	16
Third Semester (Summer)				
ACC 150	Accounting Software Applications	1	2	2
BUS 115	Business Law I	3	0	3
COM 231	Public Speaking	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
	Related Elective*	<u>3</u>	<u>0</u>	<u>3</u>
		13	2	14
Fourth Semester (Fall)				
ACC 129	Individual Income Taxes	2	2	3
ACC 140	Payroll Accounting	1	2	2
ACC 220	Intermediate Accounting I	3	2	4
BUS 225	Business Finance	2	2	3
ECO 252	Principles of Macroeconomics	<u>3</u>	<u>0</u>	<u>3</u>
		11	8	15
Fifth Semester (Spring)				
ACC 130	Business Income Taxes	2	2	3
ACC 180	Practices in Bookkeeping	3	0	3
ACC 240	Government and Not-for-Profit Accounting	3	0	3
ACC 269	Auditing	3	0	3
BUS 147	Business Insurance	<u>3</u>	<u>0</u>	<u>3</u>
		14	2	15
Program Totals				
		62	24	74

*Related Electives: ACC 131, BUS 116, BUS 151, BUS 230, BUS 240, BUS 260, BUS 270.

Accounting – Associate in Applied Science Degree – Evening Schedule

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
First Semester (Fall)						Business and Hospitality
ACA 115	First-Year Seminar		0	2	1	
ACC 120	Principles of Financial Accounting		3	2	4	
ENG 111	Expository Writing		3	0	3	
			6	4	8	
Second Semester (Spring)						Education
ACC 121	Principles of Managerial Accounting		3	2	4	
CIS 110	Computer Concepts		2	2	3	
MAT 115	Mathematical Models		2	2	3	
			7	6	10	
Third Semester (Summer)						
ACC 240	Government and Not-for-Profit Accounting		3	0	3	
BUS 137	Principles of Management		3	0	3	
	Humanities Elective		3	0	3	
			9	0	9	
Fourth Semester (Fall)						
ACC 129	Individual Income Taxes		2	2	3	
BUS 115	Business Law I		3	0	3	
ECO 251	Principles of Microeconomics		3	0	3	
MKT 120	Principles of Marketing		3	0	3	
			11	2	12	
Fifth Semester (Spring)						
ACC 130	Business Income Taxes		2	2	3	
CTS 130	Spreadsheet		2	2	3	
ECO 252	Principles of Macroeconomics		3	0	3	
	Related Elective*		3	0	3	
			10	4	12	
Sixth Semester (Summer)						
ACC 150	Accounting Software Applications		1	2	2	
BUS 225	Business Finance		2	2	3	
			3	4	5	
Seventh Semester (Fall)						
ACC 140	Payroll Accounting		1	2	2	
ACC 220	Intermediate Accounting I		3	2	4	
BUS 147	Business Insurance		3	0	3	
			7	4	9	
Eighth Semester (Spring)						
ACC 180	Practices in Bookkeeping		3	0	3	
ACC 269	Auditing		3	0	3	
COM 231	Public Speaking		3	0	3	
			9	0	9	
Program Totals			62	24	74	

*Related Electives: ACC 131, BUS 116, BUS 151, BUS 230, BUS 240, BUS 260, BUS 270.

Accounting – Certificates

There are two levels of Accounting Certificates. Level I provides introductory training in the field of accounting, while Level II takes students to an advanced level including the specialized area of government and not-for-profit accounting. Applicants must have earned a high school diploma or GED to apply for these certificates.

Accounting Level I – Certificate

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)					
ACC 120	Principles of Financial Accounting		3	2	4
Second Semester (Spring)					
ACC 121	Principles of Managerial Accounting		3	2	4
Third Semester (Summer)					
BUS 115	Business Law I		3	0	3
Fourth Semester (Fall)					
ACC 140	Payroll Accounting		1	2	2
Program Totals			10	6	13

Accounting Level II – Certificate

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)					
ACC 129	Individual Income Taxes		2	2	3
ACC 220	Intermediate Accounting I		3	2	4
			5	4	7
Second Semester (Spring)					
ACC 180	Practices in Bookkeeping		3	0	3
ACC 240	Government and Not-for-Profit Accounting		3	0	3
			6	0	6
Program Totals			11	4	13

Baking and Pastry Arts (A55130)

The Baking and Pastry Arts curriculum provides the training required to prepare students to assume positions as baking/pastry professionals in a variety of foodservice settings including restaurants, hotels, independent bakeries/pastry shops, wholesale/retail markets, and high-volume bakeries.

Course offerings emphasizing practical application, a strong theoretical knowledge base, and professionalism provide the critical competencies to meet industry demands. Course work includes specialty/artisan breads, desserts, pastries, candies, decorative work, high-volume production and food marketing.

Graduates should qualify for entry-level positions, such as pastry/bakery assistants, area pastry chef and assistant pastry chef. American Culinary Federation certification is available to graduates.

Specific Entrance Requirements

1. General college admission requirements.
2. Completion of required immunizations by the first day of class, including TB test and first dose of Hepatitis A vaccine.

Business and
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Education

Baking and Pastry Arts – Associate in Applied Science Degree

This program consists of:

Major courses (BPA, CUL, HRM, COE prefix)

Credit Hrs.

56

Related and general education courses

19

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	4

PROGRAM TOTAL

75

Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Work Hrs.	Credit Hrs.
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First Semester (Fall)

ACA 115	First-Year Seminar	0	2	0	1
BPA 165	Hot and Cold Desserts	1	4	0	3
	or CUL 285 Competition Fundamentals				
CIS 110	Computer Concepts	2	2	0	3
CUL 110A	Sanitation and Safety Lab	0	2	0	1
CUL 150	Food Science	1	2	0	2
CUL 160	Baking I	1	4	0	3
CUL 160A	Baking Lab I	0	3	0	1
MAT 115	Mathematical Models	2	2	0	3
		9	21	0	19

Second Semester (Spring)

BPA 120	Petit Fours and Pastries	1	4	0	3
BPA 130	European Cakes and Tortes	1	4	0	3
BPA 150	Artisan and Specialty Breads	1	6	0	4
COM 231	Public Speaking	3	0	0	3
CUL 120	Purchasing	2	0	0	2
HRM 220	Food and Beverage Controls	3	0	0	3
		11	14	0	18

Third Semester (Summer)

COE 112BP	Co-op Work Experience	0	0	20	2
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Fourth Semester (Fall)

BPA 210	Cake Design and Decorating	1	4	0	3
BPA 240	Plated Desserts	1	4	0	3
BPA 250	Dessert and Bread Production	1	8	0	5
ENG 111	Expository Writing	3	0	0	3
HRM 145	Hospitality Supervision	3	0	0	3
		9	16	0	17

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Education

Fifth Semester (Spring)			
BPA	220	Confection Artistry	1
BPA	230	Chocolate Artistry	1
BPA	260	Pastry and Baking Marketing	2
CUL	112	Nutrition for Foodservice	3
PSY	150	General Psychology	3
		Humanities Elective	3
			<hr/>
			13 12 0 19
		Program Totals	42 63 20 75

Cake Designs – Certificate

The Cake Designs certificate program focuses on the techniques of cake preparation and decoration. Through extensive hands-on training, students will learn fundamental and advanced skills associated with high quality, European and specialty cakes/tortes. Many restaurants, pastry shops and high volume foodservice facilities require the expertise of cake designers for weddings and other special occasion events.

Specific Entrance Requirements

1. General college admission requirements.
2. Completion of required immunizations by the first day of class, including TB test and first dose of Hepatitis A vaccine.

		Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
First Semester (Fall)				
CUL	110	Sanitation and Safety	2	0 2
CUL	160	Baking I	1	4 3
			<hr/>	<hr/>
			3 4	5
Second Semester (Spring)				
BPA	130	European Cakes and Tortes	1	4 3
BPA	210	Cake Design and Decorating	1	4 3
BPA	220	Confection Artistry	1	6 4
BPA	230	Chocolate Artistry	1	4 3
			<hr/>	<hr/>
			4 18	13
		Certificate Totals	7 22	18

Restaurant Desserts Certificate*

The Restaurant Desserts certificate addresses the art of pastry and baking as it relates to the professional kitchen. Students will learn to prepare and plate various hot and cold desserts and pastries that can be utilized in restaurant kitchens, bake shops, and in high-volume facilities.

* Offered day only.

Specific Entrance Requirements

1. General college admission requirements.
2. Completion of required immunizations by the first day of class, including TB test and first dose of Hepatitis A vaccine.

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.		
First Semester (Fall)							
BPA	165	Hot and Cold Desserts	1	4	3	Business and	
CUL	110	Sanitation and Safety	2	0	2	Hospitality	
CUL	160	Baking I	1	4	3		
			4	8	8		
Second Semester (Spring)							
BPA	120	Petit Fours and Pastries	1	4	3		
BPA	250	Dessert and Bread Production	1	8	5		
			2	12	8		
Certificate Totals				6	20	16	

Business Administration (A25120)

The Business Administration curriculum is designed to introduce students to the various aspects of the free enterprise system. Students will be provided with a fundamental knowledge of business functions, processes, and an understanding of business organizations in today's global economy.

Course work includes business concepts such as accounting, business law, economics, management, and marketing. Skills related to the application of these concepts are developed through the study of computer applications, communication, team building, and decision making.

Through these skills, students will have a sound business education base for lifelong learning. Graduates are prepared for employment opportunities in government agencies, financial institutions, and large to small business or industry.

Business Administration – Associate in Applied Science

This program consists of:

Major courses (ACC, BUS, CIS, ECO, MKT prefix)

Credit Hrs.

55

Related and general education courses

21

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematic</i>	3
<i>Social/Behavioral Science</i>	3
<i>Other</i>	6

PROGRAM TOTAL

76

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
First Semester (Fall)						
ACA	115	First-Year Seminar	0	2	1	
ACC	120	Principles of Accounting I	3	2	4	
BUS	110	Introduction to Business	3	0	3	
CIS	110	Computer Concepts	2	2	3	
MAT	115	Mathematical Models	2	2	3	
			10	8	14	

Business and
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Education

Second Semester (Spring)

ACC 121	Principles of Accounting II	3	2	4
BUS 137	Principles of Management	3	0	3
ENG 111	Expository Writing	3	0	3
MKT 120	Principles of Marketing	3	0	3
OST 136	Word Processing	1	2	2
		13	4	15

Third Semester (Summer)

BUS 115	Business Law I	3	0	3
BUS 153	Human Resource Management	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
	Humanities Elective	3	0	3
	Related Elective*	3	0	3
		15	0	15

Fourth Semester (Fall)

ACC 129	Individual Income Taxes	2	2	3
BUS 135	Principles of Supervision	3	0	3
BUS 225	Business Finance	2	2	3
CTS 130	Spreadsheet	2	2	3
ECO 252	Principles of Macroeconomics	3	0	3
		12	6	15

Fifth Semester (Spring)

BUS 147	Business Insurance	3	0	3
BUS 230	Small Business Management	3	0	3
BUS 239	Business Applications Seminar	1	2	2
COM 231	Public Speaking	3	0	3
	Related Elective*	3	0	3
	Related Elective*	3	0	3
		16	2	17

Program Totals

66 20 76

*Related Electives: BUS 116, BUS 151, BUS 240, BUS 260, BUS 270, MKT 121, MKT 123, MKT 220, MKT 221, MKT 224.

Business Administration – Associate in Applied Science – Evening Schedule

		Weekly	Weekly	
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
First Semester (Fall)				
ACA 115	First-Year Seminar	0	2	1
ACC 120	Principles of Accounting I	3	2	4
BUS 110	Introduction to Business	3	0	3
		6	4	8
Second Semester (Spring)				
ACC 121	Principles of Accounting II	3	2	4
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
		8	4	10
Third Semester (Summer)				
BUS 137	Principles of Management	3	0	3
OST 136	Word Processing	1	2	2
	Humanities Elective	3	0	3
		7	2	8

Fourth Semester (Fall)

BUS 115	Business Law I	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
MAT 115	Mathematical Models	2	2	3
MKT 120	Principles of Marketing	3	0	3
		11	2	12

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Fifth Semester (Spring)

BUS 135	Principles of Supervision	3	0	3
BUS 153	Human Resource Management	3	0	3
CTS 130	Spreadsheet	2	2	3
ECO 252	Principles of Macroeconomics	3	0	3
		11	2	12

Education

Sixth Semester (Summer)

BUS 225	Business Finance	2	2	3
	Related Elective*	3	0	3
		5	2	6

Seventh Semester (Fall)

ACC 129	Individual Income Taxes	2	2	3
BUS 147	Business Insurance	3	0	3
BUS 230	Small Business Management	3	0	3
	Related Elective*	3	0	3
		11	2	12

Eighth Semester (Spring)

BUS 239	Business Applications Seminar I	1	2	2
COM 231	Public Speaking	3	0	3
	Related Elective*	3	0	3
		7	2	8

Program Totals

66	20	76
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*Related Electives: BUS 116, BUS 151, BUS 240, BUS 260, BUS 270, MKT 121, MKT 123, MKT 220, MKT 221, MKT 224.

Computer Information Technology (A25260)

The Computer Information Technology curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible curriculum that can be customized to meet community information system needs.

Course work will develop a student's ability to communicate complex technical issues related to computer hardware, software, and networks in a manner that computer users can understand. Classes cover computer operations and terminology, operating systems, database, networking, security, and technical support.

Graduates should qualify for employment in entry-level positions with businesses, educational systems, and governmental agencies which rely on computer systems to manage information. Graduates should be prepared to sit for industry-recognized certification exams.

Computer Information Technology – Associate in Applied Science Degree

		Credit Hrs.
Business and Hospitality Education	This program consists of: Major courses (BUS, CIS, COE, CSC, CTS, DBA, DME, GIS, NET, NOS, SEC, WEB, prefix) Related and general education courses including: <i>English/Communications</i> 6 <i>Humanities/Fine Arts</i> 3 <i>Natural Sciences/Mathematics</i> 3 <i>Social Science</i> 3 <i>Other</i> 1	57 16 73
	PROGRAM TOTAL	
		Weekly Weekly
		Class Lab Credit
		Hrs. Hrs. Hrs.
	First Semester (Fall)	
ACA	115 First-Year Seminar	0 2 1
BUS	110 Introduction to Business	3 0 3
CIS	110 Computer Concepts	2 2 3
ENG	111 Expository Writing	3 0 3
MAT	115 Mathematical Models or MAT 171 PreCalculus Algebra	2 2 3
NOS	110 Operating System Concepts	<u>2</u> <u>3</u> <u>3</u>
		12 9 16
	Second Semester (Spring)	
CIS	115 Intro to Programming and Logic	2 3 3
DBA	110 Database Concepts	2 3 3
WEB	115 Web Markup and Scripting	2 2 3
WEB	140 Web Development Tools Humanities Elective	2 2 3 3 0 3
		11 10 15
	Third Semester (Summer)	
COM	231 Public Speaking	3 0 3
NET	110 Networking Concepts	2 2 3
NOS	130 Windows Single User Social/Behavioral Science Elective	2 2 3 3 0 3
		10 7 12
	Fourth Semester (Fall)	
CTS	120 Hardware/Software Support	2 3 3
CTS	285 Systems Analysis and Design	3 0 3
NOS	230 Windows Admin I Major Elective 1* Major Elective 2*	2 2 3 2 2 3
		11 9 15
	Fifth Semester (Spring)	
CTS	288 Professional Practices in IT	2 2 3
CTS	289 System Support Project	1 4 3
SEC	110 Security Concepts Major Elective 3* Major Elective 4*	3 0 3 2 2 3 2 2 3
		10 10 15
	Program Totals	54 42 73

* Students have the ability to select an area of interest through the selection

of their Major Electives. The following are the four interest areas and the associated classes. Students should meet with their advisor to help determine the courses that best meet their needs.

Option 1 - Database

<i>DBA 115 Database Applications</i>	2	2	3	<i>Major Elective 1</i>	Business and Hospitality
<i>DBA 120 Database Programming I</i>	2	2	3	<i>Major Elective 2</i>	
<i>WEB 182 PHP Programming</i>	2	2	3	<i>Major Elective 3</i>	Education
<i>Co-op or DBA 210 or GIS 111</i>	2	2	3	<i>Major Elective 4</i>	

Option 2 - Tech Support

<i>CTS 155 Tech Support Functions</i>	2	2	3	<i>Major Elective 1</i>	
<i>CTS 217 Computer Training and Support</i>	2	2	3	<i>Major Elective 2</i>	
<i>CTS 220 Adv. Hardware/Software Support</i>	2	3	3	<i>Major Elective 3</i>	
<i>CTS 250 User Support & Software, Eval or Co-op</i>	2	2	3	<i>Major Elective 4</i>	

Option 3 - Design

<i>DME 110 Intro to Digital Media</i>	2	2	3	<i>Major Elective 1</i>	
<i>WEB 110 Internet/Web Fundamentals</i>	2	2	3	<i>Major Elective 2</i>	
<i>DME 120 Intro to Multimedia Applications</i>	2	2	3	<i>Major Elective 3</i>	
<i>CTS 125 Presentation Graphics, Co-op or GIS 111</i>	2	2	3	<i>Major Elective 4</i>	

Option 4 - Business Support

<i>CTS 135 Integrated Software Intro</i>	2	4	4	<i>Major Elective 1</i>	
<i>CTS 210 Computer Ethics</i>	3	0	3	<i>Major Elective 2</i>	
<i>CTS 125 Presentation Graphics</i>	2	2	3	<i>Major Elective 3</i>	
<i>CTS 240 Project Management, Co-op or GIS 111</i>	2	2	3	<i>Major Elective 4</i>	

Computer Information Technology – Associate in Applied Science Degree – Evening Schedule

(Begins in even years only)

	Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)			
<i>ACA 115 First-Year Seminar</i>	0	2	1
<i>CIS 110 Computer Concepts</i>	2	2	3
<i>ENG 111 Expository Writing</i>	3	0	3
<i>MAT 115 Mathematical Models or MAT 171 PreCalculus Algebra</i>	2	2	3
	<hr/> 7	<hr/> 6	<hr/> 10
Second Semester (Spring)			
<i>BUS 110 Introduction to Business</i>	3	0	3
<i>CIS 115 Intro to Programming and Logic</i>	2	3	3
<i>WEB 115 Web Markup and Scripting</i>	2	2	3
	<hr/> 7	<hr/> 5	<hr/> 9
Third Semester (Summer)			
<i>NOS 110 Operating Systems Concepts</i>	2	3	3
<i>Humanities Elective</i>	3	0	3
<i>Social/Behavioral Sciences Elective</i>	3	0	3
	<hr/> 8	<hr/> 3	<hr/> 9

Fourth Semester (Fall)

DBA 110	Database Concepts	2	3	3
NOS 130	Windows Single User	2	2	3
WEB 140	Web Development Tools	2	2	3
		6	7	9

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Fifth Semester (Spring)

COM 231	Public Speaking	3	0	3
NET 110	Networking Concepts	2	2	3
	Major Elective 1*	2	2	3
		7	4	9

Sixth Semester (Summer)

CTS 120	Hardware/Software Support	2	3	3
SEC 110	Security Concepts	3	0	3
		5	3	6

Seventh Semester (Fall)

CTS 285	Systems Analysis and Design	3	0	3
NOS 230	Windows Admin I	2	2	3
	Major Elective 2*	2	2	3
		7	4	9

Eighth Semester (Spring)

CTS 288	Professional Practices in IT	2	2	3
	Major Elective 3*	2	2	3
	Major Elective 4*	2	2	3
		6	6	9

Ninth Semester (Summer)

CTS 289	System Support Project	1	4	3
		54	42	73

* Students have the ability to select an area of interest through the selection of their Major Electives. The following are the four interest areas and the associated classes. Students should meet with their advisor to help determine the courses that best meet their needs.

Option 1 - Database

DBA 115	Database Applications	2	2	3	Major Elective 1
DBA 120	Database Programming I	2	2	3	Major Elective 2
WEB 182	PHP Programming	2	2	3	Major Elective 3
	Co-op or DBA 210 or GIS 111	2	2	3	Major Elective 4

Option 2 - Tech Support

CTS 155	Tech Support Functions	2	2	3	Major Elective 1
CTS 217	Computer Training and Support	2	2	3	Major Elective 2
CTS 220	Adv. Hardware/Software Support	2	3	3	Major Elective 3
CTS 250	User Support & Software, Eval or Co-op	2	2	3	Major Elective 4

Option 3 - Design

DME 110	Intro to Digital Media	2	2	3	Major Elective 1
WEB 110	Internet/Web Fundamentals	2	2	3	Major Elective 2
DME 120	Intro to Multimedia Applications	2	2	3	Major Elective 3
CTS 125	Presentation Graphics, Co-op or GIS 111	2	2	3	Major Elective 4

Option 4 - Business Support

<i>CTS 135 Integrated Software Intro</i>	<i>2</i>	<i>4</i>	<i>4</i>	<i>Major Elective 1</i>	
<i>CTS 210 Computer Ethics</i>	<i>3</i>	<i>0</i>	<i>3</i>	<i>Major Elective 2</i>	
<i>CTS 125 Presentation Graphics</i>	<i>2</i>	<i>2</i>	<i>3</i>	<i>Major Elective 3</i>	Business and
<i>CTS Project Management, Co-op or GIS 111</i>	<i>2</i>	<i>2</i>	<i>3</i>	<i>Major Elective 4</i>	Hospitality Education

Database Management Certificate

Students will learn how to design, manipulate and update databases using a variety of database programs. Upon completion of the certificate students should be able to write programs which create, update and produce databases, tables and reports representative of industry standards.

This certificate is designed for students who have experience with computers and want to improve database skills.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

		Weekly	Weekly	
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
DBA 110	Database Concepts	2	3	3
DBA 115	Database Applications	2	2	3
DBA 120	Database Programming I	2	2	3
DBA 210	Database Administration	2	2	3
Certificate Totals		8	9	12

Microcomputer Applications Certificate

Participants in this certificate program learn about computer hardware as well as a variety of the most popular software application packages used in business. Applicants must have earned a high school diploma or GED to apply for this certificate program.

		Weekly	Weekly	
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
Required Courses:				
CIS 110	Computer Concepts	2	2	3
CTS 135	Integrated Software	2	4	4
DBA 110	Database Concepts	2	3	3
NOS 110	Operating Systems Concepts	2	3	3
Certificate Totals		8	12	13

PC Installation and Maintenance Certificate

Students learn how to install, optimize, upgrade, and troubleshoot personal computer hardware and software. They gain both theoretical and hands-on experience using a variety of current hardware and software technologies. Topics such as testing electrical components, using diagnostics utilities, and user PC support interactions will be covered.

Business and
Hospitality
Education

Preparation for the A+ Certification examination is an integral objective of this certificate program. Success as a PC technician requires essential knowledge and skills that may be tested by the internationally recognized A+ Certification exam.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

			Weekly	Weekly
	Class	Lab	Credit	
	Hrs.	Hrs.	Hrs.	
CIS 110 Computer Concepts		2	2	3
CTS 120 Hardware/Software Support		2	3	3
CTS 220 Advanced Hardware/Software Support	2	3	3	
NOS 110 Operating System Concepts	2	3	3	
Certificate Totals	8	11	12	

Culinary Technology (A55200)

The Culinary Technology curriculum provides specific training required to prepare students to assume positions as trained culinary professionals in a variety of food service settings including full service restaurants, hotels, resorts, clubs, catering operations, contract food service, and health care facilities.

Course offerings emphasizing practical application, a strong theoretical knowledge base, and professionalism provide the critical competencies to successfully meet industry demands. Courses include sanitation, food/beverage service and control, baking, gardemanger, American/international cuisines, food production, and hospitality supervision.

Graduates should qualify for entry-level positions, such as line cook, station chef, and assistant pastry chef. American Culinary Federation certification is available to graduates. With experience, graduates may advance to positions such as sous chef, executive chef, or food service manager.

Specific Entrance Requirements

1. General college admission requirements.
2. Completion of required immunizations by the first day of class, including TB test and first dose of Hepatitis A vaccine.

Culinary Technology – Associate in Applied Science Degree

This program consists of:	Credit Hrs.
Major courses (COE, CUL, and HRM prefix)	58
Related and general education courses	18
including:	
<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Sciences/Mathematics</i>	<i>3</i>
<i>Social Science</i>	<i>3</i>
<i>Other</i>	<i>3</i>
PROGRAM TOTAL	76

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Work Hrs.	Credit Hrs.
First Semester (Fall)						
CIS	110	Computer Concepts	2	2	0	3
CUL	110	Sanitation and Safety	2	0	0	2
CUL	110A	Sanitation and Safety Lab	0	2	0	1
CUL	140	Basic Culinary Skills	2	6	0	5
CUL	150	Food Science	1	2	0	2
ENG	111	Expository Writing	3	0	0	3
MAT	115	Mathematical Models	2	2	0	3
			12	14	0	19
Second Semester (Spring)						
CUL	120	Purchasing	2	0	0	2
CUL	160	Baking I	1	4	0	3
CUL	170	Gardemanger I	1	4	0	3
CUL	240	Advanced Culinary Skills	1	8	0	5
CUL	240A	Advanced Culinary Skills Lab	0	3	0	1
HRM	220	Food and Beverage Controls	3	0	0	3
			8	19	0	17
Third Semester (Summer)						
COE	112CU	Co-op Work Experience I	0	0	20	2
Fourth Semester (Fall)						
COM	231	Public Speaking	3	0	0	3
CUL	130	Menu Design	2	0	0	2
CUL	180	International/American Regional Cuisine	1	8	0	5
CUL	260	Baking II or CUL 285 Competition Fundamentals	1	4	0	3
CUL	270	Gardemanger II	1	4	0	3
HRM	145	Hospitality Supervision	3	0	0	3
			11	16	0	19
Fifth Semester (Spring)						
CUL	112	Nutrition for Food Service	3	0	0	3
CUL	135	Food and Beverage Service	2	0	0	2
CUL	135A	Food and Beverage Service Lab	0	2	0	1
CUL	214	Wine Appreciation	1	2	0	2
CUL	250	Classical Cuisine	1	8	0	5
PSY	150	General Psychology Humanities Elective	3	0	0	3
			13	12	0	19
Program Totals			44	61	20	76

Digital Media Technology (A25210)

The Digital Media Technology program prepares students for entry-level jobs in the digital design and multimedia industry. Students learn to synthesize multimedia, hypertext, computer programming, information architecture, and client/server technologies using both Internet and non-network-based media.

Students develop skills in communication, critical thinking, and problem solving as well as interface design, multimedia formats, application programming, data architecture, and client/server technologies. The program develops technical skills through practical applications that employ current and emerging standards and technologies.

Graduates should qualify for employment as web designers, graphic artists/designers, multimedia specialists, web developers, web content specialists, media specialists, information specialists, digital media specialists, animation specialists, interface designers, and many new jobs yet to be defined in this expanding field.

Digital Media Technology – Associate in Applied Science Degree

This program consists of:

Major courses (ART, CIS, COE, CSC, CTS, DME, WEB prefix) **60**

Related and general education courses **16**

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	1

PROGRAM TOTAL **76**

First Semester (Fall)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
ACA	115	First-Year Seminar	0	2	1
ART	171	Computer Art I	0	6	3
CIS	110	Computer Concepts	2	2	3
DME	110	Introduction to Digital Media	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	115	Mathematical Models or MAT 171 PreCalculus Algebra	2	2	3
			9	14	16

Second Semester (Spring)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
ART	271	Computer Art II	0	6	3
CIS	115	Intro to Programming and Logic	2	3	3
DME	120	Introduction to Multimedia Applications	2	2	3
WEB	140	Web Development Tools Major Elective 1*	2	2	3
			2	2	3
			8	15	15

Third Semester (Summer)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
COM	231	Public Speaking or ENG 114 Prof. Research and Reporting	3	0	3
DME	130	Digital Animation I	2	2	3
DME	140	Introduction to Audio/Video Media	2	2	3
WEB	210	Web Design Social Sciences Elective	2	2	3
			3	0	3
			12	6	15

Fourth Semester (Fall)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
DBA	110	Database Concepts	2	3	3
DME	210	User Interface Design	2	2	3
DME	230	Digital Animation II Major Elective 2*	2	2	3
		Major Elective 3*	2	2	3
			10	11	15

Fifth Semester (Spring)

DME 260	Emerging Technologies in Digital Media	2	2	3	
DME 270	Professional Practices in Digital Media	2	2	3	
DME 285	Systems Project	2	2	3	
	Humanities Elective	3	0	3	Business and
	Major Elective 4*	2	2	3	Hospitality
		11	8	15	
Program Totals		50	54	76	Education

*Suggested Electives for Web/Multimedia Programming track

Elective 1 WEB 115 Web Markup and Scripting

Elective 2 WEB 182 PHP Programming or DBA 120 Database Programming I

Elective 3 DME 220 Interactive Multimedia Programming

Elective 4 Co-op Work Experience or CSC 151

*Suggested Electives for Graphic Artist/Designers/Animation track

Elective 1 DME 115 Graphic Design Tools

Elective 2 ART 264 Digital Photography I

Elective 3 Art course approved by advisor

Elective 4 Co-op Work Experience or ART 265 Digital Photography II

Digital Media Technology – Associate in Applied Science Degree – Evening Schedule

(Begins in even years only)

		Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.	
First Semester (Fall)					
ACA 115	First-Year Seminar	0	2	1	
CIS 110	Computer Concepts	2	2	3	
ENG 111	Expository Writing	3	0	3	
MAT 115	Mathematical Models or MAT 171 PreCalculus Algebra	2	2	3	
		7	6	10	

Second Semester (Spring)

ART 171	Computer Art I	0	6	3
DME 110	Introduction to Digital Media	2	2	3
WEB 115	Web Markup and Scripting	2	2	3
		4	10	9

Third Semester (Summer)

CIS 115	Intro to Programming and Logic	2	3	3
	Social Sciences Elective	3	0	3
		5	3	6

Fourth Semester (Fall)

ART 271	Computer Art II	0	6	3
DME 120	Introduction to Multimedia Applications	2	2	3
WEB 140	Web Development Tools	2	2	3
		4	10	9

Fifth Semester (Spring)

DME 130	Digital Animation I	2	2	3
DME 140	Introduction to Audio/Video media	2	2	3
	Major Elective 1*	2	2	3
		6	6	9

		Sixth Semester (Summer)		
Business and Hospitality	COM 231	Public Speaking or ENG 114 Prof. Research and Reporting	3	0 3
	DBA 110	Database Concepts Humanities Elective	2 3 3 0	3 3
			8	3 9
Seventh Semester (Fall)				
Education	DME 210	User Interface Design	2	2 3
	DME 230	Digital Animation II Major Elective 2*	2	2 3
			2	2 3
			6	6 9
Eight Semester (Spring)				
	DME 260	Emerging Technologies in Digital Media	2	2 3
	DME 270	Professional Practices in Digital Media Major Elective 3*	2	2 3
			2	2 3
			6	6 9
Ninth Semester (Summer)				
	DME 285	System Project Major Elective 4*	2	2 3
			2	2 3
			4	4 6
Program Totals			50	54 76

*Suggested Electives for Web/Multimedia Programming track

Elective 1 WEB 115 Web Markup and Scripting

Elective 2 WEB 182 PHP Programming or DBA 120 Database Programming I

Elective 3 DME 220 Interactive Multimedia Programming

Elective 4 Co-op Work Experience or CSC 151

*Suggested Electives for Graphic Artist/Designers/Animation track

Elective 1 DME 115 Graphic Design Tools

Elective 2 ART 264 Digital Photography I

Elective 3 Art course approved by advisor

Elective 4 Co-op Work Experience or ART 265 Digital Photography II

Hotel and Restaurant Management (A25240)

The Hotel and Restaurant Management curriculum prepares students to understand and apply the administrative and practical skills needed for supervisory and managerial positions in hotels, motels, resorts, inns, restaurants, institutions, and clubs.

Course work includes front office management, food preparation, guest services, sanitation, menu writing, quality management, purchasing, and other areas critical to the success of hospitality professionals.

Upon completion, graduates should qualify for supervisory or entry-level management positions in food and lodging, including front office, reservations, housekeeping, purchasing, dining room, and marketing. Opportunities are also available in the support areas of food and equipment sales.

Mountain Tech Lodge

An on-campus lodging facility, the Mountain Tech Lodge is operated and maintained by the Hotel and Restaurant Management students, and provides practical experience under the direction of College faculty.

Specific Entrance Requirements

- General college admission requirements.
- Completion of required immunizations by the first day of class, including TB test and first dose of Hepatitis A vaccine.

Business and
Hospitality
Education

Hotel and Restaurant Management – Associate in Applied Science Degree

This program consists of:

Major courses (ACC, COE, CUL, and HRM prefix) **Credit Hrs.** **56**

Related and general education courses **Credit Hrs.** **19**

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	4

PROGRAM TOTAL **Credit Hrs.** **75**

Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Work Hrs.	Credit Hrs.
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First Semester (Fall)

ACA 115	First-Year Seminar	0	2	0	1
CUL 110	Sanitation and Safety	2	0	0	2
CUL 110A	Sanitation and Safety Lab	0	2	0	1
CUL 142	Fundamentals of Food	2	6	0	5
HRM 110	Introduction to Hospitality	2	0	0	2
HRM 124	Introduction to Service Management	2	2	0	3
MAT 115	Mathematical Models	2	2	0	3
		10	14	0	17

Second Semester (Spring)

ACC 120	Principles of Financial Accounting	3	2	0	4
CUL 135	Food and Beverage Service	2	0	0	2
CUL 135A	Food and Beverage Service Lab	0	2	0	1
ENG 111	Expository Writing	3	0	0	3
HRM 120	Front Office	3	0	0	3
HRM 120A	Front Office Lab	0	2	0	1
HRM 130	Bed and Breakfast Management	2	0	0	2
HRM 220	Food and Beverage Controls	3	0	0	3
		16	6	0	19

Third Semester (Summer)

COE 112HR	Co-op Work Experience I	0	0	20	2
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Fourth Semester (Fall)

CIS 110	Computer Concepts	2	2	0	3
CUL 130	Menu Design	2	0	0	2
HRM 135	Facilities Management	2	0	0	2
HRM 145	Hospitality Supervision	3	0	0	3
HRM 215	Restaurant Management	3	0	0	3
HRM 215A	Restaurant Management Lab	0	2	0	1
HRM 225	Beverage Management	2	0	0	2
HRM 240	Hospitality Marketing	3	0	0	3
		17	4	0	19

Fifth Semester (Spring)					
Business and Hospitality Education	COM 231	Public Speaking	3	0	0
	HRM 140	Hospitality Tourism Law	3	0	0
	HRM 210	Meetings and Conventions	3	0	0
	HRM 280	Hospitality Management Problems	3	0	0
	PSY 150	General Psychology	3	0	0
		Humanities Elective	3	0	0
			18	0	0
	Program Totals		61	24	20
					75

Bed and Breakfast/Inn Management – Certificate*

The B&B/Inn Management certificate program addresses the essential skills and concepts required to manage small lodging facilities, prepares individuals to enter the profession, and provides additional education to meet professional development needs. Courses cover lodging operations, preparation of basic pastries and breakfast items, business and financial issues, sales and marketing, and federal, state and local regulations and standards.

Specific Entrance Requirements

- 1 General college admission requirements.
- 2 Completion of required immunizations by the first day of class, including TB test and first dose of Hepatitis A vaccine.

* Offered day with some evening opportunities.

First Semester (Fall)					
			Weekly Class	Weekly Lab	Weekly Credit
			Hrs.	Hrs.	Hrs.
ACC 120	Principles of Accounting I		3	2	4
CUL 110	Sanitation and Safety		2	0	2
CUL 160	Baking I		1	4	3
			6	6	9
Second Semester (Spring)					
HRM 120	Front Office		3	0	3
HRM 120A	Front Office Lab		0	2	1
HRM 130	Bed and Breakfast Management		2	0	2
HRM 140	Hospitality Tourism Law		3	0	3
	or HRM 210 Meetings and Conventions				
	or HRM 240 Hospitality Marketing				
			8	2	9
Certificate Totals			14	8	18

Hospitality Management Certificate

The Hospitality Management Certificate provides line employees the concepts and skills to upgrade or cross-train in their careers in the hotel and restaurant management industry. In addition, successful completion of CUL 110 leads to a nationally recognized ServSafe Certification from the National Restaurant Association.

Specific Entrance Requirements

- 1 General college admission requirements.
- 2 Completion of required immunizations by the first day of class, including TB test and first dose of Hepatitis A vaccine.

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
CUL	110	Sanitation and Safety	2	0	2	
HRM	140	Hospitality Tourism Law	3	0	3	Business and
HRM	145	Hospitality Supervision	3	0	3	Hospitality
HRM	220	Food and Beverage Controls	3	0	3	
HRM	240	Hospitality Marketing	3	0	3	Education
Certificate Totals			14	0	14	

Human Resources Management (A2512C)

Human Resources Management is a concentration under the curriculum title of Business Administration. The curriculum is designed to meet the demands of business and service agencies. The objective is the development of generalists and specialists in the administration, training and management of human resources.

Course work includes studies in management, interviewing, placement, needs assessment, planning, compensation and benefits, and training techniques. Also included are topics such as people skills, learning approaches, skills building, and development of instructional and training materials.

Graduates of this program will have a sound business educational base for life-long learning. Students will be prepared for employment opportunities in personnel, training, and other human resources development areas.

Human Resources Management – Associate in Applied Science Degree – Evening Schedule

This program consists of	Credit Hrs.
Major courses (ACC, BUS, CIS, ECO, MKT prefix)	55
Related and general education courses	21
including:	
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social/Behavioral Sciences</i>	3
<i>Other</i>	6
PROGRAM TOTAL	76

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
First Semester (Fall)						
ACA	115	First-Year Seminar	0	2	1	
ACC	120	Principles of Financial Accounting	3	2	4	
BUS	151	People Skills	3	0	3	
			6	4	8	
Second Semester (Spring)						
ACC	121	Principles of Managerial Accounting	3	2	4	
CIS	110	Computer Concepts	2	2	3	
ENG	111	Expository Writing	3	0	3	
			8	4	10	

	Third Semester (Summer)			
Business and Hospitality Education	ACC 140 Payroll Accounting BUS 137 Principles of Management OST 136 Word Processing	1 3 1 <hr/> 5	2 0 2 <hr/> 4	2 3 2 <hr/> 7
	Fourth Semester (Fall)			
	BUS 115 Business Law I BUS 256 Recruitment, Selection, and Personnel Planning MAT 115 Mathematical Models MKT 120 Principles of Marketing	3 3 2 3 <hr/> 11	0 0 2 0 <hr/> 2	3 3 3 3 <hr/> 12
	Fifth Semester (Spring)			
	BUS 135 Principles of Supervision BUS 217 Employment Laws and Regulations BUS 240 Business Ethics CTS 130 Spreadsheet	3 3 3 2 <hr/> 11	0 0 0 2 <hr/> 2	3 3 3 3 <hr/> 12
	Sixth Semester (Summer)			
	COM 231 Public Speaking Humanities Elective Related Elective*	3 3 3 <hr/> 9	0 0 0 <hr/> 0	3 3 3 <hr/> 9
	Seventh Semester (Fall)			
	ECO 251 Principles of Microeconomics BUS 234 Training and Development BUS 258 Compensation and Benefits	3 3 3 <hr/> 9	0 0 0 <hr/> 0	3 3 3 <hr/> 9
	Eighth Semester (Spring)			
	BUS 147 Business Insurance BUS 259 HRM Applications ECO 252 Principles of Macroeconomics	3 3 3 <hr/> 9	0 0 0 <hr/> 0	3 3 3 <hr/> 9
	Program Totals			
		67	14	76

*Related Electives: BUS 116, BUS 260, BUS 270.

Information Systems Security* (A25270)

Information Systems Security covers a broad expanse of technology concepts. This curriculum provides individuals with the skills required to implement effective and comprehensive information security controls.

Coursework includes networking technologies, operating systems administration, information policy, intrusion detection, security administration, and industry best practices to protect data communications.

Graduates should be prepared for employment as security administrators. Additionally, they will acquire the skills that allow them to pursue security certifications.

* This program will begin Fall 2006 pending State Board of Community Colleges approval.

Information Systems Security – Associate in Applied Science Degree

This program consists of

Major courses (BUS, CIS, CTS, DBA, NET, NOS, SEC prefix)

Credit Hrs.

54

Business and

Related and general education courses
including:

17

Hospitality

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	4
<i>Social Sciences</i>	3
<i>Other</i>	1

PROGRAM TOTAL

71

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
NET 125	Networking Basics	1	4	3
NOS 110	Operating System Concepts	<u>2</u>	<u>3</u>	<u>3</u>
		8	11	13

Second Semester (Spring)

DBA 110	Database Concepts	2	3	3
MAT 171	PreCalculus Algebra	3	0	3
MAT 171A	PreCalculus Algebra Lab	0	2	1
NET 126	Routing Basics	1	4	3
NOS 130	Windows Single User	2	2	3
SEC 110	Security Concepts	<u>3</u>	<u>0</u>	<u>3</u>
		11	11	16

Third Semester (Summer)

NET 225	Routing and Switching I	1	4	3
NOS 120	Linux/UNIX Admin I	2	2	3
SEC 150	Secure Communications	2	2	3
SEC 160	Secure Administration I	<u>2</u>	<u>2</u>	<u>3</u>
		7	10	12

Fourth Semester (Fall)

BUS 110	Introduction to Business	3	0	3
CIS 115	Intro to Programming and Logic	2	3	3
NET 226	Routing and Switching II	1	4	3
NOS 220	Linux/UNIX Admin I	2	2	3
SEC 220	Defense In-Depth	<u>2</u>	<u>2</u>	<u>3</u>
		10	11	15

Fifth Semester (Spring)

COM 231	Public Speaking	3	0	3
SEC 210	Intrusion Detection	2	2	3
SEC 289	Security Capstone Project	1	4	3
	Humanities/Fine Arts Elective	3	0	3
	Social/Behavioral Science Elective	<u>3</u>	<u>0</u>	<u>3</u>
		11	6	15

Program Totals

48 **49** **71**

Information Systems Security – Associate in Applied Science Degree – Evening Schedule

(Begins in even years only)

Business and

Hospitality

Education

First Semester (Fall)

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
ACA	115	First-Year Seminar	0	2	1
CIS	110	Computer Concepts	2	2	3
ENG	111	Expository Writing	3	0	3
NOS	110	Operating System Concepts	2	3	3
			7	7	10

Second Semester (Spring)

BUS	110	Introduction to Business	3	0	3
MAT	171	Precalculus Alegebra	3	0	3
MAT	171A	Precalculus Alegebra Lab	0	2	1
NOS	130	Windows/Single User	2	2	3
			8	4	10

Third Semester (Summer)

CIS	115	Intro to Programming and Logic	2	3	3
DBA	110	Database Concepts	2	3	3
			4	6	6

Fourth Semester (Fall)

NET	125	Networking Basics	1	4	3
NOS	120	Linux/UNIX Single User	2	2	3
SEC	110	Security Concepts	3	0	3
			6	6	9

Fifth Semester (Spring)

NET	126	Routing Basics	1	4	3
NOS	220	Linux/UNIX Admin I	2	2	3
SEC	160	Secure Administration I	2	2	3
			5	8	9

Sixth Semester (Summer)

NET	225	Routing and Switching I	1	4	3
SEC	150	Secure Communications	2	2	3
			3	6	6

Seventh Semester (Fall)

NET	226	Routing and Switching II	1	4	3
SEC	220	Defense In-Depth	2	2	3
		Humanities/Fine Arts Elective	3	0	3
			6	6	9

Eighth Semester (Spring)

COM	231	Public Speaking	3	0	3
SEC	210	Intrusion Detection	2	2	3
		Social/Behavioral Science Elective	3	0	3
			8	2	9

Ninth Semester (Summer)

SEC	289	Security Capstone Project	1	4	3
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Program Totals **48** **49** **71**

Marketing and Retailing (A2512F)

Marketing and Retailing is a concentration under the curriculum title of Business Administration. This curriculum is designed to provide students with fundamental skills in marketing and retailing.

Business and

Course work includes marketing, retailing, merchandising, selling, advertising, computer technology, and management.

Hospitality

Graduates should qualify for marketing positions within manufacturing, retailing, and service organizations.

Education

Marketing and Retailing – Associate in Applied Science Degree

This program consists of

Credit Hrs.

Major courses (ACC, BUS, CIS, CTS, ECO, MKT prefix)

56

Related and general education courses

20

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social/Behavioral Science</i>	3
<i>Other</i>	5

PROGRAM TOTAL

76

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACC 120	Principles of Accounting I	3	2	4
BUS 110	Introduction to Business	3	0	3
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
MAT 115	Mathematical Models	<u>2</u>	<u>2</u>	<u>3</u>
		13	6	16

Second Semester (Spring)

ACC 121	Principles of Accounting II	3	2	4
BUS 137	Principles of Management	3	0	3
MKT 120	Principles of Marketing	3	0	3
OST 136	Word Processing	1	2	2
	Humanities Elective	<u>3</u>	<u>0</u>	<u>3</u>
		13	4	15

Third Semester (Summer)

BUS 115	Business Law I	3	0	3
ECO 251	Principles of Microeconomics	3	0	3
MKT 122	Visual Merchandising	3	0	3
MKT 221	Consumer Behavior	3	0	3
	Related Elective*	<u>3</u>	<u>0</u>	<u>3</u>
		15	0	15

Fourth Semester (Fall)

CTS 130	Spreadsheet	2	2	3
ECO 252	Principles of Macroeconomics	3	0	3
MKT 121	Retailing	3	0	3
MKT 123	Fundamentals of Selling	3	0	3
MKT 224	International Marketing	<u>3</u>	<u>0</u>	<u>3</u>
		14	2	15

Fifth Semester (Spring)

Business and Hospitality Education	COM 231	Public Speaking	3	0	3
	MKT 220	Advertising and Sales Promotion	3	0	3
	MKT 225	Marketing Research	3	0	3
	MKT 227	Marketing Applications Related Elective*	3	0	3
			<u>3</u>	<u>0</u>	<u>3</u>
			15	0	15

Program Totals

*Related Electives: BUS 116, BUS 135, BUS 147, BUS 153, BUS 225, BUS 230, BUS 240, BUS 260, BUS 270, CTS 125.

Marketing and Retailing – Associate in Applied Science Degree – Evening Schedule

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)					
ACC 120	Principles of Accounting I		3	2	4
BUS 110	Introduction to Business		3	0	3
ENG 111	Expository Writing		<u>3</u>	<u>0</u>	<u>3</u>
			9	2	10
Second Semester (Spring)					
ACC 121	Principles of Accounting II		3	2	4
CIS 110	Computer Concepts		2	2	3
MAT 115	Mathematical Models		<u>2</u>	<u>2</u>	<u>3</u>
			7	6	10
Third Semester (Summer)					
BUS 137	Principles of Management		3	0	3
OST 136	Word Processing Humanities Elective		1	2	2
			<u>3</u>	<u>0</u>	<u>3</u>
			7	2	8
Fourth Semester (Fall)					
BUS 115	Business Law I		3	0	3
ECO 251	Principles of Microeconomics		3	0	3
MKT 120	Principles of Marketing Related Elective*		<u>3</u>	<u>0</u>	<u>3</u>
			12	0	12
Fifth Semester (Spring)					
CTS 130	Spreadsheet		2	2	3
ECO 252	Principles of Macroeconomics		3	0	3
MKT 121	Retailing		3	0	3
MKT 220	Advertising and Sales Promotion		<u>3</u>	<u>0</u>	<u>3</u>
			11	2	12
Sixth Semester (Summer)					
MKT 122	Visual Merchandising		3	0	3
MKT 221	Consumer Behavior		<u>3</u>	<u>0</u>	<u>3</u>
			6	0	6
Seventh Semester (Fall)					
COM 231	Public Speaking		3	0	3
MKT 123	Fundamentals of Selling Related Elective*		<u>3</u>	<u>0</u>	<u>3</u>
			9	0	9

Eighth Semester (Spring)

MKT 224	International Marketing	3	0	3
MKT 225	Marketing Research	3	0	3
MKT 227	Marketing Applications	3	0	3
		9	0	9

Program Totals

71	10	76
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*Related Electives: BUS 116, BUS 135, BUS 147, BUS 153, BUS 225, BUS 230, BUS 240, BUS 260, BUS 270, CTS 125.

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Education

Retail Marketing Certificate

The Retail Marketing Certificate is designed to prepare students to be successful in a retail marketing environment. Students will learn the fundamentals of marketing goods and services. This certificate will provide students with the essential knowledge of retailing, including effective operations, retail structure, non-store retailing, and upcoming trends. Students will learn how to design stimulating visual displays and the importance of visual merchandising. The uniqueness of consumer behavior will be explored with emphasis on the decision-making process.

Successful applicants for this certificate must have earned a high school diploma or GED.

		Weekly	Weekly	
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
MKT 120	Principles of Marketing	3	0	3
MKT 121	Retailing	3	0	3
MKT 122	Visual Merchandising	3	0	3
MKT 221	Consumer Behavior	3	0	3
Certificate Totals		12	0	12

Medical Office Administration (D25310)

This curriculum prepares individuals for employment in medical and other health-care related offices. Course work will include medical terminology; information systems; office management; medical coding, billing, and insurance; legal and ethical issues; and formatting and word processing. Students will learn administrative and support functions and develop skills applicable in medical environments. Employment opportunities are available in medical and dental offices, hospitals, insurance companies, laboratories, medical supply companies, and other health-care related organizations.

Medical Office Administration – Diploma

This program consists of	Credit Hrs.
Major courses (BUS, CIS, MED, OST prefix)	40
Related and general education courses	8
including:	

<i>English/Communications</i>	3
<i>Natural Sciences/Mathematics</i>	5

PROGRAM TOTAL	48
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Entrance requirements: keyboarding placement test into OST 134 consisting of 25 gwm at 98% accuracy using the touch system and college English placement test.

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
Business and Hospitality Education		First Semester (Fall)			
	CIS 110	Computer Concepts	2	2	3
	ENG 111	Expository Writing	3	0	3
	MED 121	Medical Terminology I	3	0	3
	OST 136	Word Processing	1	2	2
	OST 164	Text Editing Applications	3	0	3
			12	4	14
		Second Semester (Spring)			
	BIO 163	Basic Anatomy and Physiology	4	2	5
	MED 122	Medical Terminology II	3	0	3
	OST 134	Text Entry and Formatting	2	2	3
	OST 148	Medical Coding, Billing, and Insurance	3	0	3
	OST 184	Records Management	1	2	2
	OST 201	Medical Transcription I	3	2	4
			16	8	20
		Third Semester (Summer)			
	BUS 135	Principles of Supervision	3	0	3
	OST 132	Keyboard Skill Building	1	2	2
	OST 149	Medical Legal Issues	3	0	3
	OST 289	Office Systems Management	2	2	3
		Major Electives*	3	0	3
			12	4	14
		Program Totals			
			40	16	48

*Major Electives: ACC 120, ACC 140, CTS 130, DBA 110, NET 110, OST 233, OST 286, SPA 120.

Medical Office Administration – Diploma – Evening Schedule

(Begins in even years only)

Entrance requirements: Keyboarding placement test into OST 134 consisting of 25 words at 98% accuracy using the touch system and college English placement test.

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
		First Semester (Fall)			
	CIS 110	Computer Concepts	2	2	3
	OST 136	Word Processing	1	2	2
	OST 164	Text Editing Applications	3	0	3
			6	4	8
		Second Semester (Spring)			
	BIO 163	Basic Anatomy and Physiology	4	2	5
	MED 121	Medical Terminology I	3	0	3
	OST 134	Text Entry and Formatting	2	2	3
			9	4	11
		Third Semester (Summer)			
	ENG 111	Expository Writing	3	0	3
	MED 122	Medical Terminology II	3	0	3
	OST 132	Keyboard Skill Building	1	2	2
			7	2	8

Fourth Semester (Fall)

OST 184	Records Management	1	2	2
OST 201	Medical Transcription I	3	2	4
OST 289	Office Systems Management	2	2	3
		6	6	9

Business and

Fifth Semester (Spring)

BUS 135	Principles of Supervision	3	0	3
OST 148	Medical Coding, Billing, and Insurance	3	0	3
OST 149	Medical Legal Issues	3	0	3
	Major Elective*	3	0	3
		12	0	12

Hospitality

Education

Program Totals**40 16 48**

*Major Electives: ACC 120, ACC 140, CTS 130, DBA 110, NET 110, OST 233, OST 286, SPA 120.

Medical Coding Certificate – Evening Schedule (C25310)

(Evening only)

The Medical Coding Certificate program will prepare individuals for entry-level employment opportunities in the allied health specialty of medical coding. Requirements for the certificate include successful completion of the listed courses and the following documented prerequisite office skills:

- Pass a keyboarding and basic computer skills test requiring:
- Keyboarding skill level of 25 words per minute for five minutes (or OST 131)
- Theory and hands-on skill using Microsoft Office software (Word, Excel, PowerPoint) and Windows 98 with 80 percent accuracy (or CIS 110 or CIS 111.)

Weekly		Weekly	
Class	Lab	Credit	
Hrs.	Hrs.	Hrs.	

First Semester (Fall)

BIO 163	Basic Anatomy and Physiology	4	2	5
MED 121	Medical Terminology I	3	0	3
		7	2	8

Second Semester (Spring)

MED 122	Medical Terminology II	3	0	3
OST 148	Medical Coding, Billing, and Insurance	3	0	3
		6	0	6

Third Semester (Summer)

OST 247	CPT Coding in the Medical Office	1	2	2
OST 248	Diagnostic Coding	1	2	2
		2	4	4

Certificate Totals **15 6 18**

Medical Transcription (D25320)

The Medical Transcription curriculum prepares individuals to become medical language specialists who interpret and transcribe dictation by physicians and other healthcare professionals in order to document

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Education

patient care and facilitate delivery of healthcare services. Students will gain extensive knowledge of medical terminology, pharmacology, human diseases, diagnostic studies, surgical procedures, and laboratory procedures. In addition to word processing skill and knowledge of voice processing equipment, students must master English grammar, spelling, and proofreading.

Graduates should qualify for employment in hospitals, medical clinics, doctors' offices, private transcription businesses, research facilities, insurance companies, and publishing companies. After acquiring work experience, individuals can apply to the American Association for Medical Transcription to become Certified Medical Transcriptionists.

Medical Transcription Diploma

	Credit Hrs.
This program consists of	
Major courses (CIS, COE, MED, OST prefix)	36
Related and general education courses	8
including:	
<i>English/Communications</i>	3
<i>Natural Sciences/Mathematics</i>	5
PROGRAM TOTAL	44

Entrance requirements: Keyboarding placement test into OST 134 consisting of 25 words at 98% accuracy using the touch system and college English placement test.

	Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Work Hrs.	Credit Hrs.
First Semester (Fall)				
CIS 110 Computer Concepts	2	2	0	3
MED 121 Medical Terminology I	3	0	0	3
OST 134 Text Entry and Formatting	2	2	0	3
OST 136 Word Processing	1	2	0	2
OST 164 Text Editing Applications	3	0	0	3
	11	6	0	14
Second Semester (Spring)				
BIO 163 Basic Anatomy and Physiology	4	2	0	5
ENG 111 Expository Writing	3	0	0	3
MED 122 Medical Terminology II	3	0	0	3
OST 132 Keyboard Skill Building	1	2	0	2
OST 201 Medical Transcription I	3	2	0	4
	14	6	0	17
Third Semester (Summer)				
OST 149 Medical Legal Issues	3	0	0	3
OST 184 Records Management	1	2	0	2
OST 202 Medical Transcription II	3	2	0	4
OST 286 Professional Development	3	0	0	3
	10	4	0	12
Fourth Semester (Fall)				
COE 111MT Co-op Work Experience	0	0	10	1
Program Totals	35	16	10	44

A co-op work experience is an additional requirement of the MT curriculum. Students will be expected to complete the co-op during daytime hours Monday - Friday.

Medical Transcription Diploma – Evening Schedule

(Begins in even years only)

Entrance requirements: Keyboarding placement test into OST 134 consisting of 25 words at 98% accuracy using the touch system and college English placement test.

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First Semester (Fall)

			Class Hrs.	Lab Hrs.	Work Hrs.	Credit Hrs.
BIO	163	Basic Anatomy and Physiology	4	2	0	5
CIS	110	Computer Concepts	2	2	0	3
OST	164	Text Editing Applications	3	0	0	3
			9	4	0	11

Second Semester (Spring)

MED	121	Medical Terminology I	3	0	0	3
OST	134	Text Entry and Formatting	2	2	0	3
OST	136	Word Processing	1	2	0	2
			6	4	0	8

Third Semester (Summer)

MED	122	Medical Terminology II	3	0	0	3
OST	132	Keyboard Skill Building	1	2	0	2
OST	286	Professional Development	3	0	0	3
			7	2	0	8

Fourth Semester (Fall)

ENG	111	Expository Writing	3	0	0	3
OST	184	Records Management	1	2	0	2
OST	201	Medical Transcription I	3	2	0	4
			7	4	0	9

Fifth Semester (Spring)

OST	149	Medical Legal Issues	3	0	0	3
OST	202	Medical Transcription II	3	2	0	4
			6	2	0	7

Sixth Semester (Summer)

COE	111MT	Co-op Work Experience	0	0	10	1
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Program Totals

35 16 10 44

A co-op work experience is an additional requirement of the MT curriculum. Students will be expected to complete the co-op during daytime hours Monday - Friday.

Networking Technology (A25340)

The Networking Technology curriculum prepares individuals for employment supporting network infrastructure environments. Students will learn how to use technologies to provide reliable transmission and delivery of data, voice, image, and video communications in business, industry, and education.

Coursework includes design, installation, configuration, and management of network infrastructure technologies and network operating systems. Emphasis is placed on the implementation and management of network software and the implementation and management of hardware such as switches and routers.

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Education

Graduates may find employment in entry-level jobs as local area network managers, network operators, network analysts, and network technicians. Graduates may also be qualified to take certification examinations for various network industry certifications, depending on their local program.

Networking Technology – Associate in Applied Science Degree

This program consists of:

Major courses (BUS, CIS, CSC, CTS, DBA, NET,

NOS, SEC prefix)

Credit Hrs.

57

Related and general education courses

17

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	4
<i>Social Science</i>	3
<i>Other</i>	1

PROGRAM TOTAL

74

Weekly		Weekly	
Class	Lab	Credit	
Hrs.	Hrs.	Hrs.	

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
BUS 110	Introduction to Business	3	0	3
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
NET 125	Networking Basics	1	4	3
NOS 110	Operating System Concepts	2	3	3
11		11	16	

Second Semester (Spring)

COM 231	Public Speaking	3	0	3
DBA 110	Database Concepts	2	3	3
MAT 171	PreCalculus Algebra	3	0	3
MAT 171A	PreCalculus Algebra Lab	0	2	1
NET 126	Routing Basics	1	4	3
SEC 110	Security Concepts	3	0	3
12		9	16	

Third Semester (Summer)

CIS 115	Intro to Programming and Logic	2	3	3
NET 225	Routing and Switching I	1	4	3
NOS 120	Linux/UNIX Single User	2	2	3
NOS 130	Windows Single User	2	2	3
7		11	12	

Fourth Semester (Fall)

CTS 120	Hardware/Software Support	2	3	3
NET 175	Wireless Technology	2	2	3
NET 226	Routing and Switching II	1	4	3
NOS 220	Linux/UNIX Admin I	2	2	3
NOS 230	Windows Admin I	2	2	3
9		13	15	

Fifth Semester (Spring)

NET 260	Internet Development & Support	3	0	3
NET 289	Networking Project	1	4	3
NET 231	Windows Admin II	2	2	3
	Humanities/Fine Arts Elective	3	0	3
	Social/Behavioral Science Elective	3	0	3
		12	6	15

Program Totals**51 50 74**

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Networking Technology – Associate in Applied Science Degree – Evening Schedule*(Begins in even years only)*

	Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
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First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
NOS 110	Operating System Concepts	2	3	3
		7	7	10

Second Semester (Spring)

COM 231	Public Speaking	3	0	3
MAT 171	PreCalculus Algebra	3	0	3
MAT 171A	PreCalculus Algebra Lab	0	2	1
	Social/Behavioral Science Elective	3	0	3
		9	2	10

Third Semester (Summer)

BUS 110	Introduction to Business	3	0	3
DBA 110	Database Concepts	2	3	3
SEC 110	Security Concepts	3	0	3
		8	3	9

Fourth Semester (Fall)

CIS 115	Intro to Programming and Logic	2	3	3
NET 125	Networking Basics	1	4	3
		3	7	6

Fifth Semester (Spring)

NET 126	Routing Basics	1	4	3
NOS 120	Linux/UNIX Single User	2	2	3
	Humanities/Fine Arts Elective	3	0	3
		6	6	9

Sixth Semester (Summer)

NOS 130	Windows Single User	2	2	3
NOS 220	Linux/UNIX Admin I	2	2	3
		4	4	6

Seventh Semester (Fall)

NET 175	Wireless Technology	2	2	3
NET 225	Routing and Switching I	1	4	3
NOS 230	Windows Admin I	2	2	3
		5	8	9

Eighth Semester (Spring)

NET 226	Routing and Switching II	1	4	3
NET 260	Internet Development and Support	3	0	3
NOS 231	Windows Admin II	2	2	3
		6	6	9

Ninth Semester (Summer)

CTS 120	Hardware/Software Support	2	3	3
NET 289	Networking Project	1	4	3
		3	7	6
Program Totals		51	50	74

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Education

Cisco Certified Network Associate Certificate

This certificate is designed to help prepare students for the Cisco Certified Network Association (CCNA) examination. Topics include network topologies and design, router configuration and protocols, switching theory, virtual LANs and threaded case studies. Upon successful completion of the four course sequence, students will have acquired the knowledge necessary to pass the Cisco Certified Network Association (CCNA) certification exam. Applicants must have earned a high school diploma or GED. Applicants must also successfully complete a basic computer concepts assessment or have completed CIS 110.

Weekly			Weekly		
	Class	Lab	Credit		
	Hrs.	Hrs.	Hrs.		
NET 125	Networking Basics			1	4
NET 126	Routing Basics			1	4
NET 225	Routing and Switching I			1	4
NET 226	Routing and Switching II			1	4
Certificate Totals				4	16
					12

Cisco Certified Network Professional Certificate

Students will learn advanced internetworking concepts. Topics will include multi-layer switching, fault tolerance, remote access, controlling overhead, advanced routed protocols, WAN troubleshooting. Upon completion students should be able to work in an advanced internetworking environment. Students will also gain knowledge necessary for the CCNP certification exam. Applicants must have earned a high school diploma or GED and currently be certified as a CCNA or have the permission of the department chairperson. Satisfactory score on a placement exam may also be required.

Weekly			Weekly		
	Class	Lab	Credit		
	Hrs.	Hrs.	Hrs.		
NET 270	Scalable Networks Design			1	4
NET 271	Multi-Layer Networks			1	4
NET 272	Remote Access Networks			1	4
NET 273	Internetworking Support			1	4
Certificate Totals				4	16
					12

Networking Certificate

This certificate is designed for the office professional with responsibilities for an organization's local area network administration. Students will learn the basics of network administration including file management, network infrastructure, user management, security concepts, and troubleshooting using operating systems such as Microsoft Windows™ and Linux. Applicants must have earned a high school diploma or GED to apply for this certificate. Applicants must also successfully complete a basic computer concepts assessment or have completed CIS 110.

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
Required Courses:					
NET	125	Networking Basics	1	4	3
NOS	120	Linux/UNIX Single User	2	2	3
NOS	130	Windows Single User	2	4	3
NOS	220	Linux/UNIX Admin I	2	2	3
NOS	230	Windows Admin I	2	2	3
SEC	110	Security Concepts	3	0	3
Certificate Totals			12	14	18

Networking Security Certificate

Students learn basic and advanced concepts in networking security. Issues related to networking operating systems, remote access, traffic analysis, attack patterns, and TCP/IP concepts will be presented. Upon completion, students should have a fundamental knowledge of data network security and be able to implement a functional security plan. Applicants must have earned a high school diploma or GED. Applicants must have completed NET 226 or equivalent or hold current CCNA certification. Satisfactory score on a placement exam may also be required.

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
NET	125	Networking Basics	1	4	3
SEC	110	Security Concepts	3	0	3
SEC	150	Secure Communications	2	2	3
SEC	160	Secure Admin I	2	2	3
SEC	210	Intrusion Detection	2	2	3
SEC	240	Wireless Security	2	2	3
Certificate Totals			12	12	18

Open Source Operating Systems Certificate

Students will learn concepts related to administration of open source operating systems. Red Hat™ Linux will be used in this program. Topics will include hardware management, system configuration, client configuration, scripting, Gnome, KDE, server-side setup, and security administration. Upon completion students should be able to setup and administer a server and client machine utilizing an open source operating system. Applicants must have earned a high school diploma or GED and successfully completed NET 110 or NET 125. Satisfactory score on a placement exam may also be required.

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
NOS	120	Linux/UNIX Single User	2	2	3
NOS	220	Linux/UNIX Admin I	2	2	3
NOS	221	Linux/UNIX Admin II	2	2	3
NOS	222	Linux/UNIX Admin III	2	2	3
Certificate Totals			8	8	12

Office Systems Technology (A25360)

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Education

The Office Systems Technology curriculum prepares individuals for positions in administrative support careers. It equips office professionals to respond to the demands of a dynamic computerized workplace. Students will complete courses designed to develop proficiency in the use of integrated software, oral and written communication, analysis and coordination of office duties and systems, and other support topics. Emphasis is placed on non-technical as well as technical skills.

Graduates should qualify for employment in a variety of positions in business, government, and industry. Job classifications range from entry-level to supervisor to middle management.

Office Systems Technology – Associate in Applied Science Degree

This program consists of:

	Credit Hrs.
Major courses (ACC, BUS, CIS, CTS, DBA, OST, WEB prefix)	57

Related and general education courses including:	16
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<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	1

PROGRAM TOTAL	73
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Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
ACC 120	Principles of Accounting I	3	2	4
OST 286	Professional Development	3	0	3
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
OST 131	Keyboarding	<u>1</u>	<u>2</u>	<u>2</u>
		12	8	16

Second Semester (Spring)

CTS 130	Spreadsheet	2	2	3
MAT 115	Mathematical Models	2	2	3
OST 134	Text Entry and Formatting	2	2	3
OST 136	Word Processing	1	2	2
OST 164	Text Editing Applications	3	0	3
OST 184	Records Management	<u>1</u>	<u>2</u>	<u>2</u>
		11	10	16

Third Semester (Summer)

ACC 140	Payroll Accounting	1	2	2
OST 289	Office Systems Management	2	2	3
COM 231	Public Speaking	3	0	3
OST 132	Keyboard Skill Building	1	2	2
PSY 150	General Psychology	<u>3</u>	<u>0</u>	<u>3</u>
		10	6	13

Fourth Semester (Fall)

BUS 260	Business Communications	3	0	3	
DBA 110	Database Concepts	2	3	3	
OST 137	Office Systems Applications	1	2	2	Business and
WEB 140	Web Development Tools	2	2	3	
	Major Elective*	3	0	3	Hospitality
		11	7	14	

Fifth Semester (Spring)

CTS 155	Technical Support Functions	2	2	3	Education
OST 233	Office Publications Design	2	2	3	
	Humanities Elective	3	0	3	
	Major Elective*	5	0	5	
		12	4	14	
	Program Totals	56	35	73*	

*The hour totals include a minimum of six credit hours of major electives to be selected from: ACC 150, BUS 110, BUS 115, BUS 137, BUS 153, BUS 230, BUS 240, COE 211OS, NET 110, SPA 120.

Office Systems Technology Diploma

This program consists of:

Major courses (BUS, CIS, CTS, OST prefix) Credit Hrs. 29

Related and general education courses 12

including:

<i>English/Communications</i>	6	
<i>Other</i>	6	

PROGRAM TOTAL 41

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACC 120	Principles of Accounting I	3	2	4
OST 286	Professional Development	3	0	3
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
OST 131	Keyboarding	1	2	2
		12	6	15

Second Semester (Spring)

CTS 130	Spreadsheet	2	2	3
OST 134	Text Entry and Formatting	2	2	3
OST 136	Word Processing	1	2	2
OST 164	Text Editing Applications	3	0	3
OST 184	Records Management	1	2	2
		9	8	13

Third Semester (Summer)

ACC 140	Payroll Accounting	1	2	2
OST 289	Office Systems Management	2	2	3
COM 231	Public Speaking	3	0	3
OST 132	Keyboard Skill Building	1	2	2
	Major Elective*	3	0	3
		10	6	13

Program Totals 31 20 41*

*The hour totals include a minimum of three credit hours of major electives to be selected from: ACC 150, BUS 110, BUS 115, BUS 137, BUS 153, BUS 230, DBA 110, NET 110, SPA 120.

Word Processing/Desktop Publishing Certificate

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			Weekly	Weekly	
	Class	Lab	Credit		
	Hrs.	Hrs.	Hrs.		
CIS 110	Computer Concepts		2	2	3
CTS 125	Presentation Graphics		2	2	3
OST 131	Keyboarding or tested keyboarding proficiency		1	2	2
OST 134	Text Entry and Formatting		2	2	3
OST 136	Word Processing		1	2	2
Certificate Totals			8	10	13

Real Estate (C25400)

The Real Estate curriculum provides the prelicensing education required by the North Carolina Real Estate Commission, prepares individuals to enter the profession, and offers additional education to meet professional development needs.

Course work includes the practices and principles of real estate, emphasizing financial and legal applications, property development, and property values.

Graduates should qualify for North Carolina Real Estate Sales and Broker examinations. They should be able to enter apprenticeship training and to provide real estate services to consumers in a competent manner.

Real Estate Certificate – Evening Schedule

(Day classes may be available)

			Weekly	Weekly	
	Class	Lab	Credit		
	Hrs.	Hrs.	Hrs.		
First Semester (Fall)					
RLS 112	Real Estate Fundamentals		5	0	5
RLS 113	Real Estate Mathematics		2	0	2
			7	0	7
Second Semester (Spring)					
RLS 117	Real Estate Broker		4	0	4
RLS 120	Real Estate Practice		2	0	2
			6	0	6
Certificate Totals			13	0	13

Real Estate Appraisal (A25420)

The Real Estate Appraisal curriculum is designed to prepare individuals to enter the appraisal profession as a registered trainee and advance to licensed or certified appraiser levels. Course work includes appraisal theory and concepts with applications, the North Carolina Appraisers Act, the North Carolina Appraisal Board rules, and the Uniform Stan-

dards of Professional Appraisal Practice. Graduates should be prepared to complete the North Carolina Registered Trainee Examinations and advance to licensure or certification levels as requirements are met.

Note: REA courses must be taken in sequence. State licensure or certification requires an examination and a substantial experience component. Please contact the Real Estate Program Coordinator for additional information before enrolling.

Business and
Hospitality
Education

Real Estate Appraisal – Associate in Applied Science

(Evening only)

This program consists of:

Major courses (ACC, BUS, CIS, REA, RLS prefix)

Credit Hrs.

49

Related and general education courses

20

including:

English/Communications	6
Humanities/Fine Arts	3
Natural Sciences/Mathematics	7
Social/Behavioral Sciences	3
Other	1

PROGRAM TOTAL

69

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
MKT 120	Principles of Marketing	3	0	3
RLS 112	Real Estate Fundamentals	5	0	5
RLS 113	Real Estate Mathematics	2	0	2
		10	2	11

Second Semester (Spring)

ENG 111	Expository Writing	3	0	3
RLS 117	Real Estate Broker	4	0	4
	Humanities Elective	3	0	3
		10	0	10

Third Semester (Summer)

BUS 137	Principles of Management	3	0	3
CIS 110	Computer Concepts	2	2	3
		5	2	6

Fourth Semester (Fall)

BUS 115	Business Law I	3	0	3
MAT 121	Algebra/Trigonometry I	2	2	3
REA 111	Introduction to Real Estate			
	Appraisal R-1	2	0	2
REA 112	Valuation Principles and Practices R-2	2	0	2
		9	2	10

Fifth Semester (Spring)

ACC 120	Principles of Financial Accounting	3	2	4
REA 113	Applied Residential Property			
	Valuation R-3	1	0	1
REA 114	USPAP R-4	1	0	1
REA 210	Introduction to Income Property			
	Appraisal G-1	2	0	2
		7	2	8

Sixth Semester (Summer)

BUS 225	Business Finance	2	2	3
ACC 121	Principles of Managerial Accounting	3	2	4
		5	4	7

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Seventh Semester (Fall)

ECO 251	Principles of Microeconomics	3	0	3
REA 212	Adv. Income Capitalization Procedures G-2	2	0	2
REA 213	Applied Income Property Valuation G-3	2	0	2
COM 231	Public Speaking	3	0	3
		10	0	10

Eighth Semester (Spring)

ECO 252	Principles of Macroeconomics	3	0	3
MAT 151	Statistics I	3	0	3
MAT 151A	Statistics I Lab	0	2	1
		6	2	7

Program Totals**62 14 69****Real Estate Appraisal Certificate***(Evening only)*

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

REA 111	Introduction to Real Estate Appraisal R-1	2	0	2
REA 112	Valuation Principles and Practices R-2	2	0	2
		4	0	4

Second Semester (Spring)

REA 113	Applied Residential Property Valuation R-3	1	0	1
REA 114	USPAP R-4	1	0	1
REA 210	Intro to Income Property Appraisal G-1	2	0	2
		4	0	4

Third Semester (Fall)

REA 212	Adv. Income Capitalization Procedures G-2	2	0	2
REA 213	Applied Income Property Valuation G-3	2	0	2
		4	0	4

Certificate Totals**12 0 12****Web Technologies (A25290)**

The Web Technologies curriculum prepares graduates for careers in the information technology arena using computers and distributed computing to disseminate and collect information via the web.

Coursework in this program covers the terminology and use of computers, network devices, networks, servers, databases, applications, programming languages, as well as web applications, site development and design. Studies will provide opportunity for students to learn related industry standards.

Graduates should qualify for career opportunities as designers, admin-

istrators, or developers in the areas of web applications, websites, web services, and related areas of distributed computing.

*This program will begin Fall 2006 pending State Approval.

Web Technologies – Associate in Applied Science

This program consists of:

**Major courses (BUS, CIS, CSC, CTS, DBA, DME,
NET, NOS, SEC, WEB prefix)**

Credit Hrs.

60

Related and general education courses

16

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social/Behavioral Sciences</i>	3
<i>Other</i>	1

PROGRAM TOTAL

76

Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
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First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
BUS 110	Introduction to Business	3	0	3
CIS 110	Computer Concepts	2	2	3
ENG 111	Expository Writing	3	0	3
MAT 115	Mathematical Models or MAT 171 PreCalculus Algebra	2	2	3
WEB 110	Internet/Web Fundamentals	2	2	3
		12	8	16

Second Semester (Spring)

CIS 115	Intro to Programming and Logic	2	3	3
DBA 110	Database Concepts	2	3	3
NOS 110	Operating System Concepts	2	3	3
WEB 115	Web Markup and Scripting	2	2	3
WEB 140	Web Development Tools Humanities Elective	2	2	3
		<u>3</u>	<u>0</u>	<u>3</u>
		13	13	18

Third Semester (Summer)

NET 110	Networking Concepts	2	2	3
NOS 120	Linux/UNIX Single User	2	2	3
WEB 120	Introduction to Internet Multimedia Social/Behavioral Science Elective	2	2	3
		<u>3</u>	<u>0</u>	<u>3</u>
		9	6	12

Fourth Semester (Fall)

DBA 120	Database Programming I	2	2	3
WEB 182	PHP Programming	2	2	3
WEB 210	Web Design	2	2	3
WEB 230	Implementing Web Serv Major Elective*	2	2	3
		<u>2</u>	<u>2</u>	<u>3</u>
		10	10	15

Business and

Hospitality

Education

Fifth Semester (Spring)

Business and Hospitality Education	COM 231	Public Speaking	3	0	3
	SEC 110	Security Concepts	3	0	3
	WEB 250	Database Driven Websites	2	2	3
	WEB 289	Internet Technologies Project	1	4	3
		Major Elective*	2	2	3
			11	8	15
		Program Totals	55	45	76

*Choose two of the following major electives:

- CSC 139 Visual Basic Programming
- CSC 151 Java Programming
- DBA 210 Database Administration
- NOS 220 Linux/UNIX Admin I
- NOS 221 Linux/UNIX Admin II
- WEB 186 XML Technology
- WEB 215 Adv. Markup and Scripting

Web Technologies – Associate in Applied Science – Evening Schedule

(Begins in even years only)

			Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
First Semester (Fall)					
ACA 115	First-Year Seminar		0	2	1
CIS 110	Computer Concepts		2	2	3
WEB 110	Internet/Web Fundamentals		2	2	3
			4	6	7
Second Semester (Spring)					
ENG 111	Expository Writing		3	0	3
MAT 115	Mathematical Models		2	2	3
	or MAT 171 PreCalculus Algebra				
WEB 115	Web Markup and Scripting		2	2	3
WEB 140	Web Development Tools		2	2	3
			9	6	12
Third Semester (Summer)					
BUS 110	Introduction to Business		3	0	3
NOS 110	Operating System Concepts		2	3	3
	Humanities Elective		3	0	3
			8	3	9
Fourth Semester (Fall)					
CIS 115	Intro to Programming and Logic		2	3	3
DBA 110	Database Concepts		2	3	3
			4	6	6
Fifth Semester (Spring)					
COM 231	Public Speaking		3	0	3
NET 110	Networking Concepts		2	2	3
WEB 120	Introduction to Internet Multimedia		2	2	3
	Social/Behavioral Science Elective		3	0	3
			10	4	12

Sixth Semester (Summer)

NOS 120	Linux/UNIX Single User	2	2	3
WEB 210	Web Design	2	2	3
		4	4	6

Business and

Seventh Semester (Fall)

DBA 120	Database Programming I	2	2	3
WEB 182	PHP Programming	2	2	3
WEB 230	Implementing Web Serv	2	2	3
		6	6	9

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Eighth Semester (Spring)

SEC 110	Security Concepts	3	0	3
WEB 250	Database Driven Websites	2	2	3
	Major Elective*	2	2	3
		7	4	9

Ninth Semester (Summer)

WEB 289	Internet Technologies Project	1	4	3
	Major Elective*	2	2	3
		3	6	6

Program Totals**55 45 76****Choose two of the following major electives:*

- CSC 139 *Visual Basic Programming*
CSC 151 *Java Programming*
DBA 210 *Database Administration*
NOS 220 *Linux/UNIX Admin I*
NOS 221 *Linux/UNIX Admin II*
WEB 186 *XML Technology*
WEB 215 *Adv. Markup and Scripting*

Business and

Hospitality

Education



Engineering and Applied Technology

The **Engineering and Applied Technology** Division offers a variety of Associate in Applied Science degree and diploma programs in engineering technologies and applied technologies. Degree-level students are provided an appropriate blend of engineering, scientific, and mathematical theories with applications. Diploma-level students are provided training that is closely related to the industrial work environments.

Appropriate related and general education courses are provided in support of these programs.

Engineering and Applied Technology	Air Conditioning, Heat- ing, and Refrigeration Technology	Automotive Systems Technology*	Carpentry
Recommended High School Courses			
	Electricity Electronics	Applied Mathematics Physics Electronics	Practical Mathematics Drafting Woodworking courses
A-B Tech Entrance Requirements			
Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Mathematics (2 units, including Algebra) Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	
Program Schedule			
Day/Night begins Fall. Can take some single courses any semester.	Day/Night begins Fall.	Day/Night begins Fall.	
Degree			
Associate in Applied Science or Diploma	Associate in Applied Science or Diploma	Diploma	
Employment Opportunities			
Maintenance Technician Climate Control Technician Service Technician Systems Engineer Refrigeration Technician Estimator	General Automotive Technician Specialized Technician Shop Supervisor	Contractors as Carpenters or Estimators In Cabinet Shop as Cabinetmakers or Installers	

* Tech Prep agreements with regional high schools.

Civil Engineering Technology	Computer-Aided Drafting Technology*	Computer Engineering Technology*	Engineering and Applied Technology
Recommended High School Courses			
Trigonometry Drafting Algebra I & II and Plane Geometry	Algebra Geometry Drafting	Trigonometry	
A-B Tech Entrance Requirements			
Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	
Program Schedule			
Day/Night begins Fall. Night begins in odd numbered years. Can take single courses any semester	Day/Night begins Fall. Night begins in even numbered years only.	Day/Night begins Fall.	
Degree			
Associate in Applied Science	Associate in Applied Science	Associate in Applied Science	
Employment Opportunities			
Construction Technician Materials Testing Technician Construction Inspector Engineering Technician	CAD Operator Architectural Drafter CAD Technician	Computer and Network Service Technician Systems Integration Technician Automation Specialist Integrated Manufacturing Technician Systems Support Engineer Controls Engineer	* Tech Prep agreements with regional high schools.

Engineering and Applied Technology	Construction Management Technology	Electrical/Electronics Technology*	Electronics Engineering Technology*
	Recommended High School Courses Trigonometry Drafting	Trigonometry	Trigonometry
A-B Tech Entrance Requirements			
Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT or Reading Compre- hension, Sentence Skills, Arithmetic Skills, and Elemen- tary Algebra, Col- lege Board Comput- erized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT or Reading Compre- hension, Sentence Skills, Arithmetic Skills, and Elemen- tary Algebra, Col- lege Board Comput- erized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry Acceptable scores on SAT, ACT or Reading Compre- hension, Sentence Skills, Arithmetic Skills, and Elemen- tary Algebra, Col- lege Board Comput- erized Placement Tests (CPT).	
Program Schedule			
Night begins Fall.	Night begins Fall.	Day/Night begins Fall.	
Degree			
Associate in Applied Science	Associate in Applied Science or Diploma	Associate in Applied Science	
Employment Opportunities			
Entry level position in the field of Con- struction Manage- ment	Industrial Mainte- nance Technician Industrial Electrician Facilities Technician Electrical License Apprentice	Electronics Engineer- ing Technician Electronics Mainte- nance Technician Control Systems Technician	

* Tech Prep
agreements
with regional
high schools.

Heavy Equipment and Transport Technology	Machining Technology*	Mechanical Engineering Technology
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Recommended High School Courses		
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Applied Mathematics	Applied Mathematics	Trigonometry
Electronics	Drafting	Physics
Electricity	Blueprint Reading	

Engineering and Applied Technology
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A-B Tech Entrance Requirements		
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Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
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Program Schedule		
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Day begins Fall AAS Degree Night begins Fall.	Day/Night begins Fall. Will also offer afternoon schedule on demand.	Day begins Fall. Can take single courses any semester.
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Degree		
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Associate in Applied Science or Diploma	Associate in Applied Science or Diploma	Associate in Applied Science
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Employment Opportunities		
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Diesel Mechanic Fuel Injection Servicer Repairer Heavy Tractor Mechanic Help	For Manufacturers as Machinist Machine or CNC Set-Up Operator Quality Control Technician	Manufacturing Engineer Quality Control Technician Mechanical Designer Maintenance Engineering Technician
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* Tech Prep agreements with regional high schools.

Surveying Technology	Welding Technology*	Industrial Systems Technology
<p>Engineering and Applied Technology</p>	<p>Recommended High School Courses</p> <p>Trigonometry Drafting Algebra I & II and Plane Geometry</p>	<p>Practical Arithmetic Blueprint Reading Drafting</p> <p>Applied Mathematics Electronics Electricity</p>
	<p>A-B Tech Entrance Requirements</p> <p>Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).</p>	<p>Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).</p> <p>Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).</p>
<p>Program Schedule</p> <p>Day begins Fall. Night begins in odd numbered years. Can take single courses any semester.</p>	<p>Day/Night begins Fall. Can take single courses any semester.</p>	<p>Day/Night begins Fall. Can take single courses any semester.</p>
<p>Degree</p> <p>Associate in Applied Science</p>	<p>Diploma</p>	<p>Associate in Applied Science</p>
<p>Employment Opportunities</p> <p>Construction Layout Technician Land Surveyor Mapper</p>	<p>Arc Welder Arc Welder-Machine Operator Gas Welder-Machine Operator Combination Welder Pipe Welder</p>	<p>Manufacturing Maintenance Technician Facilities Management Technician</p>

* Tech Prep agreements with regional high schools.

Engineering and Applied Technology

Engineering
and Applied
Technology

The Engineering and Applied Technology division offers a variety of Associate in Applied Science degree programs in engineering technologies and applied technologies. Most programs are available on a day and evening basis.

Students enrolled in this division are provided an appropriate mix of theory and hands-on applications. Students in the diploma programs spend much of their time working under industrial shop conditions. Modern facilities include well-equipped laboratories and shops to support goals of the programs. Emphasis is placed on student proficiency in the use of procedures, equipment, and instruments related to the specific program area. Appropriate related and general education courses support these applied programs.

A.A.S. Degrees Conferred

- Air Conditioning, Heating, and Refrigeration Technology
- Automotive Systems Technology
- Computer-Aided Drafting Technology
- Civil Engineering Technology
- Computer Engineering Technology
- Construction Management Technology
- Electrical/Electronics Technology
- Electronics Engineering Technology
- Heavy Equipment and Transport Technology
- Industrial Systems Technology
- Machining Technology
- Mechanical Engineering Technology
- Surveying Technology
- Welding Technology

Diplomas Awarded

- Air Conditioning, Heating, and Refrigeration Technology
- Automotive Systems Technology
- Carpentry
- Electrical/Electronics Technology
- Heavy Equipment and Transport Technology
- Machining Technology
- Welding Technology

Certificates

- Air Conditioning & Heating – Basic
- Air Conditioning & Heating – Intermediate
- Air Conditioning & Heating – Advanced
- Automotive
- Machining Technology – CNC Programming
- Computer-Aided Drafting Technology
- Construction Management Technology
- Electrical/Electronics Technology – Electrical Wiring

Engineering
and Applied
Technology

Electronics Engineering Technology – Instrumentation and Control
Heavy Equipment and Transport Technology
Industrial Systems Technology – Basic Maintenance
Industrial Systems Technology – Metal Fabrication
Air Conditioning and Heating – Commercial HVAC Maintenance
Machining Technology – Basic
Computer Engineering Technology –
Personal Computer and Network Maintenance
Welding

Air Conditioning, Heating and Refrigeration Technology (A35100)

The Air Conditioning, Heating, and Refrigeration Technology curriculum, provides the basic knowledge to develop skills necessary to work with residential and light commercial systems.

Topics include mechanical refrigeration, heating and cooling theory, electricity, controls, and safety. The diploma program covers air conditioning, furnaces, heat pumps, tools and instruments. In addition, the A.A.S. degree covers residential building codes, residential system sizing, and advanced comfort systems.

Diploma graduates should be able to assist in the start up, preventive maintenance, service, repair, and/or installation of residential and light commercial systems. A.A.S. degree graduates should be able to demonstrate an understanding of system selection and balance, and advanced systems.

Air Conditioning, Heating and Refrigeration Technology – Associate in Applied Science Degree – Evening Schedule

(Evening Program Only)

This program consists of:

Major courses (AHR, ELC, WLD, BPR prefix)

Credit Hrs.

51

Related and general education courses

19

including:

<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>4</i>
<i>Social Science</i>	<i>3</i>
<i>Other</i>	<i>3</i>

PROGRAM TOTAL

70

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
ELC 132	Electrical Drawings	1	3	2
ELC 111	Introduction to Electricity	2	2	3
WLD 111	Oxy Fuel Welding	1	3	2
		4	10	9

Second Semester (Spring)

AHR 110	Introduction to Refrigeration	2	6	5
CIS 111	PC Literacy	1	2	2
AHR 130	HVAC Controls	2	2	3
		5	10	10

Engineering

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Technology

Third Semester (Fall Odd Years Only)

AHR 113	Comfort Cooling	2	4	4
COM 231	Public Speaking	3	0	3
BPR 135	Schematics and Diagrams	2	0	2
		5	7	8

Fourth Semester (Spring Odd Years Only)

AHR 115	Refrigeration Systems	1	3	2
AHR 114	Heat Pump Technology	2	4	4
ENG 111	Expository Writing	3	0	3
		6	7	9

Fifth Semester (Fall Even Years Only)

AHR 112	Heating Technology	2	4	4
AHR 120	HVACR Maintenance	1	3	2
AHR 210	Residential Building Code/HVAC	1	2	2
		6	7	9

Sixth Semester (Spring Even Years Only)

AHR 211	Residential Systems Design	2	2	3
PHY 122	Applied Physics II	3	2	4
AHR 125	HVAC Electronics	1	3	2
		4	9	7

Seventh Semester (Fall)

AHR 212A	Advanced Comfort Systems	1	3	2
ELC 117	Motors and Controls	2	6	4
	Humanities/Fine Arts Elective	3	0	3
		7	8	10

Eighth Semester (Spring)

ELC 128	Introduction to PLC or ELC 113	2	3	3
Social/Behavioral Science Elective		3	0	3
AHR 212B	Advanced Comfort Systems	1	3	2

Program Totals**44 61 70****Air Conditioning, Heating and Refrigeration
Technology – Diploma**

This program consists of:

Credit Hrs.

Major courses (AHR prefix)

29

Related and general education courses

14

including:

- English/Communications*
- Natural Science/Mathematics*
- Other*

3

4

7

PROGRAM TOTAL**43**

	Weekly Weekly		
	Class Hrs.	Lab Hrs.	Credit Hrs.
First Semester (Fall)			
Engineering	ACA 115	First-Year Seminar	0 2 1
and Applied	AHR 112	Heating	2 4 4
Technology	AHR 120	HVACR Maintenance	1 3 2
	ELC 111	Introduction to Electricity	2 2 3
	ELC 132	Electrical Drawings	1 3 2
	ENG 111	Expository Writing or ENG 102	3 0 3
	PHY 122	Applied Physics II	3 2 4
			12 16 19
Second Semester (Spring)			
	AHR 110	Introduction to Refrigeration	2 6 5
	AHR 113	Comfort Cooling	2 4 4
	AHR 125	HVAC Electronics	1 3 2
	AHR 130	HVAC Controls	2 2 3
	WLD 111	Oxy-Fuel Welding	1 3 2
			8 18 16
Third Semester (Summer)			
	AHR 114	Heat Pump Technology	2 4 4
	AHR 115	Refrigeration Systems	1 3 2
	BPR 135	Schematics and Diagrams	2 0 2
			5 7 8
Program Totals			
			25 41 43

The Associate in Applied Science Degree program may be taken in the evening upon completion of day or evening Diploma program.

Air Conditioning, Heating and Refrigeration Technology – Diploma – Evening Schedule

	Weekly Weekly		
	Class Hrs.	Lab Hrs.	Credit Hrs.
First Semester (Fall)			
	ELC 132	Electrical Drawings	1 3 2
	ELC 111	Introduction to Electricity	2 2 3
	WLD 111	Oxy Fuel Welding	1 3 2
			4 10 7
Second Semester (Spring)			
	ACA 115	First-Year Seminar	0 2 1
	AHR 110	Introduction to Refrigeration	2 6 5
	AHR 130	HVAC Controls	2 2 3
			4 8 9
Third Semester (Fall Odd Years Only)			
	AHR 113	Comfort Cooling	2 4 4
	ENG 111	Expository Writing	3 0 3
	BPR 135	Schematics and Diagrams	2 0 2
			5 7 9
Fourth Semester (Spring Odd Years Only)			
	AHR 115	Refrigeration Systems	1 3 2
	AHR 114	Heat Pump Technology	2 4 4
			3 7 6

Fifth Semester (Fall Even Years Only)

AHR 112 Heating Technology	2	4	4
AHR 120 HVACR Maintenance	1	3	2
	3	7	6

Sixth Semester (Spring Even Years Only)

PHY 122 Applied Physics II	3	2	4
AHR 125 HVAC Electronics	1	3	2
	4	5	6

Program Totals

25	41	43
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Engineering
and Applied
Technology

The Associate in Applied Science Degree program may be taken in the evening upon completion of day or evening Diploma program.

Air Conditioning and Heating – Basic Certificate

The Basic Air Conditioning and Heating Certificate program teaches the student the concepts and skills needed to service and repair various types of domestic furnaces and air conditioners.

	Weekly		Weekly
	Class Hrs.	Lab Hrs.	Credit Hrs.
AHR 112 Heating	2	4	4
AHR 120 HVACR Maintenance	1	3	2
ELC 111 Introduction to Electricity	2	2	3
ELC 132 Electrical Drawings	1	3	2
AHR 110 Introduction to Refrigeration	2	6	5
Certificate Totals	8	18	16

Air Conditioning and Heating – Intermediate Certificate

The Intermediate Air Conditioning and Heating Certificate program teaches the student the concepts and skills needed to service and repair domestic heat pumps, light commercial air conditioning, and light commercial heating units. The material for the EPA's CFC license will be covered, and the exam for this will be given during the program.

The Basic Air Conditioning and Heating certificate program must be completed before beginning this program.

	Weekly		Weekly
	Class Hrs.	Lab Hrs.	Credit Hrs.
AHR 113 Introduction to Cooling	2	4	4
AHR 125 HVAC Electronics	1	3	2
AHR 130 HVAC Controls	2	2	3
WLD 111 Oxy-Fuel Welding	1	3	2
AHR 115 Refrigeration Systems	1	3	2
BPR 135 Schematics and Diagrams	2	0	2
Certificate Totals	9	15	15

Air Conditioning and Heating – Advanced Certificate

(Evening Program only)

Students taking the Advanced Air Conditioning and Heating Certificate program will be able to perform accurate heat load and heat loss calculations for the correct sizing of furnaces and cooling units for homes.

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Technology

They will also be able to design and install air duct systems as to the manufacturer's and building code's specifications. Studies of hot water and steam heating systems, commercial cooling equipment, and ground source heat pumps will further help the students acquire technical knowledge and skills.

			Weekly	Weekly
	Class	Lab	Credit	
	Hrs.	Hrs.	Hrs.	
AHR 114 Heat Pump Technology	2	4	4	
AHR 211 Residential Systems Design	2	2	3	
CIS 111 PC Literacy	1	2	2	
AHR 212A Advanced Comfort Systems I	1	3	2	
AHR 210 Residential Building Code-HVAC	1	2	2	
AHR 212B Advanced Comfort Systems II	1	3	2	
Certificate Totals	8	16	15	

Air Conditioning and Heating – Commercial HVAC Maintenance Technology Certificate

(Evening Program only)

A certificate in Commercial HVAC Maintenance Technology will prepare a student for a career in the maintenance departments of hospitals, education systems, hotels, and manufacturing plants. Local heating and cooling service companies that specialize in commercial and industrial maintenance will also have positions for technicians who have this certificate. This certificate requires completion of Air Conditioning and Heating Basic and Intermediate Certification as a prerequisite.

			Weekly	Weekly
	Class	Lab	Credit	
	Hrs.	Hrs.	Hrs.	
AHR 114 Heat Pump Technology	2	2	4	
AHR 212A Advanced Comfort Systems Pt. 1	1	3	2	
AHR 212B Advanced Comfort Systems Pt. 2	1	3	2	
CIS 111 PC Literacy	1	2	2	
ELC 117 Motors and Controls	2	6	4	
ELC 128 Introduction to PLC or ELC 113	2	3	3	
Certificate Totals	9	19	17	

Automotive Systems Technology (A60160)

The Automotive Systems Technology curriculum prepares individuals for employment as Automotive Service Technicians. It provides an introduction to automotive careers and increases student awareness of the challenges associated with this fast and ever-changing field.

Classroom and lab experiences integrate technical and academic course work. Emphasis is placed on theory, servicing and operation of brakes, electrical/electronic systems, engine performance, steering/suspension, automatic transmission/transaxles, engine repair, climate control, and manual drive trains.

Upon completion of this curriculum, students should be prepared to

take the ASE exam and be ready for full-time employment in dealerships and repair shops in the automotive service industry.

Automotive Systems Technology – Associate in Applied Science Degree

This program consists of:

Major courses (AUT, COE prefix)

Credit Hrs.

41

Related and general education courses

25

including:

<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>3</i>
<i>Social Science</i>	<i>3</i>
<i>Other</i>	<i>10</i>

PROGRAM TOTAL

66

Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Work Hrs.	Credit Hrs.
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First Semester (Fall)

ACA 115	First-Year Seminar	0	2	0	1
AUT 110	Introduction to Automotive Technology	2	2	0	3
AUT 115	Engine Fundamentals	2	3	0	3
AUT 151	Brake Systems	2	2	0	3
AUT 152	Brake Systems Lab	0	2	0	1
AUT 161	Electrical Systems	2	6	0	4
		8	17	0	15

Second Semester (Spring)

AUT 162A	Chassis Electrical/Electronics	1	1	0	1.5
AUT 163A	Chassis Electrical/Electronics Lab	0	1	0	0.5
AUT 183	Engine Performance Fuels	2	3	0	3
AUT 184	Engine Performance Fuels Lab	0	3	0	1
CIS 113	Computer Basics	0	2	0	1
COE 113A1	Co-op Work Experience II	0	0	15	1.5
ENG 111	Expository Writing	3	0	0	3
		6	10	15	11.5

Third Semester (Summer)

COE 112A	Co-operative Work Experience	0	0	20	2
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Fourth Semester (Fall)

AUT 162B	Chassis Electrical/Electronics	1	1	0	1.5
AUT 163B	Chassis Electrical/Electronics Lab	0	1	0	0.5
AUT 171	Heating and Air Conditioning Systems	2	3	0	3
COE 113A2	Co-operative Work Experience	0	0	15	1.5
	Communications Elective*	3	0	0	3
		6	5	15	9.5

Fifth Semester (Spring)

AUT 141A	Suspension and Steering Systems	1	2	0	2
AUT 181	Engine Performance Electrical	2	3	0	3
AUT 182	Engine Performance Electronics Lab	0	3	0	1
COE 123A1	Co-operative Work Experience	0	0	15	1.5
	Humanities/Fine Arts Elective	3	0	0	3
		6	8	15	10.5

Engineering
and Applied
Technology

Engineering
and Applied
Technology

Sixth Semester (Summer)

AUT 141B	Suspension and Steering Systems	1	2	0	2
AUT 231	Manual Drive Trans/Axles	2	3	0	3
AUT 232	Manual Drive Trans/Axles Lab	0	3	0	1
MAT 121	Algebra/Trigonometry I or PHY 122	2	2	0	3
		5	10	0	9

Seventh Semester (Fall)

AUT 221	Automotive Transmissions	2	6	0	4
COE 123A2	Co-operative Work Experience	0	0	15	1.5
	Social/Behavioral Science Elective	3	0	0	3
		5	6	15	8.5

Program Totals

*Select from COM 231, COM 120, or ENG 114

Automotive Systems Technology – Diploma* – Evening Schedule

(Evening Program Only)

This program consists of		Credit Hrs.
Major courses (AUT, COE prefix)		30
Related and general education courses		6
including:		
Communications	3	
Natural Science/Mathematics	3	
PROGRAM TOTAL		36

First Semester (Fall)

AUT 115	Engine Fundamentals	2	3	3
ENG 102	Applied Communications II or ENG 111	3	0	3
MAT 101	Applied Math I or MAT 121 or PHY 122	2	2	3
		7	5	9

Second Semester (Spring)

AUT 161	Electrical Systems	2	6	4
AUT 171	Heating and Air Conditioning	2	3	3
		4	9	7

Third Semester (Summer)

AUT 183	Engine Performance - Fuel	2	3	3
AUT 184	Engine Performance - Fuel Lab	0	3	1
		2	6	4

Fourth Semester (Fall)

AUT 151	Brakes	2	2	3
AUT 152	Brake Systems Lab	0	2	1
AUT 181A	Engine Performance - Electrical	1	1.5	1.5
AUT 182A	Engine Performance - Electrical Lab	0	1.5	0.5
		3	7	6

Fifth Semester (Spring)

AUT 141	Suspension and Steering	2	4	4
AUT 181B	Engine Performance - Electrical	1	1.5	1.5
AUT 182B	Engine Performance - Electrical Lab	0	1.5	0.5
		3	7	6

Sixth Semester (Summer)

AUT 231	Manual Drive Trains/Axles	2	3	3
AUT 232	Manual Drive Trains/Axles	0	3	1
		2	6	4
Program Totals		21	40	36

*Students may take Cooperative Work Experience, (COE 112A, COE 113A and COE 123A) during the day for transfer into the Degree program in Automotive Systems Technology.

Engineering
and Applied
Technology

Automotive Certificate

The Automotive Certificate offers state-of-the-art automotive training in the repair of all automobiles. You will learn about the internal combustion engine, automotive fuel and electrical systems, chassis and suspension systems, braking systems, and automotive air conditioning and electronic control systems.

		Weekly	Weekly	
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
First Semester (Fall)				
AUT 115	Engine Fundamentals	2	3	3
AUT 151	Brake Systems	2	2	3
AUT 152	Brake Systems Lab	0	2	1
		4	7	7
Second Semester (Fall)				
AUT 171	Heating and Air Conditioning Systems	2	3	3
Third Semester (Spring)				
AUT 141	Suspension and Steering Systems	2	4	4
AUT 181	Engine Performance Electrical	2	3	3
AUT 182	Engine Performance Electrical Lab	0	3	1
		4	10	8
Certificate Totals		10	20	18

Carpentry (D35180)

The Carpentry curriculum is designed to train students to construct residential structures using standard building materials and hand and power tools. Carpentry skills and a general knowledge of residential construction methods will also be taught.

Course work includes footings and foundations, framing, interior and exterior trim, cabinetry, blueprint reading, residential planning and estimating, and other related topics. Students will develop skills through hands-on participation.

Graduates should qualify for employment in the residential building construction field as rough carpenters, framing carpenters, roofers, maintenance carpenters, and other related job titles.

Carpentry – Diploma

		Credit Hrs.
Engineering		34
and Applied		12
Technology		
	<i>English/Communications</i>	3
	<i>Natural Science/Mathematics</i>	3
	<i>Other</i>	6
	PROGRAM TOTAL	46

First Semester (Fall)

CAR 110	Introduction to Carpentry	2	0	2
CAR 111	Carpentry I	3	15	8
BPR 130	Blueprint Reading/Construction	1	2	2
DFT 115	Architectural Drafting	1	2	2
MAT 101	Applied Mathematics I or PHY 122, MAT 121	2	2	3
		9	21	17

Second Semester (Spring)

CAR 112	Carpentry II	3	15	8
ENG 102	Applied Communications I or ENG 111	3	0	3
CAB 111A	Cabinetmaking I	4	3	5
		10	18	16

Third Semester (Fall)

CAR 113	Carpentry III	3	9	6
CAB 111B	Cabinetmaking I	0	6	2
CAR 115	Residential Planning/Estimating	3	0	3
DFT 119	Basic CAD	1	2	2
		7	17	13

Program Totals

Weekly	Weekly
Class	Lab
Hrs.	Hrs.
	Credit
	Hrs.

9	21	17
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Carpentry – Diploma – Evening Schedule

(Begins in odd years only)

		Credit
		Hrs.
		Hrs.
		Hrs.
		10
		18
		16

First Semester (Fall)

CAR 110A	Introduction to Carpentry	1	0	1
CAR 111A	Carpentry I	2	6	4
BPR 130	Blueprint Reading/Construction	1	2	2
		4	8	7

Second Semester (Spring)

CAR 111B	Carpentry I	1	9	4
CAB 111A	Cabinetmaking I	4	3	5
		5	12	9

Third Semester (Summer)

ENG 102	Applied Communication I or ENG 111	3	0	3
MAT 101	Applied Mathematics I or PHY 122, MAT 121	2	2	3
		5	2	6

Fourth Semester (Fall)

CAR 110B Introduction to Carpentry	1	0	1	Engineering and Applied Technology
CAR 112A Carpentry II	2	3	3	
CAB 111B Cabinetmaking I	0	6	2	
	3	9	6	

Fifth Semester (Spring)

CAR 112B Carpentry II	1	12	5	Engineering and Applied Technology
CAR 115 Residential Planning and Estimating	3	0	3	
	4	12	8	

Sixth Semester (Summer)

DFT 115 Architectural Drafting	1	2	2
DFT 119 Basic CAD	1	2	2
	2	4	4

Seventh Semester (Fall)

CAR 113 Carpentry III	3	9	6
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Program Totals **26** **56** **46**

Civil Engineering Technology (A40140)

The Civil Engineering Technology curriculum provides the application of relevant theory of engineering needed by technicians to carry out planning and supervisory tasks in the construction of transportation systems, residential and commercial buildings, bridges, dams, and water and wastewater treatment systems.

Coursework includes the communication and computational skills required to support the fields such as materials testing, structures, estimating, project management, hydraulics, environmental technology, and surveying. Additional coursework will cover the operation of computers and application software including computer-aided drafting.

Graduates should qualify for technician level jobs with both public and private engineering, construction, and surveying agencies.

Civil Engineering Technology – Associate in Applied Science Degree

This program consists of:

Credit Hrs.

Major courses (CIV, SRV prefix)

44

Related and general education courses

24

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	6
<i>Social Science</i>	3
<i>Other</i>	6

PROGRAM TOTAL **68**

			Weekly	Weekly	Credit
			Class Hrs.	Lab Hrs.	
Engineering and Applied Technology					
		First Semester (Fall)			
	ACA 115	First Year Seminar or EGR 110	0	2	1
	EGR 115	Introduction to Engineering Technology	2	3	3
	EGR 125	Application Software for Technology	1	2	2
	ENG 111	Expository Writing	3	0	3
	MAT 121	Algebra/Trigonometry I or MAT171 & 171A	2	2	3
			8	9	12
		Second Semester (Spring)			
	CIV 110	Statics/Strength of Materials	2	6	4
	ENG 114	Professional Research and Reporting or COM 120 or COM 231	3	0	3
	MAT 122	Algebra/Trigonometry II or MAT172 & 172A	2	2	3
	SRV 110	Surveying I	2	6	4
			9	14	14
		Third Semester (Summer)			
	CIV 125	Civil/Surveying CAD	1	6	3
	CIV 211	Hydraulics and Hydrology	2	3	3
	SRV 111	Surveying II	2	6	4
			5	15	10
		Fourth Semester (Fall)			
	CIV 111	Soils and Foundations	2	3	3
	CIV 210	Engineering Materials	1	3	2
	CIV 215	Highway Technology	1	3	2
	CIV 220	Basic Structural Concepts	1	3	2
	CIV 230	Construction Estimating Social/Behavioral Sciences Elective	2	3	3
			3	0	3
			10	15	15
		Fifth Semester (Spring)			
	CIV 212	Environmental Planning	2	3	3
	CIV 221	Steel and Timber Design	2	3	3
	CIV 222	Reinforced Concrete	2	3	3
	CIV 240	Project Management	2	3	3
	CIV 250	Civil Engineering Technology Project Humanities/Fine Arts Elective	1	3	2
			3	0	3
			12	15	17
		Program Totals			
			44	68	68

Civil Engineering Technology – Associate in Applied Science Degree – Evening Schedule

(Begins in odd years only)

			Weekly	Weekly	
			Class Hrs.	Lab Hrs.	Credit
First Semester (Fall)					
	EGR 115	Introduction to Engineering Technology	2	3	3
	EGR 125	Application Software for Tech	1	2	2
	MAT 121	Algebra/Trigonometry I or MAT 171/171 A	2	2	3
			5	7	8

Second Semester (Spring)

ACA 115	First Year Seminar or EGR 110	0	2	1	
ENG 111	Expository Writing	3	0	3	
MAT 122	Algebra/Trigonometry II or MAT 172/172 A	2	2	3	
		5	4	7	Engineering and Applied

Third Semester (Summer)

SRV 110	Surveying I	2	6	4	Technology
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Fourth Semester (Fall)

CIV 110	Statics/Strength of Materials	2	6	4	
SRV 111	Surveying II	2	6	4	
		4	12	8	

Fifth Semester (Spring)

CIV 111	Soils and Foundations	2	3	3	
CIV 210	Engineering Materials	1	3	2	
ENG 114	Project Research and Reporting or COM 120 or COM 231	3	0	3	
		6	6	8	

Sixth Semester (Summer)

CIV 211	Hydraulics and Hydrology	2	3	3	
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Seventh Semester (Fall)

CIV 125	Civil/Surveying CAD	1	6	3	
CIV 215	Highway Technology	1	3	2	
CIV 220	Basic Structure Concepts	1	3	2	
		3	12	7	

Eighth Semester (Spring)

CIV 212	Environmental Planning	2	3	3	
CIV 221	Steel and Timber Design	2	3	3	
CIV 230	Construction Estimates	2	3	3	
		6	9	9	

Ninth Semester (Summer)

CIV 240	Project Management	2	3	3	
CIV 250	Civil Engineering Technology Project	1	3	2	
		3	6	5	

Tenth Semester (Fall)

CIV 222	Reinforced Concrete	2	3	3	
	Humanities/Fine Arts Elective	3	0	3	
	Social/Behavioral Science Elective	3	0	3	
		8	3	9	

Program Totals **44** **68** **68**

Computer-Aided Drafting Technology (A5150)

The Computer-Aided Drafting (CAD) Technology curriculum will prepare individuals for careers as CAD technicians in a wide variety of applications, primarily those related to architecture and construction. Emphasis is placed on developing the student's ability to interface with computer hardware and software in a CAD office.

Students will use CAD work stations to create and manage 2D drawings and 3D models for a wide variety of fields. Students will also link CAD documents to other applications such as a database, GIS maps, spreadsheets, and word processing. Course work includes the study of

drafting, computer hardware and operating systems, 2D and 3D computer models, solid modeling, rendering, and engineering systems for construction and architecture.

Engineering
and Applied

Graduates of this program will qualify for CAD jobs in a wide variety of fields that use computer-aided drafting technology. Job titles include CAD technician, CAD manager, CAD drafter/designer and detail drafter.

Technology

Computer-Aided Drafting Technology – Associate in Applied Science Degree

This program consists of:

Major courses (DFT, DDF Prefix)

Related and general education courses including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	36

PROGRAM TOTAL

Credit Hrs.

21

51

72

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar or EGR 110	0	2	1
ARC 111	Intro to Architecture Technology	1	6	3
BPR 111	Blueprint Reading	1	2	2
EGR 125	App. Soft. for Tech. or CIS 110, or CIS 111	1	2	2
DFT 151	CAD I	2	3	3
MAC 114	Introduction to Metrology or MEC 161	2	0	2

7 15 13

Second Semester (Spring)

ARC 112	Construction Materials and Methods	3	2	4
ARC 113	Residential Architecture Technology	1	6	3
CET 111	Computer Upgrade/Repair I	2	3	3
DFT 152	CAD II	2	3	3
MAT 121	Algebra/Trig. I or MAT 171/171A	2	2	3

10 16 16

Third Semester (Summer)

	Techical Elective*	0-3	0-6	1-3
DFT 153	CAD III	2	3	3
GIS 121	Georeferencing & Mapping	2	2	3
ENG 111	Expository Writing	3	0	3

7-10 5-11 10-12

Fourth Semester (Fall)

ARC 230	Environmental Systems	3	3	4
GIS 125	CAD for GIS	2	2	3
DFT 251	Customizing CAD Software	2	2	3
DFT 154	Intro to Solid Modeling Humanities/Fine Arts Elective	2	3	3
		3	0	3

12 10 16

Fifth Semester (Spring)

COM 231	Public Speaking or ENG 114	3	0	3	
DFT 253	CAD Data Management	2	2	3	
DFT 259	CAD Project	1	4	3	Engineering
MEC 110	Introduction to CAD/CAM	1	2	2	and Applied
	Social/Behavioral Science Elective	3	0	3	
	Techical Elective*	0-3	0-6	1-3	Technology
		10-13	8-14	15-17	
Program Totals		46-52	54-66	70-74*	

*Total Program Credit Hours includes four hours of electives to be selected from the following list. Technical Electives - 4 SHC selected from the following courses: ARC 119, ARC 131, ART 121, ART 171, BPR 121, BUS 230, CET 211, CIV 230, COE 111CA, DFT 170, and DFT 189.

Computer-Aided Drafting Technology – Associate in Applied Science Degree – Evening Schedule

		Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.	
First Semester (Fall)					
ACA 115	First-Year Seminar or EGR 110	0	2	1	
ARC 111	Intro to Architecture Technology	1	6	3	
EGR 125	App. Soft. for Tech. or CIS 110, or CIS 111	1	2	2	
		3	10	7	
Second Semester (Spring)					
BPR 111	Blueprint Reading	1	2	2	
DFT 151	CAD I	2	3	3	
MAC 114	Introduction to Metrology or MEC 161	2	0	2	
		5	5	7	
Third Semester (Summer)					
CET 111	Computer Upgrade/Repair I	2	3	3	
ENG 111	Expository Writing	3	0	3	
		5	3	6	
Fourth Semester (Fall)					
ARC 112	Construction Materials and Methods	3	2	4	
DFT 152	CAD II	2	3	3	
		5	5	7	
Fifth Semester (Spring)					
ARC 113	Residential Architecture Technology	1	6	3	
MAT 121	Algebra/Trig. I or MAT 171/171A	2	2	3	
	Techical Elective*	0-3	0-6	1-3	
		3	8-14	7-9	
Sixth Semester (Summer)					
DFT 153	CAD III	2	3	3	
GIS 121	Georeferencing & Mapping	2	2	3	
		4	5	6	

Engineering
and Applied
Technology

Seventh Semester (Fall)

ARC 230	Environmental Systems	3	3	4
DFT 251	Customizing CAD Software	2	2	3
	Humanities/Fine Arts Elective	3	0	3

8 5 10

Eighth Semester (Spring)

GIS 125	CAD for GIS	2	2	3
DFT 154	Intro to Solid Modeling	2	3	3
	Technical Elective*	0-3	0-6	1-3

4-7 5-11 7-9

Ninth Semester (Summer)

COM 231	Public Speaking or ENG 114	3	0	3
DFT 253	CAD Data Management	2	2	3

5 2 6

Tenth Semester (Fall)

DFT 259	CAD Project	1	4	3
MEC 110	Introduction to CAD/CAM	1	2	2
	Social/Behavioral Science Elective	3	0	3

5 6 8

Program Totals

46-52 54-66 70-74*

*Total Program Credit Hours includes four hours of electives to be selected from the following list. Technical Electives - 4 SHC selected from the following courses: ARC 119, ARC 131, ART 121, ART 171, BPR 121, BUS 230, CET 211, CIV 230, COE 111CA, DFT 170, and DFT 189.

Computer-Aided Drafting Certificate

The purpose of this certificate program is to provide basic computer-aided drafting (CAD) skills. Students learn CAD techniques for producing 2D and 3D technical drawings using different CAD software programs. Accurate and efficient use of the computer and software are emphasized. Students may choose the fourth CAD course from the following options.

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)				
DFT 151	CAD I	2	3	3
Second Semester (Spring)				
DFT 152	CAD II	2	3	3
Third Semester (Summer)				
DFT 153	CAD III	2	3	3
Fourth Semester (Fall)				
DFT 251	Customizing CAD Software or DFT 154 Intro to Solid Modeling	2	2	3
		2	2(3)	3(4)
Certificate Totals		8	11(12)	12(13)

Computer Engineering Technology (A4160)

Course work includes mathematics, physics, electronics, digital circuits, and programming, with emphasis on the operation, use, and

interfacing of memory and devices to the CPU. Additional topics may include communications, networks, operating systems, programming languages, Internet configuration and design, and industrial applications.

Graduates should qualify for employment opportunities in electronics technology, computer service, computer networks, server maintenance, programming, and other areas of knowledge in electronics and computer systems. Graduates may also qualify for certification in electronics, computers, or networks.

Engineering
and Applied
Technology

Computer Engineering Technology – Associate in Applied Science Degree

This program consists of:

Major courses (CET, CIS, CSC, EGR, ELC, ELN prefix)	Credit Hrs.
	54

Related and general education courses	Credit Hrs.
	22

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	10
<i>Social Science</i>	3
<i>Other</i>	0

PROGRAM TOTAL	76
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Weekly	Weekly
Class	Lab
Hrs.	Hrs.
	Credit

First Semester (Fall)

CET 111	Computer Upgrade/Repair I	2	3	3
EGR 125	Application Software for Technology	1	2	2
EGR 110	Introduction to Engineering	1	2	2
ELC 131	DC/AC Circuit Analysis	4	3	5
ENG 111	Expository Writing	3	0	3
MAT 121	Algebra/Trigonometry I (MAT 171 & 171A)	2	2	3
		<hr/>	<hr/>	<hr/>
		13	12	18

Second Semester (Spring)

CET 211	Computer Upgrade/Repair II	2	3	3
CIS 115	Introduction to Programming and Logic	2	3	3
ELN 131	Electrical Devices	3	3	4
MAT 122	Algebra/Trigonometry II (MAT 172 & 172A)	2	2	3
HUM	Humanities Electives	3	0	3
		<hr/>	<hr/>	<hr/>
		12	11	16

Third Semester (Summer)

ELC 117	Motors and Controls	2	6	4
ELN 237	Local Area Networks (1st Mini-mester)	2	3	3
ELN 238	Advanced LANs (2nd Mini-mester)	2	3	3
PHY 131	Physics-Mechanics (PHY 151)	3	2	4

9	14	14
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Fourth Semester (Fall)

CSC 139	Visual Basic Programming	2	3	3
ELC 128	Introduction to PLC	2	3	3
ELN 133	Digital Electronics	3	3	4
ELN 154	Introduction to Data Communications	2	3	3

9	12	13
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Engineering
and Applied
Technology

Fifth Semester (Spring)

CET 212	Integrated Manufacturing Systems	1	3	2
ELN 232	Introduction to Microprocessors	3	3	4
ENG 114	Professional Research and Reporting	3	0	3
	Social/Behavioral Science Elective	3	0	3
		10	6	12
	Program Totals	53	55	76*

*The credit hours total includes a minimum of three credit hours to be selected from the following: CET 125, ELC 213, ELC 228, MAT 151, MAT 271, PHY 152, COE 112 ET with COE 115 ET.

Computer Engineering Technology – Associate in Applied Science Degree – Evening Schedule

		Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Credit Hrs.
First Semester (Fall)				
CET 111	Computer Upgrade/Repair I	2	3	3
EGR 110	Introduction to Engineering	1	2	2
MAT 121	Algebra/Trigonometry I (MAT 171 & 171A)	2	2	3
		5	7	8
Second Semester (Spring)				
CET 211	Computer Upgrade/Repair II	2	3	3
ELC 131	DC/AC Circuit Analysis	4	3	5
MAT 122	Algebra/Trigonometry II (MAT 172 & 172A)	2	2	3
		8	8	11
Third Semester (Summer)				
ELN 131	Electronic Devices	3	3	4
ENG 111	Expository Writing	3	0	3
PHY 131	Physics-Mechanics (PHY 151)	3	2	4
		9	5	11
Fourth Semester (Fall)				
EGR 125	Application Software for Technology	1	2	2
CIS 115	Introduction to Programming and Logic	2	3	3
ELN 237	Local Area Networks	2	3	3
		5	8	8
Fifth Semester (Spring)				
ELN 133	Digital Electronics	3	3	4
ELN 238	Advanced LANs	2	3	3
		5	6	7
Sixth Semester (Summer)				
CSC 139	Visual BASIC Programming	2	3	3
	Humanities Elective	3	0	3
	Social/Behavioral Science Elective	3	0	3
		8	3	9
Seventh Semester (Fall)				
ELC 117	Motors and Controls	2	6	4
ELN 154	Introduction to Data Communications	2	3	3
		4	9	7
Eighth Semester (Spring)				
ELC 128	Introduction to PLC	2	3	3
ELN 232	Introduction to Microprocessors	3	3	4
		5	6	7

Ninth Semester (Summer)

CET 212	Integrated Manufacturing Systems	1	3	2
ENG 114	Professional Research and Writing	3	0	3
		4	3	5
Program Totals		53	55	76*

*The credit hours total includes a minimum of three credit hours to be selected from the following: CET 125, ELC 213, ELC 228, MAT 151, MAT 271, PHY 152, COE 112 ET with COE 115 ET.

Engineering
and Applied
Technology

Personal Computer and Network Maintenance Certificate

This Training program provides the individual the theory and hands-on experience to become a PC specialist capable of performing maintenance and upgrades on all types of personal computer systems. This program combines the theory of computer and network operation with the practical skills necessary for efficient diagnosis and repair work in the field. The program provides the foundation for further study of networks and new computer-based products.

		Weekly	Weekly	
		Class Hrs.	Lab Hrs.	Credit Hrs.
CET 111	Computer Upgrade/Repair I	2	3	3
CET 125	Voice and Data Cabling	2	3	3
CET 211	Computer Upgrade/Repair II	2	3	3
ELN 237	Local Area Networks	2	3	3
ELN 238	Advanced LAN	2	3	3
Certificate Totals		10	15	15

Construction Management Technology (A35190)

This curriculum is designed to prepare individuals for careers in the construction management field. Such positions may include project manager, superintendent, estimator, or foreman.

Course work includes safety, planning, scheduling, cost control, productivity, human relations, estimating, and building codes. Students will also gain proficiency in specific construction-related skills.

Graduates should qualify for entry-level positions in the field of construction management.

Construction Management Technology – Associate in Applied Science – Evening Schedule

This program consists of:

Credit Hrs.

Major and related courses (CMT, BPR, ARC, CIV, COE)

48

General education courses

26

including:

English/Communications	6
Humanities/Fine Arts	3
Natural Science/Mathematics	3
Social Science	3
Other	11

PROGRAM TOTAL

74

		Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Work Hrs.	Weekly Credit Hrs.
Engineering and Applied Technology	First Semester (Fall)				
	ACA 115 First-Year Seminar	0	2	0	1
	Humanities/Fine Arts Elective	3	0	0	3
	Technical Elective(s)	2	9	0	3
		8	9	0	7
	Second Semester (Spring)				
	Social Science Elective	3	0	0	3
	Technical Elective(s)	0	0	0	3
		3	0	0	6
	Third Semester (Summer)				
	Technical Elective(s)	0	0	0	4
	Fourth Semester (Fall)				
	ENG 111 Expository Writing	3	0	0	3
	Technical Elective(s)	0	0	0	3
		3	0	0	6
	Fifth Semester (Spring)				
	BPR 130 Blueprint Reading/Construction	1	2	0	2
	ENG 114 Professional Research and Reporting	3	0	0	3
	Technical Elective(s)	0	0	0	4
		4	2	0	9
	Sixth Semester (Summer)				
	Estimation/Code Elective (May be taken in a previous semester)	3	2	0	3
	Seventh Semester (Fall)				
	ARC 112 Construction Materials and Methods	3	2	0	4
	CIS 110 Introduction to Computers or CIS 111 Basic PC Literacy	2	2	0	3
	CMT 210 Professional Construction Supervision	(1)	(2)	(0)	(2)
	SPA 120 Spanish for the Workplace**	3	0	0	3
		3	0	0	3
	11	4	0	13	
	Eighth Semester (Spring)				
	CIV 230 Construction Estimating	2	3	0	3
	CMT 212 Total Safety Performance	3	0	0	3
		5	3	0	6
	Ninth Semester (Summer)				
	COE 111CM Co-op Work Experience	0	0	10	1
	Tenth Semester (Fall)				
	ACC 120 Principles of Accounting I	3	2	0	4
	CMT 214 Planning and Scheduling Estimation/Code Elective (May be taken in a previous semester)	3	0	0	3
		3	2	0	3
	10	4	0	10	
	Eleventh Semester (Spring)				
	CMT 216 Costs and Productivity	3	0	0	3
	CMT 218 Human Relations Issues	3	0	0	3
	MAT 115 Mathematical Models* or MAT 121 Algebra/Trigonometry I	(2)	(2)	(0)	(3)
		(2)	(2)	(0)	(3)
	8-9	0-2	0	9	

*Students who meet the requirements may substitute MAT 171/171A or MAT

151/151A for the math requirement.

***Students who meet the requirements may substitute SPA 111 for SPA 120 with department chair approval.*

Estimation/Code Electives:

Students must take one course selected from: AHR 210, CAR 114, ARC 131, and ELC 118.

And either:

CAR 115 or ELC 121.

Engineering

and Applied

Technology

Technical Electives:

*At least 17 Semester Hours Credit selected from one of the following areas of specialization**:*

AHR 110, AHR 112, AHR 113, AHR 114, AHR 115, AHR 120, AHR 125, AHR 130

or

CAR 111, CAR 112, CAR 113

or

EGR 115, CIV 110, CIV 125, CIV 211, SRV 110

or

ELC 112 or ELC 113, ELC 115, ELC 117, ELC 119, ELC 128, ELC 132, ELC 213

or

WLD 111, WLD 112, WLD 115, WLD 116, WLD 141

Additional electives may be accepted from Industrial Construction Technology, Industrial Systems Technology, Masonry, and Plumbing programs taken at other institutions in the North Carolina Community College System.

***Unless approved by the department chairperson, students can select courses from only one specialty area.*

Except for Electrical/Electronics, Technical and Estimation/Code Electives may be completed in either the day or evening. Currently, courses with the CMT prefix are scheduled as evening classes.

Construction Management Technology – Certificate – Evening Schedule

The Construction Management Technology certificate is designed for the skilled tradesman who is experienced in the construction industry and has the desire to advance to construction management. Recent high school graduates will also be accepted.

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)				
CMT	210 Professional Construction Supervision	3	0	3
CMT	214 Planning and Scheduling	3	0	3
		6	0	6
Second Semester (Spring)				
BPR	130 Blueprint Reading/Construction	1	2	2
CMT	212 Total Safety Performance	3	0	3
CMT	216 Costs and Productivity	3	0	3
CMT	218 Human Relations Issues	3	0	3
		10	2	11
Certificate Totals		16	2	17

Electrical/Electronics Technology (A35220)

The Electrical/Electronics Technology curriculum is designed to provide training for persons interested in the installation and maintenance of electrical/electronic systems found in residential, commercial and industrial facilities.

Training, most of which is hands-on, includes such topics as AC/DC theory, basic wiring practices, digital electronics, programmable logic controllers, industrial motor controls, the National Electric Code, and other subjects as local needs require.

Graduates should qualify for a variety of jobs in the electrical/electronics field as an on-the-job trainee or apprentice, assisting in the layout, installation, and maintenance of electrical/electronic systems.

Electrical/Electronics Technology – Associate in Applied Science Degree – Evening Schedule

(Evening Program Only)

This program consists of:	Credit Hrs.
Major courses (ELC, ELN prefix)	42
Related and general education courses including:	29
<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>10</i>
<i>Social Science</i>	<i>3</i>
<i>Other</i>	<i>7</i>
PROGRAM TOTAL	71

		Weekly	Weekly	
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
First Semester (Fall)				
EGR	110	Introduction to Engineering Tech.	1	2
ELN	152	Fabrication Techniques	1	3
MAT	121	Algebra/Trigonometry	<u>2</u>	<u>2</u>
			4	7
				7
Second Semester (Spring)				
ELC	112	DC/AC Electricity**	3	6
		MAT 122	2	3
		or Natural/Science Mathematics Elective		
			5	8
				8
Third Semester (Summer)				
ELN	131	Electronic Devices	3	3
PHY	131	Physics-Mechanics	<u>3</u>	<u>2</u>
			6	5
				8
Fourth Semester (Fall)				
EGR	125	Application Software for Tech	1	2
ELC	113	Basic Wiring I	2	6
ENG	111	Expository Writing	<u>3</u>	<u>0</u>
			6	8
				9
Fifth Semester (Spring)				
ELC	115	Industrial Wiring	2	6
ELC	128	Introduction to PLC	<u>2</u>	<u>3</u>
			4	9
				7

Third Semester (Summer)

ELN	131	Electronic Devices	3	3	4
PHY	131	Physics-Mechanics	<u>3</u>	<u>2</u>	<u>4</u>
			6	5	8

Fourth Semester (Fall)

EGR	125	Application Software for Tech	1	2	2
ELC	113	Basic Wiring I	2	6	4
ENG	111	Expository Writing	<u>3</u>	<u>0</u>	<u>3</u>
			6	8	9

Fifth Semester (Spring)

ELC	115	Industrial Wiring	2	6	4
ELC	128	Introduction to PLC	<u>2</u>	<u>3</u>	<u>3</u>
			4	9	7

Sixth Semester (Summer)

ELC 118	National Electrical Code	1	2	2
ELC 213	Instrumentation	3	2	4
HYD 110	Hydraulics/Pneumatics	2	2	3
		6	6	9

Engineering

and Applied

Technology

Seventh Semester (Fall)

ELC 117	Motors and Controls	2	6	4
	Social Science Elective	3	0	3
	Humanities Elective	3	0	3
		8	6	10

Eight Semester (Spring)

ENG 114	Prof. Research and Report Writing	3	0	3
ELN 133	Digital Electronics	3	3	4
		6	3	7

Ninth Semester (Summer)

ELC 228	PLC Applications	2	6	4
ELC 229	Application Project or COE 112 ET	1	3	2
		3	9	6

Program Totals**50 61 71**

Refer to applicable sections of this catalog for courses available for Natural Science/Mathematics, Social Science and Humanities Requirements.

*All courses except ELC 113, 115 and 118 are offered day and evening.

**Students who meet the requirements may substitute ELC 131 for ELC 112 with department chair approval.

Electrical/Electronics Technology – Diploma – Evening Schedule

(Evening Program Only)

This program consists of:

Credit Hrs.

Major courses (ELC, ELN prefix) **28**

Related and general education courses **11**

including:

Communications	3
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Natural Sciences/Mathematics	3
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Other	5
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PROGRAM TOTAL	39
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Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
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First Semester (Fall)

ELN 152	Fabrication Techniques	1	3	2
ENG 102	Applied Communications II or ENG 111*	3	0	3
MAT 101	Applied Mathematics I or MAT 121*	2	2	3
		6	5	8

Second Semester (Spring)

ELC 112	DC/AC Electricity**	3	6	5
EGR 125	Application Software for Tech	1	2	2
		4	8	7

Third Semester (Summer)

HYD 110	Hydraulics/Pneumatics I	2	3	3
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Engineering
and Applied
Technology

Fourth Semester (Fall)

ELC 113 Basic Wiring I	2	6	4
ELC 117 Motors and Controls	2	6	4
	4	12	8

Fifth Semester (Spring)

ELC 115 Industrial Wiring	2	6	4
ELC 128 Introduction to PLC	2	3	3
	4	9	7

Sixth Semester (Summer)

ELC 118 National Electrical Code	1	2	2
ELC 213 Instrumentation	3	2	4
	4	4	6

Program Totals

24	41	39
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*Students wishing to continue into the A.A.S. degree program should take these courses.

**Students who meet the requirements may substitute ELC 131 for ELC 112 with department chair approval.

Electrical Wiring Certificate – Evening Schedule

The Electrical Wiring Certificate program teaches the student the concepts and skills needed to install and repair residential, commercial, and industrial wiring systems. Preparation for State and local licenses are achieved through laboratory and classroom studies that focus on the National Electrical Code.

	Weekly		Credit Hrs.
	Class Hrs.	Lab Hrs.	
ELC 112 DC/AC Electricity**	3	6	5
ELC 113 Basic Wiring I	2	6	4
ELC 115 Industrial Wiring	2	6	4
ELC 118 National Electrical Code	1	2	2
Certificate Totals	8	20	15

**Students who meet the requirements may substitute ELC 131 for ELC 112 with department chair approval.

Electronics Engineering Technology (A40200)

The Electronics Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communication systems, and power electronic systems.

A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot electronic systems. Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Electronics Engineering Technology – Associate in Applied Science Degree

This program consists of:

Major courses (ELC, ELN prefix)

Credit Hrs.

36

Engineering

**Related and general education courses
including:**

36

and Applied

<i>English/Communications</i>	6		
<i>Humanities/Fine Arts</i>	3		
<i>Natural Science/Mathematics</i>	10		
<i>Social Science</i>	3		
<i>Other</i>	10		
<i>Electives</i>	4		

PROGRAM TOTAL

72

Weekly Weekly

Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

CET 111	Computer Upgrade/Repair I	2	3	3
ELC 131	DC/AC Circuit Analysis	4	3	5
EGR 110	Introduction to Engineering Tech.	1	2	2
ENG 111	Expository Writing	3	0	3
MAT 121	Algebra/Trigonometry I or MAT171 & 171A	2	2	3
		12	10	16

Second Semester (Spring)

DFT 151	CAD I	2	3	3
EGR 125	Application Software for Tech	1	2	2
ELN 131	Electronic Devices	3	3	4
ELN 152	Fabrication Techniques	1	3	2
MAT 122	Algebra/Trigonometry II or MAT172 & 172A	2	2	3
		9	13	14

Third Semester (Summer)

ELC 117	Motors and Controls	2	6	4
ELN 132	Linear IC Applications	3	3	4
PHY 131	Physics-Mechanics or PHY 151	3	2	4
	Humanities Elective	3	0	3
		11	11	15

Fourth Semester (Fall)

ELC 128	Introduction to PLC	2	3	3
ELN 133	Digital Electronics	3	3	4
ELN 234	Communications Systems	3	3	4
ENG 114	Professional Research and Report Writing	3	0	3
		11	9	14

Fifth Semester (Spring)

ELN 232	Introduction to Microprocessors	3	3	4
ELN 275	Troubleshooting	1	2	2
	Social/Behavioral Science Elective	3	0	3

7 **5** **9**

Program Totals

51 **46** **72***

*The credit hours total includes a minimum of four credit hours of major electives to be selected from the following: CET 211, CET 212, CHM 121/121A, CIS 115, CIS 152, ELC 113, ELC 115, ELC 118, ELC 131A, ELC 213, ELC 228,

**Electronics Engineering Technology – Associate in
Applied Science Degree – Evening Schedule**

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)				
EGR 110	Introduction to Engineering Tech.	1	2	2
ELN 152	Fabrication Techniques	1	3	2
MAT 121	Algebra/Trigonometry I or MAT 171& 171A	2	2	3
		5	5	7
Second Semester (Spring)				
ELC 131	DC/AC Circuit Analysis	4	3	5
MAT 122	Algebra/Trigonometry II or MAT 172 & 172A	2	2	3
		6	5	8
Third Semester (Summer)				
CET 111	Computer Upgrade/Repair I	2	3	3
ELN 131	Electronic Devices	3	3	4
ENG 111	Expository Writing	3	0	3
		8	6	10
Fourth Semester (Fall)				
ELN 132	Linear IC Applications	3	3	4
PHY 131	Physics - Mechanics or PHY 151	3	2	4
		6	5	8
Fifth Semester (Spring)				
DFT 151	CAD I	2	3	3
EGR 125	Application Software for Tech	1	2	2
ELN 133	Digital Electronics	3	3	4
		6	8	9
Sixth Semester (Summer)				
ELN 234	Communication Systems Social/Behavioral Science Elective	3	3	4
		3	0	3
		6	3	7
Seventh Semester (Fall)				
ELC 117	Motors and Controls	2	6	4
ELC 128	Introduction to PLC	2	3	3
		4	9	7
Eighth Semester (Spring)				
ELN 232	Introduction to Microprocessors	3	3	4
ENG 114	Professional Research and Report Writing	3	0	3
		6	3	7
Ninth Semester (Summer)				
ELN 275	Troubleshooting Humanities Elective	1	2	2
		3	0	3
		4	2	5
Program Totals		51	46	72*

*Includes a minimum of four hours of major electives to be selected from:
 CET 211, CET 212, CHM 121/121A, CIS 115, CIS 152, ELC 113, ELC 115, ELC 118, ELC 213, ELC 228, ELC 229, ELC 131A, ELC 213, ELC 228, ELC 229, ELN

237, HYD 110, MAT 151, MAT 151A, MAT 271, MEC 250, PHY 152 COE 112ET with COE 115ET.

Instrumentation and Control Certificate

The Instrumentation and Control Certificate program teaches the student the concepts and skills needed to program, install, calibrate and service systems that acquire and record industrial and environmental data.

Engineering
and Applied
Technology

			Weekly	Weekly
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
ELC 131	DC/AC Circuit Analysis	4	3	5
ELC 128	Introduction to PLC	2	3	3
ELC 213	Instrumentation	3	2	4
ELC 229	Application Project	1	3	2
Certificate Totals		10	11	14

Heavy Equipment and Transport Technology (A60240)

The Heavy Equipment and Transport Technology curriculum is designed to prepare individuals with the knowledge and skills needed to service, troubleshoot, and repair medium and heavy duty vehicles.

The course work includes the purpose, construction features, and principles of operation of medium and heavy duty vehicles.

Graduates of the curriculum should qualify for entry level employment opportunities in a dealership, fleet shop, or independent garage as a technician. Graduates that have met the work experience requirement should also be prepared to take the ASE certification exam.

Heavy Equipment and Transport Technology – Associate in Applied Science – Evening Schedule

(Evening Only Program)

To be taken after completion of Diploma (day) program

This program consists of	Credit Hrs.
Major courses (HET, COE)	40
Related and general education courses	25
including:	
English/Communications	6
Humanities/Fine Arts	3
Natural Science/Mathematics	3
Social Sciences	3
Other	13
PROGRAM TOTAL	65

Engineering
and Applied
Technology

		Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Work Hrs.	Weekly Credit Hrs.
First Semester (Fall)					
ACA	115	First-Year Seminar	0	2	0
HET	110	Engines	3	9	0
HET	118	Mechanical Orientation	2	0	0
HET	125	Preventative Maintenance	1	3	0
HYD	112	Hydraulics Medium/Heavy Duty	1	2	0
MAT	121	Algebra/Trigonometry I or PHY 122	2	2	0
			9	18	0
					16
Second Semester (Spring)					
ENG	111	Expository Writing	3	0	0
HET	112	Diesel Electrical System	3	6	0
HET	115	Electronic Engines	2	3	0
HET	119	Mechanical Transmissions	2	2	0
WLD	112	Basic Welding Processes	1	3	0
			11	14	0
					16
Third Semester (Summer)					
CIS	110	Intro to Computers	2	2	0
HET	116	A/C/Diesel Equipment	1	2	0
HET	231	Medium Heavy Duty Brake Systems	1	3	0
HET	233	Suspension and Steering	2	4	0
MAC	118	Machine Shop Basic	1	3	0
			7	14	0
					13
Fourth Semester (Fall)					
COE	112HE	Co-op Work Experience I	0	0	20
HET	114A	Powertrains	2	3	0
		Social/Behavioral Science Elective	3	0	0
			5	3	20
					8
Fifth Semester (Spring)					
COE	122HE	Co-op Work Experience II	0	0	20
		Communications Elective*	3	0	0
HET	114B	Powertrains	1	3	0
HET	128	Medium/Heavy Duty Tune-Up	1	2	0
		Humanities/Fine Arts Elective	3	0	0
			8	5	20
					12
Program Totals					
		40	54	40	65

* Select from COM 231, COM 120, or ENG 114

Heavy Equipment and Transport Technology – Diploma

This program consists of:

Credit Hrs.

Major courses (HET, HYD, WLD, MAC)

35

Related and general education courses including:

10

- English/Communications* 3
- Natural Science/Mathematics* 3
- Other* 4

PROGRAM TOTAL

45

Weekly Weekly					
	Class Hrs.	Lab Hrs.	Credit Hrs.		
First Semester (Fall)					
ACA 115	First-Year Seminar	0	2	1	Engineering
HET 110	Engines	3	9	6	and Applied
HET 118	Mechanical Orientation	2	0	2	
HET 125	Preventative Maintenance	1	3	2	Technology
HYD 112	Hydraulics Medium/Heavy Duty	1	2	2	
MAT 101	Applied Mathematics I or PHY 122	2	2	3	
		9	18	16	
Second Semester (Spring)					
ENG 102	Applied Communications II or ENG 111	3	0	3	
HET 112	Diesel Electrical System	3	6	5	
HET 115	Electronic Engines	2	3	3	
HET 119	Mechanical Transmissions	2	2	3	
WLD 112	Basic Welding Processes	1	3	2	
		11	14	16	
Third Semester (Summer)					
CIS 110	Intro to Computers	2	2	3	
HET 116	A/C/Diesel Equipment	1	2	2	
HET 231	Medium Heavy Duty Brake Systems	1	3	2	
HET 233	Suspension and Steering	2	4	4	
MAC 118	Machine Shop Basics	1	3	2	
		5	14	11	
Program Totals				27	46
					45

The Associate in Applied Science Degree program may be taken in the evening upon completion of the day Diploma program.

Heavy Equipment and Transport Technology – Certificate

Weekly Weekly				
	Class Hrs.	Lab Hrs.	Credit Hrs.	
First Semester (Fall)				
HET 110	Engines	3	9	6
HET 118	Mechanical Orientation	2	0	2
HET 125	Preventative Maintenance	1	3	2
		6	12	10
Second Semester (Spring)				
HET 112	Diesel Electrical Systems	3	6	5
Third Semester (Summer)				
HET 231	Med/Heavy Brake Systems	1	3	2
Program Totals				
		10	21	17

Industrial Systems Technology* (A50240)

The Industrial Systems Technology curriculum is designed to prepare or upgrade individuals to safely service, maintain, repair, or install equipment. Instruction includes theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial systems.

Engineering
and Applied

Technology

Students will learn multi-craft technical skills in blueprint reading, mechanical systems maintenance, electricity, hydraulics/pneumatics, welding, machining or fabrication, and includes various diagnostic and repair procedures. Practical application in these industrial systems will be emphasized and additional advanced course work may be offered.

Upon completion of this curriculum, graduates should be able to individually, or with a team, safely install, inspect, diagnose, repair, and maintain industrial process and support equipment. Students will also be encouraged to develop their skills as life-long learners.

**Pending State Approval*

Industrial Systems Technology – Associate in Applied Science Degree

This program consists of	Credit Hrs.
Major courses (AHR, ATR, BPR, DFT, EGR, ELC, HYD, ISC, MAC, MNT, WLD prefix)	53-56
Related and general education courses including:	16
<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>4</i>
<i>Social Sciences</i>	<i>3</i>
PROGRAM TOTAL	69-72

First Semester (Fall)

			Weekly	Weekly	
			Class Hrs.	Lab Hrs.	Credit Hrs.
AHR	112	Heating Technology	2	4	4
AHR	120	HVACR Maintenance	1	3	2
EGR	110	Introduction to Engineering Tech.	1	2	2
ELC	111	Introduction to Electricity	2	2	3
MNT	110	Introduction to Maintenance Procedures	1	3	2
BPR	111	Blueprint Reading	1	2	2
			8	16	15

Second Semester (Spring)

			Weekly	Weekly	
			Class Hrs.	Lab Hrs.	Credit Hrs.
ENG	111	Expository Writing	3	0	3
MAC	114	Introduction to Metrology	2	0	2
MAC	111	Machining Processing I or MAC 111	1	4	3
MNT	111	Maintenance Practices	2	2	3
WLD	112	Basic Welding Processes	1	3	2
EGR	125	App. Software for Technicians	1	2	2
			10	11	15

Third Semester (Summer)

			Weekly	Weekly	
			Class Hrs.	Lab Hrs.	Credit Hrs.
BPR	135	Schematics and Diagrams	2	0	2
ELC	117	Motors and Controls	2	6	4
WLD	212	Inert Gas Welding	1	3	2
			5	9	8

Fourth Semester (Fall)

ELC 128	Introduction to PLC	2	3	3	
DFT 119	Basic CAD	1	2	2	
ISC 121	Environmental Health and Safety	3	0	3	Engineering and Applied Technology
	Major Elective*	0	0	2-3	
PHY 122	Social/Behavioral Science Elective	3	0	3	Technology
	Applied Physics or MAT 121	3	2	4	

12 7 17-18

Fifth Semester (Spring)

ATR 112	Introduction to Automation	2	3	3	
HYD 110	Hydraulics and Pneumatics or HYD 112	2	3	3	
ENG 114	Professional Research and Reporting or COM 120 or COM 231	3	0	3	Major Elective*
	Humanities/Fine Arts Elective	3	0	3	
		10	6	14-16	

10 6 14-16

Program Totals

45 49 69-72

* The Credit hours total includes a minimum of 6 credit hours of major electives to be selected from the following: ELC 115, HET 118, HET 125, MEC 130, MEC 180.

Industrial Systems Technology – Associate in Applied Science Degree – Evening Schedule

Weekly	Weekly	
Class Hrs.	Lab Hrs.	Credit Hrs.

First Semester (Fall)

AHR 112	Heating Technology	2	4	4	
EGR 110	Introduction to Engineering Tech.	1	2	3	
ELC 111	Introduction to Electricity	2	2	3	
		5	8	10	

Second Semester (Spring)

AHR 120	HVACR Maintenance	1	3	2	
MNT 110	Introduction to Maintenance Procedures	1	3	2	
BPR 111	Blueprint Reading	1	3	2	
	Humanities/Fine Arts Elective	3	0	3	

6 9 9

Third Semester (Summer)

BPR 135	Schematics and Diagrams	2	0	2	
ELC 117	Motors and Controls	2	6	4	
WLD 212	Inert Gas Welding	1	3	2	
		5	9	8	

Fourth Semester (Fall)

MAC 114	Introduction to Metrology	2	0	2	
MAC 111	Machining Processing I or MAC 111	1	4	3	
MNT 111	Maintenance Practices	2	2	3	

5 6 8

Engineering
and Applied
Technology

Fifth Semester (Fall)

ENG 111	Expository Writing	3	0	3
WLD 112	Basic Welding Processes	1	3	2
ISC 121	Environmental Health & Safety	3	0	3
	Social/Behavioral Science Elective	3	0	3
		10	3	11

Sixth Semester (Spring)

ELC 128	Intro to PLC	2	3	3
DFT 119	Basic CAD	1	2	2
PHY 122	Applied Physics or MAT 121	3	2	4
		6	7	9

Seventh Semester (Fall)

	Major Elective*	0	0	2-3
ATR 112	Intro to Automation	2	3	3
HYD 110	Hydraulics and Pneumatics or HYD 112	2	3	3
		4	6	8-9

Eighth Semester (Spring)

ENG 114	Professional Research and Reporting or COM 120 or COM 231	3	0	3
	Major Elective*	0	0	2-4
EGR 125	Application Software for Technicians	1	2	2
		4	2	7-9

Program Totals

* The Credit hours total includes a minimum of 4 credit hours of Major Electives to be selected from the following: ELC 115, HET 118, HET 125, MEC 130, MEC 180.

Industrial Systems Technology – Basic Maintenance Certificate

The Industrial Systems Basic program teaches the student the concepts and skills needed to service and repair various types of mechanical equipment.

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
BPR 111	Blueprint Reading	1	2	2
HYD 110	Hydraulics and Pneumatics or HYD 112	2	3	3
ISC 121	Environmental Health & Safety	3	0	3
ELC 111	Intro to Electricity	2	2	3
MNT 110	Intro to Maintenance Procedures	1	3	2
WLD 112	Basic Welding Processes	1	3	2
Program Totals		10	13	15

Industrial Systems Technology – Metal Fabrication Certificate

The Industrial Systems Basic program teaches the student the concepts and skills needed to fabricate simple fixtures and equipment.

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
BPR	111	Blueprint Reading	1	2	2
ISC	121	Environmental Health & Safety	3	0	3
MEC	111	Machine Processes I or MAC 111	1	4	3
WLD	112	Basic Welding Processes	1	3	2
WLD	212	Inert Gas Welding	1	3	2
Certificate Totals			7	12	12

Engineering
and Applied
Technology

Machining Technology (A50300)

The Machining Technology curriculum is designed to develop skills in the theory and safe use of hand tools, power machinery, computerized equipment and sophisticated precision inspection instruments.

Students will learn to interpret blueprints, set up manual and CNC machines, perform basic and advanced machining operations and make decisions to ensure that work quality is maintained.

Employment opportunities for machining technicians exist in manufacturing industries, public institutions, governmental agencies and in a wide range of specialty machining job shops.

Machining Technology – Associate in Applied Science Degree

This program consists of:

Credit Hrs.

Major courses (MAC prefix) **49**

Related and general education courses **25**

including:

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	10
PROGRAM TOTAL	74

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
ACA	115	First-Year Seminar	0	2	1
BPR	111	Blueprint Reading I	1	2	2
MAC	111	Machining Technology I	2	12	6
MAC	121	Introduction to CNC	2	0	2
MAC	151	Machining Calculations	1	2	2
SOC	215	Group Processes	3	0	3
			9	18	16

First Semester (Fall)

ACA	115	First-Year Seminar	0	2	1
BPR	111	Blueprint Reading I	1	2	2
MAC	111	Machining Technology I	2	12	6
MAC	121	Introduction to CNC	2	0	2
MAC	151	Machining Calculations	1	2	2
SOC	215	Group Processes	3	0	3
			9	18	16

Engineering and Applied Technology	Second Semester (Spring)		
	BPR 121	Blueprint Reading II	1 2 2
	COM 231	Public Speaking or COM 120	3 0 3
	ENG 111	Expository Writing	3 0 3
	MAC 112	Machining Technology II	2 12 6
	MAC 122	CNC Turning	1 3 2
	MAC 124	CNC Milling	1 3 2
			11 20 18
Third Semester (Summer)			
	MAC 113	Machining Technology III	2 12 6
	MAC 152	Advanced Machining Calculations	1 2 2
			3 14 8
Fourth Semester (Fall)			
	HUM 115	Critical Thinking	3 0 3
	MAC 226	CNC EDM Machining	1 3 2
	MAT 121	Algebra/Trigonometry or PHY 122	2 2 3
	MEC 231	CAM I	1 4 3
			7 9 11
Fifth Semester (Spring)			
	MAC 224	Advanced CNC Milling	1 3 2
	MAC 245	Mold Construction I	2 6 4
	MAC 222	Advanced CNC Turning	1 3 2
	MAC 247	Production Tooling	2 0 2
	MEC 232	CAM II	1 4 3
			7 16 13
Sixth Semester (Summer)			
	MAC 241	Jigs and Fixtures I	2 6 4
	MAC 246	Mold Construction II	2 6 4
			4 12 8
Program Totals			39 89 74

The credit hours total includes an elective chosen from either COE 112MA or MAC 229.

Machining Technology – Associate in Applied Science Degree – Evening Schedule

(Evening Only Program)

This program consists of:	Credit Hrs.
Major courses (MAC prefix)	49
Related and general education courses including:	25
<i>Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	10
PROGRAM TOTAL	74

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
First Semester (Fall)					
BPR 111 Blueprint Reading I		1	2	2	Engineering
MAC 111A Machining Technology I		1	6	3	and Applied
MAC 151 Machining Calculations		1	2	2	
		3	10	7	Technology
Second Semester (Spring)					
BPR 121 Blueprint Reading II		1	2	2	
COM 231 Public Speaking or COM 120		3	0	3	
MAC 111B Machining Technology I		1	6	3	
		5	8	8	
Third Semester (Summer)					
ACA 115 First-Year Seminar		0	2	1	
MAC 112A Machining Technology II		1	4	2	
MAC 121 Introduction to CNC		2	0	2	
		3	6	5	
Fourth Semester (Fall)					
MAC 112B Machining Technology II		1	8	4	
MAC 124 CNC Milling		1	3	2	
MAC 152 Advanced Machining Calculations		1	2	2	
		3	13	8	
Fifth Semester (Spring)					
ENG 111 Expository Writing		3	0	3	
MAC 113A Machining Technology III		1	8	4	
MAC 122 CNC Turning		1	3	2	
		5	11	9	
Sixth Semester (Summer)					
MAC 113B Machining Technology III		1	4	2	
SOC 215 Group Processes		3	0	3	
		4	4	5	
Seventh Semester (Fall)					
MAC 245 Mold Construction I		2	6	4	
Eighth Semester (Spring)					
MAC 246 Mold Construction II		2	6	4	
MAC 226 CNC EDM		1	3	2	
		3	9	6	
Ninth Semester (Summer)					
MAC 224 Advanced CNC Milling		1	3	2	
Tenth Semester (Fall)					
MAT 121 Algebra/Trigonometry or PHY 122		2	2	3	
MEC 231 CAM I		1	4	3	
		3	6	6	
Eleventh Semester (Spring)					
MEC 232 CAM II		1	4	3	
Humanities Elective		3	0	3	
		4	4	6	

Twelfth Semester (Summer)

MAC 222	Advanced CNC Turning	1	3	2
MAC 241	Jigs and Fixtures I	2	6	4
		3	9	6

Program Totals

The credit hours total includes an elective chosen from either COE 112MA or MAC 229.

Machining Technology – Diploma

This program consists of:

Major courses (MAC prefix)

Related and general education courses

including:

English/Communications	6
Social Science	3
Other	7

PROGRAM TOTAL

Credit Hrs.

26

16

42

Weekly Weekly

Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
BPR 111	Blueprint Reading I	1	2	2
MAC 111	Machining Technology	2	12	6
MAC 121	Introduction to CNC	2	0	2
MAC 151	Machining Calculations	1	2	2
SOC 215	Group Processes	3	0	3
		9	18	16

Second Semester (Spring)

BPR 121	Blueprint Reading II	1	2	2
COM 231	Public Speaking	3	0	3
ENG 111	Expository Writing	3	0	3
MAC 112	Machining Technology II	2	12	6
MAC 122	CNC Turning	1	3	2
MAC 124	CNC Milling	1	3	2
		11	20	18

Third Semester (Summer)

MAC 113	Machining Technology III	2	12	6
MAC 152	Advanced Machining Calculations	1	2	2
		3	14	8

Program Totals

23 52 42

Machining Technology – Diploma – Evening Schedule

Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

BPR 111	Blueprint Reading I	1	2	2
MAC 111A	Machining Technology I	1	6	3
MAC 151	Machining Calculations	1	2	2
		3	10	7

Second Semester (Spring)

BPR 121 Blueprint Reading II	1	2	2
COM 231 Public Speaking	3	0	3
MAC 111B Machining Technology I	1	6	3
	5	8	8

Engineering

and Applied

Technology

Third Semester (Summer)

ACA 115 First-Year Seminar	0	2	1
MAC 112A Machining Technology II	1	4	2
MAC 121 Introduction to CNC	2	0	2
	3	6	5

Fourth Semester (Fall)

MAC 112B Machining Technology II	1	8	4
MAC 124 CNC Milling	1	3	2
MAC 152 Advanced Machining Calculations	1	2	2
	3	13	8

Fifth Semester (Spring)

ENG 111 Expository Writing	3	0	3
MAC 113A Machining Technology III	1	8	4
MAC 122 CNC Turning	1	3	2
	5	11	9

Sixth Semester (Summer)

MAC 113B Machining Technology III	1	4	2
SOC 215 Group Processes	3	0	3
	4	4	5

Program Total**23 52 42****Machining Technology – Basic Certificate**

This certificate program is designed to develop fundamental skills in the operation of machine tools including drilling, turning, milling and grinding. Training in basic measuring, layout, and blueprint reading is also provided.

Completers will be prepared for employment as entry-level machine operators/machinist apprentices in area manufacturing firms. Courses in this program can be transferred directly into the Machining Technology Associate Degree curriculum.

Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
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First Semester (Fall)

MAC 111 Machining Technology	2	12	6
BPR 111 Blueprint Reading I	1	2	2
	3	14	8

Second Semester (Spring)

MAC 121 Introduction to CNC	2	0	2
MAC 124 CNC Milling	1	3	2
	3	3	4

Certificate Totals**6 17 12**

Machining Technology – Basic Certificate – Evening Schedule

Engineering
and Applied
Technology

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)					
MAC 111	Machining Technology		2	12	6
Second Semester (Spring)					
BPR 111	Blueprint Reading I		1	2	2
MAC 121	Introduction to CNC		2	0	2
MAC 124	CNC Milling		1	3	2
			<u>4</u>	<u>5</u>	<u>6</u>
Certificate Totals			6	17	12

CNC Programming Certificate

The purpose of this certificate program is to introduce basic CAD/CAM programming skills to individuals who want to learn computer numerical control (CNC) machining. Students will learn 2D and 3D programming as well as 2 axes and 3 axis machining. The student will make the parts they design.

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)					
MAC 121	Introduction to CNC		2	0	2
MEC 151	Machining Calculations		3	0	3
			<u>5</u>	<u>0</u>	<u>5</u>
Second Semester (Spring)					
MAC 122	CNC Turning		1	3	2
MAC 124	CNC Milling		1	3	2
MEC 231	CAM I		1	4	3
			<u>3</u>	<u>10</u>	<u>7</u>
Certificate Totals			8	10	12

CNC Programming Certificate – Evening Schedule

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)					
MAC 121	Introduction to CNC		2	0	2
MEC 151	Machining Calculations		3	0	3
			<u>5</u>	<u>0</u>	<u>5</u>
Second Semester (Spring)					
MAC 122	CNC Turning		1	3	2
MAC 124	CNC Milling		1	3	2
MEC 231	CAM I		1	4	3
			<u>3</u>	<u>10</u>	<u>7</u>
Certificate Totals			8	10	12

Mechanical Engineering Technology (A40320)

The Mechanical Engineering Technology curriculum prepares graduates for employment as mechanical technicians. This program also maximizes transfer credit to certain four-year university engineering

and/or industrial programs. Typical assignments would include assisting in the design, development, testing and repair of mechanical equipment. Emphasis is placed on the integration of theory and mechanical principles.

Coursework includes applied mechanics, manufacturing methods and processes, computer usage, computer-aided drafting, mathematics, physics, and oral and written communications. The courses will stress critical thinking, planning, and problem solving.

Graduates of the curriculum will find employment opportunities in the diversified branches of the mechanical field. Mechanical engineering technicians are employed in many types of manufacturing, fabrication, research and development, and service industries.

Engineering
and Applied
Technology

Mechanical Engineering Technology – Associate in Applied Science Degree

This program consists of:

Major courses (CIV, CSC, DDF, DFT, EGR, ELC, ISC, HYD, CIV, MAT, MEC, PHY prefix)

Credit Hrs.

50-51

Related and general education courses including:

25

<i>English/Communications</i>	<i>9</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Science/Mathematics</i>	<i>10</i>
<i>Social Science</i>	<i>3</i>

PROGRAM TOTAL

75-76

Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
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First Semester (Fall)

ENG 111	Expository Writing	3	0	3
MAT 121	Algebra/Trigonometry I*	2	2	3
EGR 110	Introduction to Engineering Technology	1	2	2
ISC 121	Environmental Health & Safety	3	0	3
MEC 180	Engineering Materials	2	3	3
DFT 151	CAD	2	3	3
		13	10	17

Second Semester (Spring)

COM 231	Public Speaking	3	0	3
ENG 112	Argument Based Research or ENG 113 or ENG 114	3	0	3
MAT 122	Algebra/Trigonometry II* Mechanical Technology Elective***	2	2	3
EGR 125	Applied Software for Technicians	1	2	2
MEC 111	Machine Processes I	1	4	3
		10	8	17

Third Semester (Summer)

MAT 223	Applied Calculus	2	2	3
PHY 131	Physics - Mechanics**	3	2	4
		5	4	7

Engineering
and Applied
Technology

Fourth Semester (Fall)

CHM 135	Survey of Chemistry	3	2	4
DFT 154	Introduction to Solid Modeling	2	3	3
HYD 110	Hydraulics/Pneumatics	2	3	3
ELC 111	Introduction to Electricity	2	2	3
	Mechanical Technology Elective***	0	0	3-4
		9	10	16-17

Fifth Semester (Spring)

CIV 110	Statics and Strength of Materials	2	6	4
DDF 211	Design Drafting I	2	6	4
	Humanities/Fine Arts Elective	3	0	3
MEC 130	Mechanisms	2	2	3
	Social/Behavioral Science Elective	3	0	3
		12	14	17
		49	46	74-75

Program Totals

*Students who meet the requirements may substitute MAT 171/171A and MAT 172/172A for MAT 121 & MAT 122.

** Students who meet the requirements may substitute PHY 151 or PHY 251 for PHY 131.

***Mechanical Technology Electives - EGR 130, CSC 134, CSC139, MAT 151/151A, MEC 267.

Surveying Technology (A40380)

The Surveying Technology curriculum provides training for technicians in the many areas of surveying. Surveyors are involved in land surveying, route surveying, construction surveying, photogrammetry, mapping, global positioning systems, geographical information systems, and other areas of property description and measurements.

Course work includes the communication and computational skills required for boundary, construction, route, and control surveying, photogrammetry, topography, drainage, surveying law, and subdivision design, with emphasis upon applications of electronic data collection and related software including CAD.

Surveying Technology – Associate in Applied Science Degree

This program consists of:

Major courses (CIV, SRV prefix) **Credit Hrs.** **43**

Related and general education courses including: **24**

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	6
<i>Social Science</i>	3
<i>Other</i>	6

PROGRAM TOTAL **67**

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
First Semester (Fall)						
ACA 115	First-Year Seminar or EGR 110		0	2	1	Engineering
EGR 115	Introduction to Engineering Technology	2	3	3		and Applied
EGR 125	Application Software for Tech	1	2	2		Technology
ENG 111	Expository Writing	3	0	3		
MAT 121	Algebra/Trigonometry I or MAT 171 & 171A	2	2	3		
			8	9	12	
Second Semester (Spring)						
CIV 110	Statics/Strength of Materials	2	6	4		
ENG 114	Professional Research and Reporting or COM 120 or COM 231	3	0	3		
MAT 122	Algebra/Trigonometry II or MAT 172 & 172A	2	2	3		
SRV 110	Surveying I	2	6	4		
		9	14	14		
Third Semester (Summer)						
CIV 125	Civil/Surveying CAD	1	6	3		
CIV 211	Hydraulics and Hydrology	2	3	3		
SRV 111	Surveying II	2	6	4		
		5	15	10		
Fourth Semester (Fall)						
CIV 111	Soils and Foundations	2	3	3		
CIV 215	Highway Technology	1	3	2		
SRV 210	Surveying III	2	6	4		
SRV 240	Topographic/Site Surveying Social/Behavioral Science Elective	2	6	4		
		3	0	3		
		10	18	16		
Fifth Semester (Spring)						
	Humanities/Fine Arts Elective	3	0	3		
SRV 220	Surveying Law	2	2	3		
SRV 230	Subdivision Planning	1	6	3		
SRV 250	Advanced Surveying	2	6	4		
SRV 260	Field and Office Practices	1	3	2		
		9	17	15		
Program Totals			41	73	67	

Surveying Technology – Associate in Applied Science Degree – Evening Schedule

(Begins in odd years only)

			Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.	
First Semester (Fall)						
EGR 115	Introduction to Engineering Technology	2	3	3		
EGR 125	Application Software for Tech	1	2	2		
MAT 121	Algebra/Trigonometry I or MAT 171 & 171A	2	2	3		
		5	7	8		

Engineering and Applied Technology	Second Semester (Spring)		
	ACA 115	First-Year Seminar or EGR 110	0 2 1
	ENG 111	Expository Writing	3 0 3
	MAT 122	Algebra/Trigonometry II or MAT 172 & 172A	<u>2</u> <u>2</u> <u>3</u> 5 4 7
	Third Semester (Summer)		
	SRV 110	Surveying I	2 6 4
Fourth Semester (Fall)			
	CIV 110	Statics/Strength of Materials	2 6 4
	SRV 111	Surveying II	<u>2</u> <u>6</u> <u>4</u> 4 12 8
Fifth Semester (Spring)			
	CIV 111	Soils and Foundations	2 3 3
	ENG 114	Professional Research and Reporting or COM 120 or COM 231	3 0 3
	SRV 210	Surveying III	<u>2</u> <u>6</u> <u>4</u> 7 9 10
Sixth Semester (Summer)			
	CIV 211	Hydraulics and Hydrology	2 3 3
Seventh Semester (Fall)			
	CIV 125	Civil/Surveying CAD	1 6 3
	CIV 215	Highway Technology	1 3 2
	SRV 220	Surveying Law	<u>2</u> <u>2</u> <u>3</u> 4 11 8
Eighth Semester (Spring)			
	SRV 240	Topographic/Site Surveying	2 6 4
	SRV 260	Field and Office Practices Social/Behavioral Science Elective	<u>1</u> <u>3</u> <u>2</u> <u>3</u> <u>0</u> <u>3</u> 6 9 9
Ninth Semester (Summer)			
	SRV 230	Subdivision Planning	1 6 3
Tenth Semester (Fall)			
		Humanities/Fine Arts Elective	3 0 3
	SRV 250	Advanced Surveying	<u>2</u> <u>6</u> <u>4</u> 5 6 7
Program Totals			
			41 73 67

Welding Technology (A50420)

The Welding Technology curriculum provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metal industry. Instruction includes consumable and nonconsumable electrode welding and cutting processes.

Courses in math, blueprint reading, metallurgy, welding inspection, and destructive and nondestructive testing provides the student with industry-standard skills developed through classroom training and practical application.

Successful graduates of the Welding Technology curriculum may be employed as entry level technicians in welding and metalworking

industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

Welding Technology – Associate in Applied Science Degree

Engineering

and Applied

Technology

This program consists of:

Major courses (WLD prefix)	Credit Hrs.
	49
Related and general education courses including:	25

<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social/Behavioral Science</i>	3
<i>Other</i>	11

PROGRAM TOTAL

74

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
WLD 110	Cutting Processes	1	3	2
WLD 115	SMAW (Stick) Plate	2	9	5
WLD 121	GMAW (MIG) Plate	2	6	4
MAT 121	Algebra/Trigonometry I or Phy 122	2	2	3

7 22 15

Second Semester (Spring)

WLD 116	SMAW (Stick) Plate/Pipe	1	9	4
WLD 131	GTAW (TIG) Plate	2	6	4
WLD 141	Symbols & Specifications	2	2	3
SPA 120	Spanish for the Workplace	3	0	3

8 17 14

Third Semester (Summer)

ENG 111	Expository Writing	3	0	3
WLD 132	GTAW (TIG) Plate/Pipe	1	6	3
WLD 143	Welding Metallurgy	1	2	2
WLD 262	Inspection & Testing	2	2	3

7 10 11

Fourth Semester (Fall)

MAC 118	Machine Shop Basic	1	3	2
WLD 151	Fabrication I	2	6	4
WLD 231	GTAW (TIG) Pipe	1	6	3
	Social/ Behavioral Science Elective	3	0	3
	Humanities Elective	3	0	3

10 15 15

Fifth Semester (Spring)

WLD 221	GMAW (MIG) Pipe	1	6	3
WLD 251	Fabrication II	1	6	3
WLD 261	Certification Practices	1	3	2
DFT 111	Technical Drawing I	1	3	2
	Communications Elective*	3	0	3

7 18 13

Sixth Semester (Summer)

WLD 215	SMAW (Stick) Pipe	1	9	4
MEC 110	Introduction to CAD/CAM	1	2	2
		2	11	6
	Program Totals	41	93	74

* Selected from ENG 114, COM 120, or COM 231

Welding Technology – Associate in Applied Science Degree – Evening Schedule

		Weekly	Weekly	
		Class Hrs.	Lab Hrs.	Credit Hrs.
First Semester (Fall)				
ACA 115	First-Year Seminar	0	2	1
WLD 110	Cutting Processes	1	3	2
WLD 115	SMAW (Stick) Plate	2	9	5
		3	14	8
Second Semester (Spring)				
ENG 111	Expository Writing	3	0	3
WLD 116	SMAW (Stick) Plate/Pipe	1	9	4
WLD 262	Inspection & Testing	2	2	3
		6	11	10
Third Semester (Summer)				
WLD 121	GMAW (MIG) Plate	2	6	4
WLD 141	Symbols & Specifications	2	2	3
		4	8	7
Fourth Semester (Fall)				
MAT 121	Algebra/Trigonometry I or PHY 122	2	2	3
WLD 131	GTAW (TIG) Plate	2	6	4
SPA 120	Spanish for the Workplace	3	0	3
		7	8	10
Fifth Semester (Spring)				
WLD 132	GTAW (TIG) Plate/Pipe	1	6	3
WLD 143	Welding Metallurgy	1	2	2
		2	8	5
Sixth Semester (Summer)				
WLD 151	Fabrication I	2	6	4
Seventh Semester (Fall)				
WLD 231	GTAW (TIG) Pipe	1	6	3
	Social/Behavioral Science Elective	3	0	3
MAC 118	Machine Shop Basic	1	3	2
		5	9	8
Eighth Semester (Spring)				
WLD 221	GMAW (MIG) Pipe	1	6	3
DFT 111	Technical Drawing I	1	3	2
	Communications Elective*	3	0	3
		5	9	8
Ninth Semester (Summer)				
WLD 251	Fabrication II	1	6	3

Tenth Semester (Fall)

WLD 261	Certification Practices	1	3	2
MEC 110	Introduction to CAD/CAM	1	2	2
		2	5	4

Eleventh Semester (Spring)

WLD 215	SMAW (Stick) Pipe	1	9	4
	Humanities/Fine Arts Elective	3	0	3
		4	9	7

Program Totals**41 93 74**

Engineering
and Applied
Technology

* Selected from ENG 114, COM 120, or COM 231

Welding Technology – Diploma

This program consists of:

Credit Hrs.

Major courses (WLD prefix) **32**

Related and general education courses including: **9**

English/Communications **3**

Natural Science/Mathematics **3**

PROGRAM TOTAL **41**

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
MAC 118	Machine Shop Basic	1	3	2
MAT 121	Algebra/Trigonometry I or PHY 122	2	2	3
WLD 110	Cutting Processes	1	3	2
WLD 115	SMAW (Stick) Plate	2	9	5
WLD 121	GMAW (MIG) FCAW (Flux) Plate	2	6	4
		8	25	17

Second Semester (Spring)

ENG 111	Expository Writing or ENG 102	3	0	3
WLD 116	SMAW (Stick) Plate/Pipe	1	9	4
WLD 131	GTAW (TIG) Pipe	2	6	4
WLD 141	Symbols and Specifications	2	2	3

8 17 14

Third Semester (Summer)

WLD 132	GTAW (TIG) Pipe	1	6	3
WLD 215	SMAW (Stick) Pipe	1	9	4
WLD 262	Inspection and Testing	2	2	3

4 17 10

Program Totals

20 59 41

Welding Technology – Diploma – Evening Schedule

Weekly	Weekly	
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	1
WLD 110	Cutting Processes	1	3	2
WLD 115	SMAW (Stick) Plate	2	9	5

3 14 8

Engineering
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Second Semester (Spring)				
ENG 111	Expository Writing or ENG 102	3	0	3
WLD 116	SMAW (Stick) Plate/Pipe	1	9	4
WLD 262	Inspection and Testing	2	2	3
		6	11	10
Third Semester (Summer)				
WLD 121	GMAW (MIG) FCAW (Flux) Plate	2	6	4
WLD 141	Symbols and Specifications	2	2	3
		4	8	7
Fourth Semester (Fall)				
MAC 118	Machine Shop Basic	1	3	2
MAT 121	Algebra/Trigonometry I or PHY 122	2	2	3
WLD 131	GTAW (Plate)	2	6	4
		5	11	9
Fifth Semester (Spring)				
WLD 132	GTAW (Pipe)	1	6	3
Sixth Semester (Summer)				
WLD 215	SMAW (Stick) Pipe	1	9	4
Program Totals		20	59	41

Welding Certificate

The following courses give students an understanding of the principles, methods, techniques, and skills essential for employment in the welding field and metals industry.

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)				
WLD 115	SMAW (Stick) Plate	2	9	5
Second Semester (Spring)				
WLD 116	SMAW (Stick) Plate	1	9	4
WLD 141	Symbols and Specifications	2	2	3
		3	11	7
Third Semester (Summer)				
WLD 143	Welding Metallurgy	1	2	2
Fourth Semester (Fall)				
WLD 121	GMAW/FCAW/Plate	2	6	4
Certificate Totals		8	28	18

Welding Certificate – Evening Schedule

		Weekly Class Hrs.	Weekly Lab Hrs.	Credit Hrs.
First Semester (Fall)				
WLD 115	SMAW (Stick) Plate	2	9	5

Second Semester (Spring)

WLD 116	SMAW (Stick) Plate	1	9	4
WLD 141	Symbols and Specifications	2	2	3
		3	11	7

Third Semester (Fall)

WLD 143	Welding Metallurgy	1	2	2
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Engineering

and Applied

Fourth Semester (Spring)

WLD 121	GMAW/FCAW/Plate	2	6	4
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Technology

Program Totals

8	28	18
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Engineering
and Applied
Technology



Arts and Sciences

The Division of **Arts and Sciences** provides academic instruction in a learning-centered environment that enables students to acquire A.A., A.S., A.F.A., or A.A.S. degrees (including pre-majors), to complete general education support courses for other certificate, diploma, or degree programs, and/or to meet personal and professional interests through specific courses.

	Associate in Arts College Transfer	Associate in Science College Transfer	Associate in Fine Arts College Transfer
Recommended High School Courses			
Arts and Sciences	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.
A-B Tech Entrance Requirements			
	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
Program Schedule			
	Day/Afternoon/Night Can take single courses any semester.	Day/Afternoon/Night Can take single courses any semester.	Day/Afternoon/Night Can take single courses any semester.
Degree			
	Associate in Arts	Associate in Science	Associate in Fine Arts
Employment Opportunities			
	Transfer at junior level to four-year institutions	Transfer at junior level to four-year institutions	Transfer at junior level to four-year institutions

Associate in Arts Diploma	Associate in Applied Science Biotechnology	General Occupational Technology	
Recommended High School Courses			
Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Arts and Sciences
A-B Tech Entrance Requirements			
Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	
Program Schedule			
Day/Afternoon/Night Can take single courses any semester.	Day Can take single courses any semester.	Day/Night Can take single courses any semester.	
Degree			
Associate in Arts Diploma	Associate in Applied Science	Associate in Applied Science or Diploma	
Employment Opportunities			
Ensures that General Education courses required at four-year institutions have been met.	Biopharmaceutical Processing Chemical Processing Laboratory Technician Sales and Customer Service	General technology careers	

Arts and Sciences

General Education

Arts and
Sciences

Consistent with Asheville-Buncombe Technical Community College's commitment to student success, the general education program provides students with a knowledge base of historical, societal, and environmental contexts for succeeding in the changing global community. The general education program represents a full spectrum of English/composition, humanities and fine arts, social and behavioral sciences, natural sciences, mathematics, and related elective components.

The purposes of the general education program are to facilitate student acquisition and sharing of knowledge, to encourage social interaction, and to promote an educated citizenry. General education courses develop broad, cross-curriculum knowledge and skill sets that equip the student to successfully master the challenges of post-graduation endeavors.

Upon successful completion of the general education requirements, the student will have mastered the following cross-curriculum competencies:

1. Communicate effectively in speaking, writing, reading and/or listening.
2. Locate, evaluate, and use information to analyze problems and make logical decisions.
3. Apply math skills and/or natural science knowledge appropriately to organize, analyze and make information useful.
4. Demonstrate basic competency in computer technology.
5. Demonstrate an appreciation of the various manifestations of cultural diversity.
6. Develop the ability to succeed as a self-directed learner.
7. Apply critical thinking skills in analyzing the physical, social, emotional, intellectual, aesthetic or philosophical factors that influence personal development.

Honors Program

A-B Tech's Honors Program offers exciting and challenging educational opportunities for talented, highly motivated students. Honors students are encouraged to pursue individual goals and research and expand learning beyond the classroom. Frequent interaction with instructors and other honors students broadens the educational experience and enhances knowledge. Students may graduate from A-B Tech with distinction and transfer their honors credits to many other schools.

Besides taking honors courses, students may receive an honors certificate or degree. Certificates are awarded to students who receive at least 12 semester hours credit in honors courses with an overall GPA of 3.5 or better. Honors degrees are awarded to students with at least 18 semester hours in honors courses with an overall GPA of 3.5 or better. All honors courses should be taken at A-B Tech.

In order to register for an honors course, students must meet one of the following criteria:

1. CPT scores of 81 in algebra and 95 in both sentences and reading.
2. SAT scores of at least 550 in both English and Math Arts and
3. Overall 3.5 GPA after 12 semester hours in curriculum courses at Sciences
A-B Tech.

Curriculum requirements for the Associate in Arts (A.A.) Degree (A10100)

General Education Core Requirements 44

English Composition (6 semester hours)

English Composition: ENG 111 and 112, 113 or 114 are required

Humanities/Fine Arts (12 semester hours)

1. A Communications course (COM) is required in lieu of one Humanities/Fine Arts course. COM 231 is preferred.
2. One course must be a literature course(*).
3. Other courses must be selected from two of the following disciplines: art, drama, foreign languages, humanities, music, philosophy and religion.

ART 111	ENG 131*	FRE 111	HUM 110	MUS 110	REL 110
ART 114	ENG 231*	FRE 112	HUM 115	MUS 113	REL 211
ART 115	ENG 232*	FRE 211	HUM 120	MUS 114	REL 212
ASL 111	ENG 241*	FRE 212	HUM 122	PHI 210	SPA 111
ASL 112	ENG 242*	GER 111	HUM 130	PHI 215	SPA 112
DRA 111	ENG 243*	GER 112	HUM 150	PHI 230	SPA 211
DRA 112	ENG 261*	GER 211	HUM 160	PHI 240	SPA 212
DRA 211	ENG 262*	GER 212	HUM 211		
DRA 212			HUM 212		
			HUM 220		

Social/Behavioral Sciences (12 semester hours)

1. At least one course must be a history course (*).
2. Other courses must be selected from three of the following disciplines: anthropology, economics, geography, history, political science, psychology and sociology.

ANT 210	ECO 151	HIS 111*	POL 110	SOC 210
ANT 220	ECO 251	HIS 112*	POL 120	SOC 213
ANT 230	ECO 252	HIS 115*	POL 210	SOC 220
ANT 230A	GEO 111	HIS 131*	PSY 150	SOC 225
ANT 240	GEO 112	HIS 132*	PSY 237	SOC 240
			PSY 241	
			PSY 281	

Natural Science/Mathematics**Natural Sciences (8 semester hours)**

Two courses, including accompanying laboratory* work, must be selected from the astronomy, biology, chemistry, or physics disciplines.

Arts and
Sciences

AST 111	BIO 110	CHM 132	PHY 110
AST 111A*	BIO 111	CHM 135	PHY 110A*
	BIO 112	CHM 136	PHY 151
	BIO 120	CHM 151	PHY 152
	BIO 130	CHM 152	PHY 251
	BIO 140	GEL 111	PHY 252
	BIO 140A*	GEL 230	

Mathematics (6 semester hours)

1. MAT 161 or higher is required. Select one course from the following: MAT 161*, MAT 171* or MAT 175*
2. Select a second course from the following: MAT 172* OR MAT 175* OR second course may be selected from other quantitative subjects:

MAT 140	MAT 271	MAT 273	CIS 110
MAT 151*	MAT 272		CIS 115

*A math lab is required for this course. Labs count as elective hours.

Other Required Hours

21

1. ACA 115 (First-Year Seminar) is required. (1 semester hour)
2. Additional Courses (20 semester hours)

These include general education, pre-major and elective courses that have been approved for transfer (see list following page).

A second foreign language course is recommended (elective)*. The math lab hours, when required as a corequisite, count as an elective. Students should refer to Pre-Major Articulation Agreements before making selections for required hours (<http://www.ga.unc.edu/student-info/caa/>).

Recommended Additional Courses: although these courses are not required, they are recommended for all students who have sufficient available credit hours.

Computing (3 semester hours)

CIS 110

Health / Physical Education (3 semester hours)

HEA 110, HEA 120, OR PED 110 plus any PED activity course

Total Semester Hours

65

*Foreign language courses should be selected in a sequence that meets the requirements of the receiving college/university. Most colleges/universities require a two-semester sequence of foreign language.

- All college transfer courses submitted for graduation require a minimum grade of "C".
- Health / Physical Education courses may be selected any semester.
- Courses selected may vary according to requirements of the pre-major, senior institution, etc

Electives – Associate in Arts (20 semester hours)

Any approved transfer course (including core courses) may be taken as an elective. Listed below are electives taught at A-B Tech.

No elective course may be substituted for an approved general education core course. All PEDs (physical education) courses count as electives.

ACC 120(4)	ART 274(3)	BIO 225(2)	CJC 111(3)	ENG 265(3)	MAT 140A(1)
ACC 121(4)	ART 275(3)	BIO 226(2)	CJC 121(3)	ENG 271(3)	MAT 151A
ART 121(3)	BIO 143(2)	BIO 243(4)	CJC 141(3)	ENG 272(3)	MAT 161A(1)
ART 122(3)	BIO 145(4)	BIO 250(4)	COM 250	ENG 273(3)	MAT 171A(1)
ART 131(3)	BIO 146(4)	BIO 271(3)	DRA 120	ENG 274(3)	MAT 172A(1)
ART 132(3)	BIO 163(5)	BIO 275(4)	DRA 124(3)	ENG 275(3)	MAT 175A(1)
ART 135(3)	BIO 168(4)	BIO 280(3)	DRA 131	GER 141(3)	MAT 285(3)
ART 171(3)	BIO 169(4)	BUS 110(3)	DRA 140	GER 221(3)	MUS 121(4)
ART 240(3)	BIO 173(4)	BUS 115(3)	DRA 141	HEA 110(3)	MUS 122(4)
ART 241(3)	BIO 175(3)	CHM 251(4)	DRA 144	HEA 112(2)	PHS 140(3)
ART 244(3)	BIO 180(3)	CHM 252(4)	DRA 170	HEA 120(3)	PHY 243(3)
ART 261(3)	BIO 223(3)	CHM 265(4)	DRA 171	HIS 162(3)	SOC 215(3)
ART 262(3)	BIO 224(2)	CHM 271(3)	DRA 250	HIS 227(3)	SOC 232(3)
ART 271(3)			EDU 116(4)	HIS 236(3)	SOC 234(3)
			ENG 125(3)	HUM 123(3)	SOC 254(3)
			ENG 126(3)		SPA 141(3)
			ENG 133(3)		SPA 221(3)
			ENG 134(3)		
			ENG 135(3)		
			ENG 253(3)		

Curriculum requirements for the Associate in Arts (A.A.) Diploma*

*Pending State Board approval Fall 2006.

General Education Core Requirements	Semester Hrs.
English Composition (6 semester hours)	44

English Composition: ENG 111 and 112, 113 or 114 are required

Humanities/Fine Arts (12 semester hours)

1. A Communications course (COM) is required in lieu of one Humanities/Fine Arts course. COM 231 is preferred.
2. One course must be a literature course(*).
3. Other courses must be selected from two of the following disci-

Arts and

Sciences

plines: art, drama, foreign languages, humanities, music, philosophy and religion.

Arts and
Sciences

ART 111	ENG 131*	FRE 111	HUM 110	MUS 110	REL 110
ART 114	ENG 231*	FRE 112	HUM 115	MUS 113	REL 211
ART 115	ENG 232*	FRE 211	HUM 120	MUS 114	REL 212
ASL 111	ENG 241*	FRE 212	HUM 122	PHI 210	SPA 111
ASL 112	ENG 242*	GER 111	HUM 130	PHI 215	SPA 112
DRA 111	ENG 243*	GER 112	HUM 150	PHI 230	SPA 211
DRA 112	ENG 261*	GER 211	HUM 160	PHI 240	SPA 212
DRA 211	ENG 262*	GER 212	HUM 211		
DRA 212			HUM 212		
			HUM 220		

Social/Behavioral Sciences (12 semester hours)

1. At least one course must be a history course (*).
2. Other courses must be selected from three of the following disciplines: anthropology, economics, geography, history, political science, psychology and sociology.

ANT 210	ECO 151	HIS 111*	POL 110	SOC 210
ANT 220	ECO 251	HIS 112*	POL 120	SOC 213
ANT 230	ECO 252	HIS 115*	POL 210	SOC 220
ANT 230A	GEO 111	HIS 131*	PSY 150	SOC 225
ANT 240	GEO 112	HIS 132*	PSY 237	SOC 240
			PSY 241	
			PSY 281	

Natural Science/Mathematics

Natural Sciences (8 semester hours)

Two courses, including accompanying laboratory* work, must be selected from the astronomy, biology, chemistry, or physics disciplines.

AST 111	BIO 110	CHM 132	PHY 110
AST 111A*	BIO 111	CHM 135	PHY 110A*
	BIO 112	CHM 136	PHY 151
	BIO 120	CHM 151	PHY 152
	BIO 130	CHM 152	PHY 251
	BIO 140	GEL 111	PHY 252
	BIO 140A*	GEL 230	

Mathematics (6 semester hours)

1. MAT 161 or higher is required. Select one course from the following: MAT 161*, MAT 171* or MAT 175*
2. Select a second course from the following: MAT 172* OR MAT 175* OR second course may be selected from other quantitative subjects:

MAT 140	MAT 271	MAT 273	CIS 110
MAT 151*	MAT 272		CIS 115

*A math lab is required for this course. Labs count as elective hours.

Other Required Hours

1

1. ACA 115 (First-Year Seminar) is required. (1 semester hour)

Curriculum requirements for the Associate in Science (A.S.) Degree (A10400)

Arts and
Sciences

Semester Hrs.

General Education Core Requirements

44

English Composition (6 semester hours)

English Composition: ENG 111 and 112, 113 or 114 are required

Humanities/Fine Arts (9 semester hours)

1. A Communications course (COM) is required in lieu of one Humanities/Fine Arts course. COM 231 is preferred.
2. One course must be a literature course(*).
3. Other courses must be selected from two of the following disciplines: art, drama, foreign languages, humanities, music, philosophy and religion.

ART 111	ENG 131*	FRE 111	HUM 110	MUS 110	REL 110
ART 114	ENG 231*	FRE 112	HUM 115	MUS 113	REL 211
ART 115	ENG 232*	FRE 211	HUM 120	MUS 114	REL 212
ASL 111	ENG 241*	FRE 212	HUM 122	PHI 210	SPA 111
ASL 112	ENG 242*	GER 111	HUM 130	PHI 215	SPA 112
DRA 111	ENG 243*	GER 112	HUM 150	PHI 230	SPA 211
DRA 112	ENG 261*	GER 211	HUM 160	PHI 240	SPA 212
DRA 211	ENG 262*	GER 212	HUM 211		
DRA 212			HUM 212		
			HUM 220		

Social/Behavioral Sciences (9 semester hours)

1. At least one course must be a history course (*).
2. Other courses must be selected from two of the following disciplines: anthropology, economics, geography, political science, psychology and sociology.

ANT 210	ECO 151	HIS 111*	POL 110	SOC 210
ANT 220	ECO 251	HIS 112*	POL 120	SOC 213
ANT 230	ECO 252	HIS 115*	POL 210	SOC 220
ANT 230A	GEO 111	HIS 131*	PSY 150	SOC 225
ANT 240	GEO 112	HIS 132*	PSY 237	SOC 240
			PSY 241	
			PSY 281	

Natural Science/Mathematics (20 semester hours)**Natural Sciences (8 semester hours)**

A minimum two-course sequence from the following general biology, general chemistry, or general physics courses is required.

Arts and

BIO 111 and BIO 112

Sciences

CHM 151 and CHM 152

PHY 151 and PHY 152

PHY 251 and PHY 252

Mathematics (6 semester hours)

1. MAT 171 or higher is required. Select one course from the following: MAT 171* or MAT 175*
2. Select a second course from the following: MAT 172* OR MAT 175* OR a second course may be selected from other quantitative subjects:

MAT 151*	MAT 271*	CIS 110
MAT 272*	CIS 115	
MAT 273*		

*A math lab is required for this course. Labs count as elective hours.

Six additional semester hours may be selected from either natural sciences or mathematics.

Other Required Hours

21

1. **ACA 115 (First-Year Seminar) is required. (1 semester hour)**
2. **Additional Courses (14 semester hours)**
A minimum of 14 SHC of college transfer courses in mathematics, natural sciences, or computer science is required.
3. **Other required hours (6 semester hours)**
The math lab hours, when required as a corequisite, count as an elective.

A second foreign language course is recommended (elective)*.

Students should refer to Pre-Major Articulation Agreements before making selections for required hours (http://www.ga.unc.edu/student_info/caa/).

Recommended Additional Courses: although these courses are not required, they are recommended for all students who have sufficient available credit hours.

Computing (3 semester hours)

CIS 110

Health / Physical Education (3 semester hours)

HEA 110, HEA 120, OR PED 110 plus any PED activity course

Total Semester Hours

65

*Foreign language courses should be selected in a sequence that meets the requirements of the receiving college/university. Most colleges/universities require a two-semester sequence of foreign language.

- All college transfer courses submitted for graduation require a minimum grade of "C".
- Health / Physical Education courses may be selected any semester.
- Courses selected may vary according to requirements of the pre-major, senior institution, etc

Arts and

Sciences

Electives – Associate in Science (20 semester hours)

Fourteen semester hours in mathematics, natural sciences, or computer science is required.

Any approved transfer course (including core courses) may be taken as an elective. Listed below are electives taught at A-B Tech.

No elective course may be substituted for an approved general education core course. All PEDs (physical education) courses count as electives.

ACC 120(4)	ART 274(3)	BUS 110(3)	DRA 120	GER 141(3)	MUS 121(4)
ACC 121(4)	ART 275(3)	BUS 115(3)	DRA 124(3)	GER 221(3)	MUS 122(4)
ART 121(3)	AST 111(3)	CHM 132(4)	DRA 131	HEA 110(3)	PHS 140(3)
ART 122(3)	AST 111A(1)	CHM 135(4)	DRA 140	HEA 112(2)	PHY 110(3)
ART 131(3)	BIO 143(2)	CHM 136(4)	DRA 141	HEA 120(3)	PHY 110A(1)
ART 132(3)	BIO 145(4)	CHM 251(4)	DRA 170	HIS 162(3)	PHY 243(3)
ART 135(3)	BIO 146(4)	CHM 252(4)	DRA 171	HIS 227(3)	SOC 215(3)
ART 171(3)	BIO 163(5)	CHM 265(4)	DRA 250	HIS 236 (3)	SOC 232(3)
ART 240(3)	BIO 168(4)	CHM 271(3)	ENG 125(3)	HUM 123(3)	SOC 234(3)
ART 241(3)	BIO 169(4)	CJC 111(3)	ENG 126(3)	MAT 140A(1)	SOC 254(3)
ART 244(3)	BIO 173(4)	CJC 121(3)	ENG 133(3)	MAT 151A	SPA 141(3)
ART 261(3)	BIO 175(3)	CJC 141(3)	ENG 134(3)	MAT 161A(1)	SPA 221(3)
ART 262(3)	BIO 180(3)	COM 250	ENG 135(3)	MAT 171A(1)	
ART 271(3)	BIO 223(3)		ENG 253(3)	MAT 172A(1)	
	BIO 224(2)		ENG 265(3)	MAT 175A(1)	
	BIO 225(2)		ENG 271(3)	MAT 285(3)	
	BIO 226(2)		ENG 272(3)		
	BIO 243(4)		ENG 273(3)		
	BIO 250(4)		ENG 274(3)		
	BIO 271(3)		ENG 275(3)		
	BIO 275(4)				
	BIO 280(3)				

Curriculum requirements for the Associate in Fine Arts (A.F.A.) Degree (A10200)

Arts and
Sciences

	Semester Hrs.
Art Core Requirements	15

The following art courses are required for the A.F.A. Degree:

ART 114	ART 121	ART 131
ART 115	ART 122	

General Education Core Requirements	28
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English/Communication (6 semester hours)

ENG 111 and 112, 113 or 114 are required

Humanities/Fine Arts (6 semester hours)

1. A Communications course (COM) is required in lieu of one Humanities/Fine Arts course. COM 231 is preferred.
2. One of the following literature courses is required.

ENG 131	ENG 241	ENG 252
ENG 231	ENG 242	ENG 261
ENG 232	ENG 243	ENG 262
ENG 233	ENG 251	

Social/Behavioral Sciences (9 semester hours)

1. At least one course must be a history* course.
2. Other courses must be selected from two of the following disciplines: anthropology, economics, geography, history, political science, psychology and sociology.

ANT 210	GEO 111	POL 110	SOC 210
ANT 220	GEO 112	POL 120	SOC 213
ANT 221	HIS 111*	POL 210	SOC 220
ANT 230	HIS 112*	PSY 150	SOC 225
ANT 230A	HIS 115*	PSY 237	SOC 240
ANT 240	HIS 131*	PSY 241	
ECO 151	HIS 132*	PSY 281	
ECO 251			
ECO 252			

Natural Science/Mathematics

Natural Sciences (4 semester hours)

Select one course, including laboratory* work, from the astronomy, biology, chemistry, or physics disciplines.

AST 111	BIO 110	CHM 135	PHY 110
AST 111A*	BIO 111		PHY 110A*

Mathematics (3 semester hours)

MAT 140 or higher is required.

Other Required Hours 22

1. ACA 115 (First-Year Seminar) is required. (1 semester hour)

2. Seven additional ART courses (21 semester hours)

ART 132	ART 240	ART 261	ART 274
ART 171	ART 241	ART 262	ART 275
ART 214*	ART 244	ART 271	

Arts and

Sciences

Total Semester Hours 65

*Students seeking to enter a B.F.A. program should submit a portfolio and, based upon their work, may be accepted into a program at a senior institution.

- *All courses submitted for graduation require a minimum grade of "C".*
- *Courses selected may vary according to requirements of the pre-major, senior institution.*

Pre-major Articulation Agreements

Pre-major Articulation Agreements are agreements between the 16 member University of North Carolina system, some private colleges and universities, and the 58 North Carolina Community Colleges. The agreements state that if you follow one of the pre-major programs offered by the college (see list below), have no grade below "C," and are accepted by the senior institution, you will enter as a junior in that major. Pre-major articulation agreements are available from Student Services and academic advisors, or on the web at http://www.ga.unc.edu/student_info/caa/.

CAUTION: You MUST see your advisor before registering for one of these programs!

Associate in Arts and Associate in Science Degree Pre-major Programs

Arts and
Sciences

Associate in Arts	Associate in Science
Art Education	Biology
Business Administration	Biology Education
Criminal Justice	Chemistry
English	Chemistry Education
English Education	Computer Science
Health Education	Engineering
History	Mathematics
Marketing Education	Mathematics Education
Nursing	
Physical Education	
Political Science	
Psychology	
Social Science Secondary Education	
Sociology	

Biotechnology (A20100)

The Biotechnology curriculum is designed to meet the increasing demands for skilled Bioprocessing technicians in various fields of bio-process manufacturing, pharmaceutical manufacturing, and chemical manufacturing.

Course work emphasizes Bioprocessing, biology, chemistry, mathematics, and technical communications. The curriculum objectives are designed to prepare graduates to serve in three distinct capacities: Bioprocessing technician, research assistant to biologist or chemist; and quality control/quality assurance technician.

Graduates may find employment in various areas of industry and government, including biopharmaceutical processing, Bioprocessing, chemical processing, research and development, sales, and customer service.

Biotechnology – Associate in Applied Science Degree

This program consists of:

Major courses (BTC)

Credit Hrs.

28-29

Related and general education courses including:

44

Arts and

English/Communications

9

Sciences

Humanities/Fine Arts

3

Natural Science/Mathematics

28

Social Sciences

0

Other

4

PROGRAM TOTAL

72-73

Weekly Weekly Weekly

	Class Hrs.	Lab Hrs.	Work Hrs.	Credit Hrs.
--	-------------------	-----------------	------------------	--------------------

First Semester (Fall)

ACA 115	First-Year Seminar	0	2	0	1
BIO 111	General Biology I	3	3	0	4
CHM 151	General Chemistry I or CHM 131 Introduction to Chemistry	3 (3)	3 0	0 0	4 (3)
	CHM 131A Intro to Chemistry Lab	(0)	3	0	1)
ENG 111	Expository Writing	3	0	0	3
MAT 161	College Algebra	3	0	0	3
MAT 161A	College Algebra Lab	0	2	0	1
		12	10	0	16

Second Semester (Spring)

BIO 112	General Biology II	3	3	0	4
CHM 132	Organic & Biochemistry	3	3	0	4
MAT 151	Statistics	3	0	0	3
MAT 151A	Statistics Lab or MAT 155 Statistical Analysis	0 (3)	2 0	0 0	1 (3)
	MAT 155A Statistical Analysis Lab	(0)	2	0	1)
	Elective (HFA)	3	0	0	3
		12	8	0	15

Third Semester (Summer)

BIO 275	Microbiology	3	3	0	4
BTC 181	Basic Lab Techniques	3	3	0	4
	Elective (SBS)	3	0	0	3
		9	6	0	11

Fourth Semester (Fall)

BTC 285	Cell Culture	2	3	0	3
BTC 250	Molecular Genetics	3	0	0	3
CIS 110	Computers Concepts	2	2	0	3
ENG 114	Professional Research and Reporting	3	0	0	3
BTC 282	Biotechnology Fermentation I	2	6	0	4
		12	11	0	16

Fifth Semester (Spring)

BTC 286	Immunological Techniques	3	3	0	4
BTC 270	Recombinant DNA Tech	3	3	0	4
BTC 283	Biotechnology Fermentation II	2	6	0	4
COM 231	Public Speaking	3	0	0	3

11 12 0 15

Sixth Semester (Summer)

BTC 288 Biotech Lab Experience Techniques or COE 213BT Co-op Work Experience	0 0	6 0	0 30	2 3
Program Totals	0	0-6	0-30	2-3

General Occupational Technology (A55280)

The General Occupational Technology curriculum provides individuals with an opportunity to upgrade their skills and to earn an associate degree by taking courses suited for their occupational interests and/or needs.

The curriculum content will be individualized for students according to their occupational interests and needs. A program of study for each student will be selected from associate degree-level courses offered by the College. Graduates will become more effective workers, better qualified for advancements within their field of employment, and become qualified for a wide range of entry-level employment opportunities. Please see a counselor for additional information.

A black and white photograph showing several students in a study area. In the foreground, two students are seated at a round table, focused on their work. Behind them, more students are seated on couches and chairs, also engaged in reading or writing. The setting appears to be a quiet study room or a library.

Course Descriptions

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Course Descriptions

The following section contains descriptions of courses offered by Asheville-Buncombe Technical Community College. The following example explains each component of the course description entry.

Course Descriptions	Courses that must be successfully completed prior to registering for this course.	Class Hours Lab Hours* Clinic, Co-op, or Shop Hours Credit Hours** 1 3 0 3
	<div style="border-left: 1px solid black; padding-left: 10px; margin-left: 10px;"> <div style="border-left: 1px solid black; padding-left: 10px; margin-left: 10px;"> General Subject Course Number (see below) Course Title ASH 101 Life in Asheville Prerequisite: ASH 100 Corequisite: AVL 101 </div> <div style="margin-left: 20px;"> This course explains how to have fun in Asheville. The best places to dine, directions to famous places, dates of local cultural and civic events, trails for hiking and biking. </div> </div>	

Courses that must be taken at the same time as this course.

* When only three numbers are listed, the middle number always designates Lab Hours.

** Credit Hours are always the last number.

Course Numbers consist of three digits, and numbers are assigned as follows:

- The first digit indicates the year the course is normally taken. A first digit of "0" is used for Guided Studies courses.
 - The second digit denotes the credential for which the course is intended:
 - 100-109 and 200-209:** Courses for stand-alone certificate and diploma programs.
 - 110-189 and 210-289:** Courses for associate degree programs; these courses may also be used in certificate and diploma programs.
 - 190-199 and 290-299:** Seminar and Selected Topics courses for all programs.
 - The third digit indicates the order in which the course is usually taken.
- Example: **ACC 120 Principles of Financial Accounting**
ACC 121 Principles of Managerial Accounting

Please examine each course description before registering and determine if all prerequisites have been met. Prerequisites shown are those courses that must be successfully completed before attempting further study. In certain cases the department chairperson may waive some prerequisites.

Credit by Examination is not available for courses marked with an asterisk because of the nature of the course and in some cases safety requirements in the use of equipment. Any exceptions must be with the approval of the department chairperson.

Academic Related

ACA 115 First-Year Seminar

0 2 1

Prerequisites: None

Corequisites: None

This course provides an orientation to the campus resources and academic skills necessary to achieve educational objectives. Emphasis is placed on an exploration of facilities and services, study skills, library skills, self-assessment, wellness, goal-setting, and critical thinking. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals.

Course

Descriptions

Accounting

ACC 120 Principles of Financial Accounting

3 2 4

Prerequisites: None

Corequisites: None

This course introduces business decision-making using accounting information systems. Emphasis is placed on analyzing, summarizing, reporting, and interpreting financial information. Upon completion, students should be able to prepare financial statements, understand the role of financial information in decision-making and address ethical considerations. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ACC 121 Principles of Managerial Accounting

3 2 4

Prerequisites: ACC 120

Corequisites: None

This course includes a greater emphasis on managerial and cost accounting skills. Emphasis is placed on managerial accounting concepts for external and internal analysis, reporting and decision-making. Upon completion, students should be able to analyze and interpret transactions relating to managerial concepts, including product costing systems. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ACC 129 Individual Income Taxes

2 2 3

Prerequisites: None

Corequisites: None

This course introduces the relevant laws governing individual income taxation. Topics include tax law, electronic research and methodologies, and the use of technology for preparation of individual tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various individual tax forms.

ACC 130 Business Income Taxes

2 2 3

Prerequisites: ACC 129

Corequisites: None

This course introduces the relevant laws governing business and fiduciary income taxes. Topics include tax law relating to business organizations, electronic research and methodologies, and the use of technology for the preparation of business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various business tax forms.

ACC 131 Federal Income Taxes

2 2 3

Prerequisites: ACC 130

Corequisites: None

This course provides an overview of federal income taxes for individuals, partnerships, and corporations. Topics include tax law, electronic research and methodologies, and the use of technology for the preparation of individual and business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete federal tax returns for individuals, partnerships, and corporations.

	ACC 140	Payroll Accounting	1	2	2
Course	Prerequisites:	ACC 115 or ACC 120			
Descriptions	Corequisites:	None			
	This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; calculating social security, income, and unemployment taxes; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries using appropriate technology.				
	ACC 150	Accounting Software Applications	1	2	2
	Prerequisites:	ACC 115 or ACC 120			
	Corequisites:	None			
	This course introduces microcomputer applications related to accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting software package to solve accounting problems.				
	ACC 180	Practices in Bookkeeping	3	0	3
	Prerequisites:	ACC 120			
	Corequisites:	None			
	This course provides advanced instruction in bookkeeping and record-keeping functions. Emphasis is placed on mastering adjusting entries, correction of errors, depreciation, payroll, and inventory. Upon completion, students should be able to conduct all key bookkeeping functions for small businesses.				
	*ACC 220	Intermediate Accounting I	3	2	4
	Prerequisites:	ACC 120			
	Corequisites:	None			
	This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and extensive analyses of financial statements. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.				
	ACC 240	Government and Not-for-Profit Accounting	3	0	3
	Prerequisites:	ACC 121			
	Corequisites:	None			
	This course introduces principles and procedures applicable to governmental and not-for-profit organizations. Emphasis is placed on various budgetary accounting procedures and fund accounting. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.				
	*ACC 269	Auditing and Assurance Services	3	0	3
	Prerequisites:	ACC 220			
	Corequisites:	None			
	This course introduces selected topics pertaining to the objectives, theory and practices in engagements providing auditing and other assurance services. Topics will include planning, conducting and reporting, with emphasis on the related professional ethics and standards. Upon completion, students should be able to demonstrate an understanding of the types of professional services, the related professional standards, and engagement methodology.				

Air Conditioning, Heating, and Refrigeration

*AHR 110 Introduction to Refrigeration

2 6 5

Prerequisites: None

Corequisites: None

This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Emphasis will be placed on how refrigeration theory, principles and practice are used in the refrigeration (cooling trades). Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

Course

Descriptions

*AHR 112 Heating Technology

2 4 4

Prerequisites: None

Corequisites: None

This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

*AHR 113 Comfort Cooling

2 4 4

Prerequisites: None

Corequisites: None

This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychometrics, manufacturer specifications, and test instruments to determine proper system operation.

*AHR 114 Heat Pump Technology

2 4 4

Prerequisites: AHR 110 or AHR 113

Corequisites: None

This course covers the principles of air source and water source heat pumps. Emphasis is placed on safety, modes of operation, defrost systems, refrigerant charging, and system performance. Upon completion, students should be able to understand and analyze system performance and perform routine service procedures.

*AHR 115 Refrigeration Systems

1 3 2

Prerequisites: AHR 110

Corequisites: None

This course introduces refrigeration systems and applications. Topics include defrost methods, safety and operational control, refrigerant piping, refrigerant recovery and charging, and leak testing. Emphasis will be placed on how refrigeration theory, principles and practice are used in the air conditioning trade. Upon completion, students should be able to assist in installing and testing refrigeration systems and perform simple repairs.

*AHR 120 HVACR Maintenance

1 3 2

Prerequisites: None

Corequisites: None

This course introduces the basic principles of industrial air conditioning and heating systems. Emphasis is placed on preventive maintenance procedures for heating and cooling equipment and related components. Emphasis will be placed upon the service and maintenance of heating equipment. Upon completion, students should be able to perform routine preventive maintenance tasks, maintain records, and assist in routine equipment repairs.

	*AHR 125 HVAC Electronics		1	3	2
Course	Prerequisites: None				
Descriptions	Corequisites: AHR 111 or ELC 111				
	This course introduces the common electronic control components in HVAC systems. Emphasis is placed on identifying electronic components and their functions in HVAC systems and motor-driven control circuits. Upon completion, students should be able to identify components, describe control circuitry and functions, and use test instruments to measure electronic circuit values and identify malfunctions.				
	*AHR 130 HVAC Controls		2	2	3
	Prerequisites: AHR 111 or ELC 111				
	Corequisites: None				
	This course covers the types of controls found in residential and commercial comfort systems. Topics include electrical and electronic controls, control schematics and diagrams, test instruments, and analysis and troubleshooting of electrical systems. Upon completion, students should be able to diagnose and repair common residential and commercial comfort systems controls.				
	*AHR 210 Residential Building Code		1	2	2
	Prerequisites: None				
	Corequisites: None				
	This course covers the residential building codes that are applicable to the design and installation of HVAC systems. Topics include current residential codes as applied to HVAC design, service, and installation. Upon completion, students should be able to demonstrate the correct usage of residential building codes that apply to specific areas of the HVAC trade.				
	*AHR 211 Residential System Design		2	2	3
	Prerequisites: None				
	Corequisites: None				
	This course introduces the principles and concepts of conventional residential heating and cooling system design. Topics include heating and cooling load estimating, basic psychometrics, equipment selection, duct system selection, and system design. Upon completion, students should be able to design a basic residential heating and cooling system.				
	*AHR 212 Advanced Comfort Systems		2	6	4
	Prerequisites: AHR 114				
	Corequisites: None				
	This course covers water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of water-source systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps. Hydronic (hot water) and steam heating systems will also be studied.				

Anthropology

ANT 210 General Anthropology	3	0	3
Prerequisites: None			
Corequisites: None			
This course introduces the physical, archaeological, linguistic, and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.			

ANT 220 Cultural Anthropology

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

Course

Descriptions

ANT 230 Physical Anthropology

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the scientific study of human evolution. Emphasis is placed on evolutionary theory, population genetics, biocultural adaptation and human variation, as well as non-human primate evolution, morphology, and behavior. Upon completion, students should be able to demonstrate an understanding of the evolutionary processes which have resulted in the formation of the human species. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

ANT 230A Physical Anthropology Lab

0 2 1

Prerequisites: None

Corequisites: ANT 230

This course provides laboratory work that reinforces the material presented in ANT 230. Emphasis is placed on laboratory exercises which may include fossil identification, genetic analysis, skeletal comparisons, forensics, computer simulations, and field observations. Upon completion, students should be able to demonstrate an understanding of the analytical skills employed by anthropologists in the study of primate evolution and variation. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

ANT 240 Archaeology

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the scientific study of the unwritten record of the human past. Emphasis is placed on the process of human cultural evolution as revealed through archaeological methods of excavation and interpretation. Upon completion, students should be able to demonstrate an understanding of how archaeologists reconstruct the past and describe the variety of past human cultures. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

Architecture

ARC 111 Intro to Arch Technology

1 6 3

Prerequisites: None

Corequisites: None

This course introduces basic architectural drafting techniques, lettering, use of architectural and engineer scales, and sketching. Topics include orthographic, axonometric, and oblique drawing techniques using architectural plans, elevations, sections, and details; reprographic techniques; and other related topics. Upon completion, students should be able to prepare and print scaled drawings within minimum architectural standards.

	ARC 112 Construction Materials and Methods		3	2	4
Course	Prerequisites: None				
Descriptions	Corequisites: None				
	This course introduces construction materials and their methodologies. Topics include construction terminology, materials and their properties, manufacturing processes, construction techniques, and other related topics. Upon completion, students should be able to detail construction assemblies and identify construction materials and properties.				
	ARC 113 Residential Arch Tech		1	6	3
	Prerequisites: ARC 111				
	Corequisites: ARC 112				
	This course covers intermediate residential working drawings. Topics include residential plans, elevations, sections, details, schedules, and other related topics. Upon completion, students should be able to prepare a set of residential working drawings that are within accepted architectural standards.				
	ARC 131 Building Codes		2	2	3
	Prerequisites: ARC 112 or CAR 111				
	Corequisites: None				
	This course covers the methods of researching building codes for specific projects. Topics include residential and commercial building codes. Upon completion, students should be able to determine the code constraints governing residential and commercial projects.				
	ARC 230 Environmental Systems		3	3	4
	Prerequisites: ARC 111 and MAT 121				
	Corequisites: None				
	This course introduces plumbing, mechanical (HVAC), and electrical systems for the architectural environment. Topics include basic plumbing, mechanical, and electrical systems for residential and/or commercial buildings with an introduction to selected code requirements. Upon completion, students should be able to perform related calculations.				
Art					
	ART 111 Art Appreciation		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course introduces the origins and historical development of art. Emphasis is placed on the relationship of design principles to various art forms including but not limited to sculpture, painting, and architecture. Upon completion, students should be able to identify and analyze a variety of artistic styles, periods, and media. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.				
	ART 114 Art History Survey I		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.				
	ART 115 Art History Survey II		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.				

ART 121 Design I

0 6 3

Prerequisites: None

Corequisites: None

This course introduces the elements and principles of design as applied to two-dimensional art. Emphasis is placed on the structural elements, the principles of visual organization, and the theories of color mixing and interaction. Upon completion, students should be able to understand and use critical and analytical approaches as they apply to two-dimensional visual art. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Course

Descriptions

ART 122 Design II

0 6 3

Prerequisites: ART 121

Corequisites: None

This course introduces basic studio problems in three-dimensional visual design. Emphasis is placed on the structural elements and organizational principles as applied to mass and space. Upon completion, students should be able to apply three-dimensional design concepts. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 131 Drawing I

0 6 3

Prerequisites: None

Corequisites: None

This course introduces the language of drawing and the use of various drawing materials. Emphasis is placed on drawing techniques, media, and graphic principles. Upon completion, students should be able to demonstrate competence in the use of graphic form and various drawing processes. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 132 Drawing II

0 6 3

Prerequisites: ART 131

Corequisites: None

This course continues instruction in the language of drawing and the use of various materials. Emphasis is placed on experimentation in the use of drawing techniques, media, and graphic materials. Upon completion, students should be able to demonstrate increased competence in the expressive use of graphic form and techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 171 Computer Art I

0 6 3

Prerequisites: None

Corequisites: None

This course introduces the use of the computer as a tool for solving visual problems. Emphasis is placed on fundamentals of computer literacy and design through bit-mapped image manipulation. Upon completion, students should be able to demonstrate an understanding of paint programs, printers, and scanners to capture, manipulate, and output images. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 214 Portfolio and Resume

0 2 1

Prerequisites: None

Corequisites: None

This course covers resume writing, interview skills, and the preparation and presentation of an art portfolio. Emphasis is placed on the preparation of a portfolio of original artwork, the preparation of a photographic portfolio, approaches to resume writing, and interview techniques. Upon completion, students should be able to mount original art for portfolio presentation, photograph and display a professional slide portfolio, and write an effective resume. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

	ART 240 Painting I	0	6	3
Course	Prerequisites: None			
Descriptions	Corequisites: None			
	This course introduces the language of painting and the use of various painting materials. Emphasis is placed on the understanding and use of various painting techniques, media, and color principles. Upon completion, students should be able to demonstrate competence in the use of creative processes directed toward the development of expressive form. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	ART 241 Painting II	0	6	3
	Prerequisites: ART 240			
	Corequisites: None			
	This course provides a continuing investigation of the materials, processes, and techniques of painting. Emphasis is placed on the exploration of expressive content using a variety of creative processes. Upon completion, students should be able to demonstrate competence in the expanded use of form and variety. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	ART 244 Watercolor	0	6	3
	Prerequisites: None			
	Corequisites: None			
	This course introduces basic methods and techniques used in watercolor. Emphasis is placed on application, materials, content, and individual expression. Upon completion, students should be able to demonstrate a variety of traditional and nontraditional concepts used in watercolor media. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	ART 260 Photography Appreciation	3	0	3
	Prerequisites: None			
	Corequisites: None			
	This course introduces the origins and historical development of photography. Emphasis is placed on the study of composition and history of photography as an art form. Upon completion, students should be able to recognize and produce, using color transparencies, properly exposed, well-composed photographs. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.			
	ART 261 Photography I	0	6	3
	Prerequisites: None			
	Corequisites: None			
	This course introduces photographic equipment, theory, and processes. Emphasis is placed on camera operation, composition, darkroom technique, and creative expression. Upon completion, students should be able to successfully expose, develop, and print a well-conceived composition. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	ART 262 Photography II	0	6	3
	Prerequisites: Art 261			
	Corequisites: None			
	This course introduces the creative manipulation of alternative photographic materials and processes such as toning, hand coloring, infrared, and multiple exposure. Emphasis is placed on personal vision and modes of seeing. Upon completion, students should be able to create properly exposed images using a variety of photographic materials and processes. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.			

ART 264 Digital Photography I

1 4 3

Prerequisites: None

Corequisites: None

This course introduces digital photographic equipment, theory and processes. Emphasis is placed on camera operation, composition, computer photo manipulation and creative expression. Upon completion, students should be able to successfully expose, digitally manipulate, and print a well-conceived composition. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Course

Descriptions

ART 265 Digital Photography II

1 4 3

Prerequisites: Art 264

Corequisites: None

This course provides exploration of the concepts and processes of photo manipulation through complex composite images, special effects, color balancing and image/text integration. Emphasis is placed on creating a personal vision and style. Upon completion, students should be able to produce well-executed images using a variety of photographic and photo manipulative approaches. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ART 266 Videography I

0 6 3

Prerequisites: None

Corequisites: None

This course introduces various aspects of basic video production including concept development, scripting, camera operation, and post-production. Emphasis is placed on creative expression, camera handling, story boarding and editing. Upon completion, students should be able to demonstrate a basic understanding of video camera operation and production techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ART 267 Videography II

0 6 3

Prerequisites: ART 266

Corequisites: None

This course is designed to provide a framework for the production of a long-term video project. Emphasis is placed on realization of the unique creative vision. Upon completion, students should be able to produce a thematically coherent, edited video with sound and titling. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ART 271 Computer Art II

0 6 3

Prerequisites: Art 171

Corequisites: None

This course includes advanced computer imaging techniques. Emphasis is placed on creative applications of digital technology. Upon completion, students should be able to demonstrate command of computer systems and applications to express their personal vision. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 281 Sculpture I

0 6 3

Prerequisites: None

Corequisites: None

This course provides an exploration of the creative and technical methods of sculpture with focus on the traditional processes. Emphasis is placed on developing basic skills as they pertain to three-dimensional expression in various media. Upon completion, students should be able to show competence in a variety of sculptural approaches. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

	ART 282	Sculpture II	0	6	3
Course	Prerequisites:	ART 281			
Descriptions	Corequisites:	None	This course builds on the visual and technical skills learned in ART 281. Emphasis is placed on developing original solutions to sculptural problems in a variety of media. Upon completion, students should be able to express individual ideas using the techniques and materials of sculpture. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.		

	ART 283	Ceramics I	0	6	3
Course	Prerequisites:	None			
Descriptions	Corequisites:	None	This course provides an introduction to three-dimensional design principles using the medium of clay. Emphasis is placed on fundamentals of forming, surface design, glaze application, and firing. Upon completion, students should be able to demonstrate skills in slab and coil construction, simple wheel forms, glaze technique, and creative expression. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.		

	ART 284	Ceramics II	0	6	3
Course	Prerequisites:	ART 283			
Descriptions	Corequisites:	None	This course covers advanced hand building and wheel techniques. Emphasis is placed on creative expression, surface design, sculptural quality, and glaze effect. Upon completion, students should be able to demonstrate a high level of technical competence in forming and glazing with a development of three-dimensional awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.		

American Sign Language

	ASL 111	Elementary ASL I	3	0	3
Course	Prerequisites:	None			
Descriptions	Corequisites:	None	This course introduces the fundamental elements of American Sign Language within a cultural context. Emphasis is placed on the development of basic expressive and receptive skills. Upon completion, students will be able to comprehend and respond with grammatical accuracy to expressive American Sign Language and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.		

	ASL 112	Elementary ASL II	3	0	3
Course	Prerequisites:	ASL 111			
Descriptions	Corequisites:	None	This course is a continuation of ASL 111 focusing on the fundamental elements of American Sign Language in a cultural context. Emphasis is placed on the progressive development of expressive and receptive skills. Upon completion, the students should be able to comprehend and respond with increasing accuracy to expressive American Sign Language and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.		

Astronomy

AST 111 Descriptive Astronomy

3 0 3

Prerequisites: None

Corequisites: AST 111A

This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

AST 111A Descriptive Astronomy Lab

0 2 1

Prerequisites: None

Corequisites: AST 111

The course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

Automation Training

***ATR 112 Introduction to Automation**

2 3 3

Prerequisites: None

Corequisites: None

This course introduces the basic principles of automated manufacturing and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems.

ATR 280 Robotic Fundamentals

3 2 4

Prerequisites: None

Corequisites: None

This course covers application, programming, and maintenance fundamentals for robotic devices. Emphasis is placed on terminology, problem solving, robotic systems controls, and hands-on projects. Upon completion, students should be able to apply basic concepts in application, programming, and robotic control systems.

***ATR 281 Automation Robotics**

3 2 4

Prerequisites: ELC 111 and HYD 110 or MEC 265

Corequisites: None

This course introduces the concepts and principles of automation in the manufacturing environment. Emphasis is placed on the devices used in hard and flexible automated systems, including the study of inputs, outputs, and control system integration. Upon completion, students should be able to plan, design, and implement automation to support manufacturing processes.

Automotive

***AUT 110 Introduction to Automotive Technology**

2 2 3

Prerequisites: None

Corequisites: Select One: AUT 115, AUT 151, AUT 152, AUT 161

This course covers the basic concepts and terms of automotive technology, workplace safety, North Carolina state inspection, safety and environmental regulations, and use of service information resources. Topics include familiarization with components along with identification and proper use of various automotive hand and power tools. Upon completion, students should be able to describe terms associated with automobiles, identify and use basic tools and shop equipment, and conduct North Carolina safety/emissions inspections.

Course

Descriptions

	*AUT 115 Engine Fundamentals	2	3	3
Course	Prerequisites: None			
Descriptions	Corequisites: None This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis/repair of automotive engines using appropriate tools, equipment, procedures, and service information.			
	*AUT 141 Suspension and Steering Systems	2	4	4
	Prerequisites: None			
	Corequisites: None This course covers principles of operation, types, and diagnosis/repair of suspension and steering systems to include steering geometry. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair various steering and suspension components, check and adjust various alignment angles, and balance wheels.			
	*AUT 151 Brake Systems	2	2	3
	Prerequisites: None			
	Corequisites: AUT 152 This course covers principles of operation and types, diagnosis, service, and repair of brake systems. Topics include drum and disc brakes involving hydraulic, vacuum boost, hydra-boost, electrically powered boost, and anti-lock and parking brake systems. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.			
	*AUT 152 Brake Systems Lab	0	2	1
	Prerequisites: None			
	Corequisites: AUT 151 This course provides a laboratory setting to enhance brake system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 151. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 151.			
	*AUT 161 Electrical Systems	2	6	4
	Prerequisites: None			
	Corequisites: None This course covers basic electrical theory and wiring diagrams, test equipment, and diagnosis/repair/replacement of batteries, starters, alternators, and basic electrical accessories. Topics include diagnosis and repair of battery, starting, charging, lighting, and basic accessory systems problems. Upon completion, students should be able to diagnose, test, and repair the basic electrical components of an automobile.			
	*AUT 162 Chassis Electrical and Electronics	2	2	3
	Prerequisites: None			
	Corequisites: AUT 163 This course covers electrical/electronic diagnosis/repair, including wiring diagrams, instrumentation, and electronic/computer-controlled devices and accessories. Topics include interpreting wiring diagrams and diagnosis and repair of chassis electrical and electronic systems. Upon completion, students should be able to read and interpret wiring diagrams and determine/perform needed repairs on chassis electrical and electronic systems.			
	*AUT 163 Chassis Electrical and Electronics Lab	0	2	1
	Prerequisites: None			
	Corequisites: AUT 162 This course provides a laboratory setting to enhance chassis electrical and electronic system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 162. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 162.			

***AUT 171 Heating and Air Conditioning**

2 3 3

Prerequisites: None

Corequisites: None

This course covers the theory of refrigeration and heating, electrical/electronic/pneumatic controls, and diagnosis/repair of climate control systems. Topics include diagnosis and repair of climate control components and systems, recovery/recycling of refrigerants, and safety and environmental regulations. Upon completion, students should be able to describe the operation, diagnose, and safely service climate control systems using appropriate tools, equipment, and service information.

Course

Descriptions

***AUT 181 Engine Performance-Electrical**

2 3 3

Prerequisites: None

Corequisites: AUT 182

This course covers the principles, systems, and procedures required for diagnosing and restoring engine performance using electrical/electronics test equipment. Topics include procedures for diagnosis and repair of ignition, emission control, and related electronic systems. Upon completion, students should be able to describe operation of and diagnose/repair ignition/emission control systems using appropriate test equipment and service information.

***AUT 182 Engine Performance-Electrical Lab**

0 3 1

Prerequisites: None

Corequisites: AUT 181

This course provides a laboratory setting to enhance the skills for diagnosing and restoring engine performance using electrical/electronics test equipment. Emphasis is placed on practical experiences that enhance the topics presented in AUT 181. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 181.

***AUT 183 Engine Performance-Fuels**

2 3 3

Prerequisites: None

Corequisites: AUT 184

This course covers the principles of fuel delivery/management, exhaust/emission systems, and procedures for diagnosing and restoring engine performance using appropriate test equipment. Topics include procedures for diagnosis/repair of fuel delivery/management and emission systems using appropriate service information. Upon completion, students should be able to describe, diagnose, and repair engine fuel delivery/management and emission control systems using appropriate service information and diagnostic equipment.

***AUT 184 Engine Performance-Fuels Lab**

0 3 1

Prerequisites: None

Corequisites: AUT 183

This course provides a laboratory setting to enhance the skills for diagnosing and repairing fuel delivery/management and emission systems. Emphasis is placed on practical experiences that enhance the topics presented in AUT 183. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 183.

***AUT 221 Automatic Transmissions**

2 6 4

Prerequisites: None

Corequisites: None

This course covers operation, diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair automatic drive trains.

	*AUT 231 Manual Drive Trains/Axes	2	3	3
Course	Prerequisites: None			
Descriptions	Corequisites: AUT 232 This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, drive shafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair manual drive trains.			

	AUT 232 Manual Drive Trains/Axes Lab	0	3	1
Course	Prerequisites: None			
Descriptions	Corequisites: AUT 231 This course provides a laboratory setting to enhance the skills for diagnosing and repairing manual transmissions/transaxles, clutches, drive shafts, axles, and final drives. Emphasis is placed on practical experiences that enhance the topics presented in AUT 231. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 231.			

Biology

BIO 106	Introduction to Anatomy/Physiology/Microbiology	2	2	3
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Course	Prerequisites: None			
Descriptions	Corequisites: None This course covers the fundamental and principle concepts of human anatomy and physiology and microbiology. Topics include an introduction to the structure and function of cells, tissues, and human organ systems, and an overview of microbiology, epidemiology, and control of microorganisms. Upon completion, students should be able to identify structures and functions of the human body and describe microorganisms and their significance in health and disease. This is a certificate and diploma level course.			

BIO 110	Principles of Biology	3	3	4
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Course	Prerequisites: None			
Descriptions	Corequisites: None This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, taxonomy, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.			

BIO 111	General Biology I	3	3	4
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Course	Prerequisites: None			
Descriptions	Corequisites: None This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, cell structure and function, metabolism and energy transformation, genetics, evolution, classification, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.			

BIO 112	General Biology II	3	3	4
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Course	Prerequisites: BIO 111			
Descriptions	Corequisites: None This course is a continuation of BIO 111. Emphasis is placed on organisms, biodiversity, plant and animal systems, ecology, and other related topics. Upon completion, students should be able to demonstrate comprehension of life at the organismal and ecological levels. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.			

BIO 120 Introductory Botany

3 3 4

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

Course

Descriptions

BIO 130 Introductory Zoology

3 3 4

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of major animal phyla. Emphasis is placed on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla. Upon completion, students should be able to demonstrate comprehension of animal form and function including comparative systems of selected groups. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

BIO 140 Environmental Biology

3 0 3

Prerequisites: None

Corequisites: None

This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

BIO 140A Environmental Biology Lab

0 3 1

Prerequisites: None

Corequisites: BIO 140

This course provides a laboratory component to complement BIO 140. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental interrelationships and of contemporary environmental issues. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

BIO 143 Field Biology Minicourse

1 2 2

Prerequisites: None

Corequisites: None

This course introduces the biological and physical components of a field environment. Emphasis is placed on a local field environment with extended field trips to other areas. Upon completion, students should be able to demonstrate an understanding of the biological and physical components of the specific biological environment. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 145 Ecology

3 3 4

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to ecological concepts using an ecosystems approach. Topics include energy flow, nutrient cycling, succession, population dynamics, community structure, and other related topics. Upon completion, students should be able to demonstrate comprehension of basic ecosystem structure and dynamics. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

	BIO 146 Regional Natural History	3 3 4
Course	Prerequisites: None	
Descriptions	Corequisites: None This course is an interdisciplinary and historical analysis of the natural resources of the region. Emphasis is placed on geology, climate, forest systems, watersheds, water resources, and fish and wildlife resources of the region. Upon completion, students should be able to demonstrate comprehension of the natural history and the integration of the natural resources of the region. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	BIO 163 Basic Anatomy and Physiology	4 2 5
	Prerequisites: None	
	Corequisites: None This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	BIO 168 Anatomy and Physiology I	3 3 4
	Prerequisites: None	
	Corequisites: None This course provides a comprehensive study of the anatomy and physiology of the human body. Topics include body organization, homeostasis, cytology, histology, and the integumentary, skeletal, muscular, and nervous systems, and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.	
	BIO 169 Anatomy and Physiology II	3 3 4
	Prerequisites: BIO 168	
	Corequisites: None This course provides a continuation of the comprehensive study of the anatomy and physiology of the human body. Topics include the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems as well as metabolism, nutrition, acid-base balance, and fluid and electrolyte balance. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. This course has been approved to satisfy the Comprehensive Articulation Agreement transferability as a premajor and/or elective course requirement.	
	BIO 173 Microbes in World Affairs	3 0 3
	Prerequisites: BIO 110 or BIO 111	
	Corequisites: None This course provides an integrated and comprehensive study of the microbial world and its influence on global events and human affairs. Topics include plant and animal diseases caused by viral, bacterial, and fungal pathogens and their impacts on history, industrial microbiology, biotechnology, and microbial ecology. Upon completion, students should be able to demonstrate an understanding of the importance of microbes in human and world affairs. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.	

BIO 175 General Microbiology **2 2 3**

Prerequisites: Select One: BIO 110, BIO 111, BIO 163, BIO 165, BIO 168

Corequisites: None

This course covers principles of microbiology with emphasis on microorganisms and human disease. Topics include an overview of microbiology and aspects of medical microbiology, identification and control of pathogens, disease transmission, host resistance, and immunity. Upon completion, students should be able to demonstrate knowledge of microorganisms and the disease process as well as aseptic and sterile techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Course

Descriptions

BIO 223 Field Botany **2 3 3**

Prerequisites: BIO 112

Corequisites: None

This course provides a field and laboratory study of local flora. Emphasis is placed on local flora classification, identification, and ecology by the use of keys and field studies. Upon completion, students should be able to use keys for the classification and identification of local flora and to demonstrate an understanding of plant ecology. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 224 Local Flora Spring **1 2 2**

Prerequisites: None

Corequisites: None

This course provides an introduction to the identification of native plants. Emphasis is placed on spring wild flowers. Upon completion, students should be able to identify a variety of spring wild flowers and native plants. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 225 Local Flora Summer **1 2 2**

Prerequisites: None

Corequisites: None

This course provides an introduction to the identification of native plants. Emphasis is placed on summer wild flowers. Upon completion, students should be able to identify a variety of summer wild flowers and native plants. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 226 Local Flora Fall **1 2 2**

Prerequisites: None

Corequisites: None

This course provides an introduction to the identification of native plants. Emphasis is placed on fall wild flowers. Upon completion, students should be able to identify a variety of fall wild flowers and native plants. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 243 Marine Biology **3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course covers the physical and biological components of the marine environment. Topics include major habitats, the diversity of organisms, their biology and ecology, marine productivity, and the use of marine resources by humans. Upon completion, students should be able to identify various marine habitats and organisms and to demonstrate a knowledge of their biology and ecology. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

	BIO 250	Genetics	3	3	4
Course	Prerequisites:	BIO 112			
Descriptions	Corequisites:	None	This course covers principles of prokaryotic and eukaryotic cell genetics. Emphasis is placed on the molecular basis of heredity, chromosome structure, patterns of Mendelian and non-Mendelian inheritance, evolution, and biotechnological applications. Upon completion, students should be able to recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.		

	BIO 271	Pathophysiology	3	0	3
Course	Prerequisites:	Select One: BIO 163, BIO 166, BIO 169			
Descriptions	Corequisites:	None	This course provides an in-depth study of human pathological processes and their effects on homeostasis. Emphasis is placed on interrelationships among organ systems in deviations from homeostasis. Upon completion, students should be able to demonstrate a detailed knowledge of pathophysiology. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability pre-major and/or elective course requirement.		

	BIO 275	Microbiology	3	3	4
Course	Prerequisites:	Select One: BIO 110, BIO 112, BIO 163, BIO 165, BIO 168			
Descriptions	Corequisites:	None	This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.		

Baking and Pastry Arts

	*BPA 120	Petit Fours and Pastries	1	4	3
Course	Prerequisites:	CUL 110 and CUL 160			
Descriptions	Corequisites:	None	This course introduces the basic principles of the preparation of petit fours and individual dessert pastries. Emphasis is placed on traditional and contemporary petit fours and pastries, utilizing updated production methods. Upon completion, students should be able to produce individual pastries and petit fours for buffet and special event settings.		
	*BPA 130	European Cakes and Tortes	1	4	3
Course	Prerequisites:	CUL 110 and CUL 160			
Descriptions	Corequisites:	None	This course introduces the production of a wide variety of classical and modern cakes suitable for restaurants, retail shops and large-scale production. Emphasis is placed on advanced techniques of mixing, filling, glazing and icing. Upon completion, students should be able to assemble and decorate a variety of cakes/tortes, including Dobos, Sacher, and Linzer tortes and Black Forest cake.		
	*BPA 150	Artisan and Specialty Bread	1	6	4
Course	Prerequisites:	CUL 110 and CUL 160			
Descriptions	Corequisites:	None	This course provides an advanced study in the art and craft of bread making. Topics include pertinent formulas and techniques associated with naturally leavened loaves, hearth breads, focaccia, flat breads, and other breads utilizing a variety of grains. Upon completion, students should be able to prepare artisan and specialty breads that meet or exceed the expectations of restaurant and retail publics.		

***BPA 165 Hot and Cold Desserts**

1 4 3

Prerequisites: None

Corequisites: CUL 110

This course covers the principles and techniques of sorbets and ice creams, souffles, cobblers, crisps and strudel dough products. Topics include bombes, parfaits, baked Alaska, sorbets, sherbets and granites; hand stretched strudel products, crepes, and hot and cold souffles. Upon completion, students should be able to prepare and plate hot and cold desserts with suitable sauces and garnishes.

Course

Descriptions

***BPA 210 Cake Design and Decorating**

1 4 3

Prerequisites: CUL 110 and CUL 160

Corequisites: None

This course covers advanced concepts in the design and decoration of wedding cakes and other specialty cakes. Topics include baking, filling and assembling cakes; cake design; and finishing techniques utilizing gum paste, fondant, and royal icing; and advanced piping skills. Upon completion, students should be able to design, create and finish wedding and specialty cakes.

***BPA 220 Confection Artistry**

1 6 4

Prerequisites: CUL 110 and CUL 160

Corequisites: None

This course introduces the principles and techniques of decorative sugar work and confectionary candy. Topics include nougat, marzipan modeling, pastillage and cocoa painting, confection candy and a variety of sugar techniques including blown, spun, poured and pulled. Upon completion, students should be able to prepare edible centerpieces and confections to enhance dessert buffets and plate presentations.

***BPA 230 Chocolate Artistry**

1 4 3

Prerequisites: CUL 110 and CUL 160

Corequisites: None

This course provides a study in the art and craft of chocolate. Topics include chocolate tempering, piping, molding; decorative work associated with cakes and centerpieces; and the candy production techniques of filling, enrobing and dipping. Upon completion, students should be able to properly temper chocolate, and produce a variety of chocolate candies and decorative elements for garnishing desserts.

***BPA 240 Plated Desserts**

1 4 3

Prerequisites: BPA 120, BPA 130, CUL 110, CUL 160, and COE 112

Corequisites: None

This course provides a study in the elements and principles of design as it relates to plated desserts. Topics include plate composition, portioning, flavor combinations, textures, eye appeal, balance, color harmony and plate decorating techniques such as stenciling, chocolate striping, and plate painting. Upon completion, students should be able to demonstrate competence in combining a variety of dessert components enhanced with plate decorating techniques.

***BPA 250 Dessert and Bread Production**

1 8 5

Prerequisites: CUL 110 and CUL 160

Corequisites: None

This course is designed to merge artistry and innovation with the practical baking and pastry techniques utilized in a production setting. Topics include quantity bread and roll-in dough production, plated and platter presentations, and seasonal/themed product utilization with an emphasis on cost effectiveness. Upon completion, students should be able to plan and prepare breads and desserts within a restaurant environment and determine production costs and selling prices.

Course

Descriptions

*BPA 260	Pastry and Baking Marketing	2	2	3
Prerequisites:	BPA 210, BPA 240, BPA 250, and COE 112			
Corequisites:	BPA 220 and BPA 230			

This course examines the marketing concepts and merchandising trends utilized in bakery and pastry operations. Emphasis is placed on menu planning, pricing products and strategies, resale and wholesale distribution methods, legal implications, and advertising techniques. Upon completion, students should be able to create a marketing plan that will serve as a basis for a capstone experience.

Blueprint Reading

BPR 111	Blueprint Reading	1	2	2
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Prerequisites: None

Corequisites: None

This course introduces the basic principles of blueprint reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic blueprints and visualize the features of a part.

BPR 121	Blueprint Reading: Mechanical	1	2	2
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Prerequisites: BPR 111 or MAC 131

Corequisites: None

This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing.

BPR 130	Blueprint Reading/Construction	1	2	2
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Prerequisites: None

Corequisites: None

This course covers the interpretation of blueprints and specifications that are associated with the construction trades. Emphasis is placed on interpretation of details for foundations, floor plans, elevations, and schedules. Upon completion, students should be able to read and interpret a set of construction blueprints.

BPR 135	Schematics and Diagrams	2	0	2
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Prerequisites: None

Corequisites: None

This course introduces schematics and diagrams used in a variety of occupations. Topics include interpretation of wiring diagrams, assembly drawings, exploded views, sectional drawings, and service manuals, specifications, and charts. Upon completion, students should be able to research and locate components and assemblies denoting factory specifications and requirements from service and repair manuals.

Biotechnology

BTC 181	Basic Lab Techniques	3	3	4
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Prerequisites: Enrollment in the Biotechnology Program or Dept. Approval

Corequisites: None

This course introduces the basic skills and knowledge necessary in a biological or chemical laboratory. Emphasis is placed on good manufacturing practices, safety, solution preparation, and equipment operation and maintenance following standard operating procedures. Upon completion, students should be able to prepare and perform basic laboratory procedures using labware, solutions, and equipment according to prescribed protocols.

BTC 250	Principles of Genetics	3	0	3
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Prerequisites: BIO 111, Enrollment in the Biotechnology Program

Corequisites: None

This course covers the basic principles of molecular genetics. Topics will include Mendelian inheritance, DNA replication, RNA transcription, translation of proteins, chromosome structure, and evolution. Upon completion, students should be able to demonstrate knowledge of molecular genetics and principles of heredity.

BTC 270 Recombinant DNA Tech

3 3 4

Prerequisites: BTC 250 and BTC 181

Corequisites: None

This course covers basic methods in biotechnology for the manipulation of nucleic acids. Emphasis is placed on topics concerning techniques used in recombinant DNA technology, including PCR, restriction digests, mapping, cloning, and forensics. Upon completion, students should have an understanding of the theory, practice, and application of recombinant DNA techniques.

Course

Descriptions

BTC 282 Biotechnology Fermentation I

2 6 4

Prerequisites: BTC 181

Corequisites: None

This course provides an introduction to fermentor classification and configuration for small-scale laboratory processes utilizing prokaryotic organisms to demonstrate techniques used in fermentation procedures. Topics include Batch Process Records, fermentor design, fermentation theory, and medium formulation as well as techniques used for cell harvesting, cell disruption and fractionation methods. Upon completion, students should be able to set up a fermentor; grow prokaryotic cells; and isolate and collect various fractions derived from fermentation.

BTC 283 Biotechnology Fermentation II

2 6 4

Prerequisites: BTC 282

Corequisites: None

This course introduces techniques for recovery of fermentation products to include removal of insolubles, product isolation, high resolution techniques and product polishing using eukaryotic cells. Topics include filter design, separation processes such as flocculation, coagulation, distillation, liquid-liquid extraction, different types of chromatography and emerging technologies for product recovery. Upon completion, students should be able to perform eukaryotic cell cultivation and various separation techniques used in small-scale fermentation with an understanding of scale-up procedures.

BTC 285 Cell Culture

2 3 3

Prerequisites: BIO 175, BIO 275, Enrollment in the Biotechnology Program

Corequisites: None

This course introduces the theory and practices required to successfully initiate and maintain plant and animal cell cultures. Topics include aseptic techniques, the growth environment, routine maintenance of cell cultures, specialized culture techniques, and various applications. Upon completion, students should be able to demonstrate the knowledge and skills required to grow, maintain, and manipulate cells in culture.

BTC 286 Immunological Techniques

3 3 4

Prerequisites: BTC 285

Corequisites: None

This course covers the principles and practices of modern immunology, including the interactions between the various cellular and chemical components of the immune response. Topics include antigens, humoral immunity, cellular immunity, complement, immunological assays, and hybridoma use and production. Upon completion, students should be able to discuss the immune response, perform immunological assays, and make monoclonal antibody-producing hybridomas.

BTC 288 Biotech Lab Experience

0 6 2

Prerequisites: BIO 250 or BTC 270, and BTC 281, BTC 285, or BTC 286

Corequisites: None

This course provides an opportunity to pursue an individual laboratory project in biotechnology. Emphasis is placed on developing, performing, and maintaining records of a project in a specific area of interest. Upon completion, students should be able to complete the project with accurate records and demonstrate an understanding of the process.

Business Administration

	BUS 110 Introduction to Business	3 0 3
Course	Prerequisites: None	
Descriptions	Corequisites: None	
	This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	BUS 115 Business Law I	3 0 3
	Prerequisites: None	
	Corequisites: None	
	This course introduces the ethics and legal framework of business. Emphasis is placed on contracts, negotiable instruments, Uniform Commercial Code, and the working of the court systems. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	BUS 116 Business Law II	3 0 3
	Prerequisites: BUS 115	
	Corequisites: None	
	This course continues the study of ethics and business law. Emphasis is placed on bailments, sales, risk-bearing, forms of business ownership, and copyrights. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations.	
	BUS 135 Principles of Supervision	3 0 3
	Prerequisites: None	
	Corequisites: None	
	This course introduces the basic responsibilities and duties of the supervisor and his/her relationship to higher-level supervisors, subordinates, and associates. Emphasis is placed on effective utilization of the work force and understanding the role of the supervisor. Upon completion, students should be able to apply supervisory principles in the workplace.	
	*BUS 137 Principles of Management	3 0 3
	Prerequisites: None	
	Corequisites: None	
	This course is designed to be an overview of the major functions of management. Emphasis is placed on planning, organizing, controlling, directing, and communicating. Upon completion, students should be able to work as contributing members of a team utilizing these functions of management.	
	BUS 147 Business Insurance	3 0 3
	Prerequisites: None	
	Corequisites: None	
	This course surveys the basic concepts of risk management. Topics include principles and applications of health, property, life, and casualty insurance. Upon completion, students should be able to evaluate different insurance needs and assist an organization in acquiring adequate insurance coverage.	
	BUS 151 People Skills	3 0 3
	Prerequisites: None	
	Corequisites: None	
	This course introduces the basic concepts of identity and communication in the business setting. Topics include self-concept, values, communication styles, feelings and emotions, roles versus relationships, and basic assertiveness, listening, and conflict resolution. Upon completion, students should be able to distinguish between unhealthy, self-destructive, communication patterns and healthy, non-destructive, positive communication patterns.	

BUS 153 Human Resources Management **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns.

Course

Descriptions

BUS 217 Employment Law and Regulations **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the principle laws and regulations affecting public and private organizations and their employees or prospective employees. Topics include fair employment practices, EEO, affirmative action, and employee rights and protections. Upon completion, students should be able to evaluate organization policy for compliance and assure that decisions are not contrary to law.

BUS 225 Business Finance **2 2 3**

Prerequisites: ACC 120

Corequisites: None

This course provides an overview of business financial management. Emphasis is placed on financial statement analysis, time value of money, management of cash flow, risk and return, and sources of financing. Upon completion, students should be able to interpret and apply the principles of financial management.

BUS 230 Small Business Management **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the challenges of entrepreneurship including the start-up and operation of a small business. Topics include market research techniques, feasibility studies, site analysis, financing alternatives, and managerial decision making. Upon completion, students should be able to develop a small business plan.

BUS 234 Training and Development **3 0 3**

Prerequisites: None

Corequisites: None

This course covers developing, conducting, and evaluating employee training with attention to adult learning principles. Emphasis is placed on conducting a needs assessment, using various instructional approaches, designing the learning environment, and locating learning resources. Upon completion, students should be able to design, conduct, and evaluate a training program.

***BUS 239 Business Applications Seminar** **1 2 2**

Prerequisites: ACC 120, BUS 115, BUS 137, MKT 120 and either ECO 151, ECO 251 or ECO 252

Corequisites: None

This course is designed as a capstone course for Business Administration majors. Emphasis is placed on decision making in the areas of management, marketing, production, purchasing, and finance. Upon completion, students should be able to apply the techniques, processes, and vital professional skills needed in the workplace.

BUS 240 Business Ethics **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces contemporary and controversial ethical issues that face the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the work force and society.

	BUS 256	Recruit Select and Per Plan	3	0	3
Course	Prerequisites:	None			
Descriptions	Corequisites:	None			
	This course introduces the basic principles involved in managing the employment process. Topics include personnel planning, recruiting, interviewing and screening techniques, maintaining employees records; and voluntary and involuntary separations. Upon completion, students should be able to acquire and retain employees who match position requirements and fulfill organizational objectives. The course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.				
	BUS 258	Compensation and Benefits	3	0	3
	Prerequisites:	None			
	Corequisites:	None			
	This course is designed to study the basic concepts of pay and its role in rewarding performance. Topics include wage and salary surveys, job analysis, job evaluation techniques, benefits, and pay-for-performance programs. Upon completion, students should be able to develop and manage a basic compensation system to attract, motivate, and retain employees. This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.				
	BUS 259	HRM Applications	3	0	3
	Prerequisites:	BUS 217, BUS 234, BUS 256, and BUS 258			
	Corequisites:	None			
	This course provides students in the Human Resources Management concentration the opportunity to reinforce their learning experiences from preceding HRM courses. Emphasis is placed on application of day-to-day HRM functions by completing in-basket exercises and through simulations. Upon completion, students should be able to determine the appropriate actions called for by typical events that affect the status of people at work. This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.				
	BUS 260	Business Communication	3	0	3
	Prerequisites:	CIS 110 and ENG 111			
	Corequisites:	None			
	This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the workplace.				
	BUS 270	Professional Development	3	0	3
	Prerequisites:	None			
	Corequisites:	None			
	This course provides basic knowledge of self-improvement techniques as related to success in the professional world. Topics include positive human relations, job-seeking skills, and projecting positive self-image. Upon completion, students should be able to demonstrate competent personal and professional skills necessary to get and keep a job.				
	Cabinetmaking				
	CAB 111	Cabinetmaking I	4	9	7
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces wood technology, materials, purchasing, estimating, design considerations, and cabinet construction. Topics include wood identification and use, hand tools, safe machine operation, glue and clamping, abrasives, wood joinery, kitchen and bath layout, laminates, and finishing techniques. Upon completion, students should be able to select and process materials; make sound production decisions; and design, lay out, construct, and install cabinets. This is a diploma-level course.				

Carpentry

CAR 110 Introduction to Carpentry

2 0 2

Prerequisites: None

Corequisites: None

This course introduces the student to the carpentry trade. Topics include duties of a carpenter, hand and power tools, building materials, construction methods, and safety. Upon completion, students should be able to identify hand and power tools, common building materials, and basic construction methods.

Course

Descriptions

CAR 111 Carpentry I

3 15 8

Prerequisites: None

Corequisites: None

This course introduces the theory and construction methods associated with the building industry, including framing, materials, tools, and equipment. Topics include safety, hand/power tool use, site preparation, measurement and layout, footings and foundations, construction framing, and other related topics. Upon completion, students should be able to safely lay out and perform basic framing skills with supervision. This is a diploma-level course.

CAR 112 Carpentry II

3 15 8

Prerequisites: CAR 111

Corequisites: None

This course covers the advanced theory and construction methods associated with the building industry including framing and exterior finishes. Topics include safety, hand/power tool use, measurement and layout, construction framing, exterior trim and finish, and other related topics. Upon completion, students should be able to safely frame and apply exterior finishes to a residential building with supervision. This is a diploma-level course.

CAR 113 Carpentry III

3 9 6

Prerequisites: CAR 111

Corequisites: None

This course covers interior trim and finishes. Topics include safety, hand/power tool use, measurement and layout, specialty framing, interior trim and finishes, cabinetry, and other related topics. Upon completion, students should be able to safely install various interior trim and finishes in a residential building with supervision. This is a diploma-level course.

CAR 114 Residential Building Codes

3 0 3

Prerequisites: None

Corequisites: None

This course covers building codes and the requirements of state and local construction regulations. Emphasis is placed on the minimum requirements of the North Carolina building codes related to residential structures. Upon completion, students should be able to determine if a structure is in compliance with North Carolina building codes.

CAR 115 Residential Planning/Estimating

3 0 3

Prerequisites: BPR 130

Corequisites: None

This course covers project planning, management, and estimating for residential or light commercial buildings. Topics include planning and scheduling, interpretation of working drawings and specifications, estimating practices, and other related topics. Upon completion, students should be able to perform quantity take-offs and cost estimates.

Cyber Crime

CCT 110 Introduction to Cyber Crime **3 0 3**

Prerequisites: None

Corequisites: None

Course

This course introduces and explains the various types of offenses that qualify as cyber crime activity. Emphasis is placed on identifying cyber crime activity and the response to these problems from both the private and public domains. Upon completion, students should be able to accurately describe and define cyber crime activities and select an appropriate response to deal with the problem.

CCT 121 Computer Crime Investigation **3 2 4**

Prerequisites: None

Corequisites: None

Descriptions

This course introduces the fundamental principles of computer crime investigation processes. Topics include crime scene/incident processing, information gathering techniques, data retrieval, collection and preservation of evidence, preparation of reports and court presentations. Upon completion, students should be able to identify cyber crime activity and demonstrate proper investigative techniques to process the scene and assist in case prosecution.

CCT 231 Technology Crimes and Law **3 0 3**

Prerequisites: None

Corequisites: None

This course covers the applicable technological laws dealing with the regulation of cyber security and criminal activity. Topics include an examination of state, federal and international laws regarding cyber crime with an emphasis on both general and North Carolina statutes. Upon completion, students should be able to identify the elements of cyber crime activity and discuss the trends of evolving laws.

Computer Engineering Technology

CET 111 Computer Upgrade/Repair I **2 3 3**

Prerequisites: None

Corequisites: None

This course is the first of two courses covering repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include safety practices, CPU/memory/bus identification, disk subsystem, hardware/software installation/configuration, common device drivers, data recovery, system maintenance, and other related topics. Upon completion, students should be able to safely repair and/or upgrade computer systems to perform within specifications.

CET 211 Computer Upgrade/Repair II **2 3 3**

Prerequisites: CET 111

Corequisites: None

This course is the second of two courses covering repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include resolving resource conflicts and system bus specifications, configuration and troubleshooting peripherals, operating system configuration and optimization, and other related topics. Upon completion, students should be able to identify and resolve system conflicts and optimize system performance.

CET 212 Integrated Manufacturing Systems **1 3 2**

Prerequisites: ELN 237

Corequisites: None

This course covers computer topics related to integrated manufacturing systems common to current manufacturing facilities. Topics include robot programming, automated control systems, PLCs, data communication, and networking in an integrated manufacturing environment, and other related topics. Upon completion, students should be able to program robots using teaching pendants and troubleshoot and maintain network installations related to integrated manufacturing systems.

Chemistry

CHM 121 Foundations of Chemistry **3 0 3**

Prerequisites: None

Corequisites: CHM 121A

This course is designed for those who have no previous high school chemistry or a grade of C or less in high school chemistry. Topics include matter, structure of the atom, nomenclature, chemical equations, bonding and reactions; mathematical topics include measurements, scientific notation, and stoichiometry. Upon completion, students should be able to demonstrate an understanding of chemical concepts and an ability to solve related problems in subsequent chemistry courses.

CHM 121A Foundations of Chemistry Laboratory **0 2 1**

Prerequisites: None

Corequisites: CHM 121

This course is a laboratory for CHM 121. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 121. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 121.

CHM 130 General, Organic, and Biochemistry **3 0 3**

Prerequisites: High school chemistry or CHM 121 and CHM 121A

Corequisites: CHM 130A

This course provides a survey of basic facts and principles of general, organic, and biochemistry. Topics include measurement, molecular structure, nuclear chemistry, solutions, acid-base chemistry, gas laws, and the structure, properties, and reactions of major organic and biological groups. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

CHM 130A General, Organic, and Biochemistry Lab **0 2 1**

Prerequisites: None

Corequisites: CHM 130

This course is a laboratory for CHM 130. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 130. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 130. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

CHM 132 Organic and Biochemistry **3 3 4**

Prerequisites: CHM 131 and 131A or CHM 151

Corequisites: None

This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties, and reactions of the major organic and biological molecules and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

CHM 135 Survey of Chemistry I **3 2 4**

Prerequisites: None

Corequisites: None

This course provides an introduction to inorganic chemistry. Emphasis is placed on measurement, atomic structure, bonding, molecular geometry, nomenclature, reactions, the mole concept, stoichiometric calculations, states of matter, and the gas laws. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. This introductory course series to chemistry emphasizes the practical impact of chemistry and scientific reasoning on society. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

Course

Descriptions

	CHM 136	Survey of Chemistry II	3	2	4
Course	Prerequisites:	CHM 135			
Descriptions	Corequisites:	None			
	This course is a continuation of CHM 135 with further study of inorganic reactions and an introduction to organic, biological, and nuclear chemistry. Topics include solutions, acid-base theory, redox reactions, chemical kinetics, organic chemistry, biochemistry, and nuclear chemistry. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. This introductory course series to chemistry emphasizes the practical impact of chemistry and scientific reasoning on society. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.				
	CHM 151	General Chemistry I	3	3	4
	Prerequisites:	High school chemistry or CHM 121 and CHM 121A			
	Corequisites:	MAT 161 OR MAT 171			
	This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.				
	CHM 152	General Chemistry II	3	3	4
	Prerequisites:	CHM 151			
	Corequisites:	None			
	This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.				
	CHM 251	Organic Chemistry I	3	3	4
	Prerequisites:	CHM 152			
	Corequisites:	None			
	This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.				
	CHM 252	Organic Chemistry II	3	3	4
	Prerequisites:	CHM 251			
	Corequisites:	None			
	This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.				

CHM 265 Instrumental Analysis

2 6 4

Prerequisites: CHM 251

Corequisites: None

This course introduces modern instrumental and chromatographic methods.

Topics include methods of chromatographic, spectral, and electrochemical analysis which will provide theory of instrumentation, interpretation, and statistical evaluation of analytical data with practical applications. Upon completion, students should be able to perform quantitative analytical procedures using modern instrumentation. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Course

Descriptions

CHM 271 Biochemical Principles

3 0 3

Prerequisites: CHM 252

Corequisites: None

The course covers fundamental principles of biochemistry. Topics include structures, properties, reactions, and mechanisms of biomacromolecules including amino acids, peptides, proteins, carbohydrates and nucleic acids, enzymatic metabolic pathways, and biochemical genetics. Upon completion, students should be able to demonstrate an understanding of fundamental biochemical processes. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirements.

Information Systems

CIS 110 Computer Concepts

2 2 3

Prerequisites: Basic computer literacy is necessary (if you do not have basic skills, CTS 060 will give you the foundation for this course)

Corequisites: None

This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. Microsoft Office will be used in this course; this includes Word, Excel, Access and PowerPoint. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option).

CIS 111 PC Literacy

1 2 2

Prerequisites: Basic computer literacy is necessary (if you do not have basic skills, CTS 060 will give you the foundation for this course)

Corequisites: None

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills.

CIS 113 Computer Basics

0 2 1

Prerequisites: None

Corequisites: None

This course introduces basic computer usage for non-computers majors. Emphasis is placed on developing basic personal computer skills. Upon completion, students should be able to demonstrate basic computer applications.

	CIS 115	Introduction to Programming and Logic	2	3	3
Course	Prerequisites:	Select One: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175			
Descriptions	Corequisites:	None			
	This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option).				

Civil Engineering

	CIV 110	Statics/Strength of Materials	2	6	4
Course	Prerequisites:	MAT 121			
Descriptions	Corequisites:	None			
	This course includes vector analysis, equilibrium of force systems, friction, sectional properties, stress/strain, and deformation. Topics include resultants and components of forces, moments and couples, free-body diagrams, shear and moment diagrams, trusses, frames, beams, columns, connections, and combined stresses. Upon completion, students should be able to analyze simple structures.				
	CIV 111	Soils and Foundations	2	3	3
Course	Prerequisites:	CIV 110 or MEC 250			
Descriptions	Corequisites:	None			
	This course presents an overview of soil as a construction material using both analysis and testing procedures. Topics include index properties, classification, stress analysis, compressibility, compaction, dewatering, excavation, stabilization, settlement, and foundations. Upon completion, students should be able to perform basic soil tests and analyze engineering properties of soil.				
	CIV 125	Civil/Surveying CAD	1	6	3
Course	Prerequisites:	CIS 111, EGR 115, and SRV 110			
Descriptions	Corequisites:	None			
	This course introduces civil/surveying computer-aided drafting (CAD) software. Topics include drawing, editing, and dimensioning commands; plotting; and other related civil/surveying topics. Upon completion, students should be able to produce civil/surveying drawings using CAD software.				
	CIV 210	Engineering Materials	1	3	2
Course	Prerequisites:	None			
Descriptions	Corequisites:	None			
	This course covers the behavior and properties of Portland cement and asphaltic concretes and laboratory and field testing. Topics include cementing agents and aggregates; water and admixtures; proportioning, production, placing, consolidation, and curing; and inspection methods. Upon completion, students should be able to proportion concrete mixes to attain predetermined strengths and other properties and perform standard control tests.				
	CIV 211	Hydraulics and Hydrology	2	3	3
Course	Prerequisites:	CIV 110 or MEC 250			
Descriptions	Corequisites:	None			
	This course introduces the basic engineering principles and characteristics of hydraulics and hydrology. Topics include precipitation and runoff, fluid statistics and dynamics, flow measurement, and pipe and open channel flow. Upon completion, students should be able to analyze and size drainage structures.				

CIV 212 Environmental Planning

2 3 3

Prerequisites: CIV 211

Corequisites: None

This course covers water and wastewater technology, erosion and sedimentation control, and other related topics. Topics include collection, treatment, and distribution of water and wastewater and erosion and sedimentation control law. Upon completion, students should be able to demonstrate knowledge of water and wastewater systems and prepare erosion and sedimentation control plans.

Course

Descriptions

CIV 215 Highway Technology

1 3 2

Prerequisites: SRV 111

Corequisites: CIV 211

This course introduces the essential elements of roadway components and design. Topics include subgrade and pavement construction, roadway drawings and details, drainage, superelevation, and N.C. Department of Transportation Standards. Upon completion, students should be able to use roadway drawings and specifications to develop superelevation, drainage, and general highway construction details.

CIV 220 Basic Structural Concepts

1 3 2

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course covers the historical perspective of structures as well as types, materials, common elements, and mechanical principles of structures. Topics include basic structure shapes, advantages and disadvantages of standard building materials, application of structural concepts, and other related topics. Upon completion, students should be able to demonstrate an understanding of basic structural concepts.

CIV 221 Steel and Timber Design

2 3 3

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course introduces the basic elements of steel and timber structures. Topics include the analysis and design of steel and timber beams, columns, and connections and the use of appropriate manuals and codes. Upon completion, students should be able to analyze, design, and draw simple steel and timber structures.

CIV 222 Reinforced Concrete

2 3 3

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course introduces the basic elements of reinforced concrete and masonry structures. Topics include analysis and design of reinforced concrete beams, slabs, columns, footings, and retaining walls; load-bearing masonry walls; and ACI manuals and codes. Upon completion, students should be able to analyze and design components of a structure using reinforced concrete and masonry elements and utilize appropriate ACI publications.

CIV 230 Construction Estimating

2 3 3

Prerequisites: Select One: ARC 111, CIS 110, CIS 111, ERG 115

Corequisites: None

This course covers quantity take-offs of labor, materials, and equipment and calculation of direct and overhead costs for a construction project. Topics include the interpretation of working drawings and specifications, types of contracts and estimates, building codes, bidding techniques and procedures, and estimating software. Upon completion, students should be able to prepare a detailed cost estimate and bid documents for a construction project.

	CIV 240	Project Management	2	3	3
Course	Prerequisites:	EGR 115			
Descriptions	Corequisites:	None	This course introduces construction planning and scheduling techniques and project management software. Topics include construction safety, operation analysis, construction scheduling, construction control systems, claims and dispute resolutions, project records, and documentation. Upon completion, students should be able to demonstrate an understanding of the roles of construction project participants, maintain construction records, and prepare construction schedules.		

	CIV 250	Civil Engineering Technology Project	1	3	2
Course	Prerequisites:	Successful completion of three semesters of the Civil Engineering Technology Program			
Descriptions	Corequisites:	None	This course includes an integrated team approach to civil engineering technology projects. Emphasis is placed on project proposal, site selection, analysis/design of structures, construction material selection, time and cost estimating, planning, and management of a project. Upon completion, students should be able to apply team concepts, prepare estimates, submit bid proposals, and manage projects.		

Criminal Justice

	CJC 100	Basic Law Enforcement Training	9	30	19
Course	Prerequisites:	RED 090			
Descriptions	Corequisites:	None	This course covers the skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Emphasis is placed on topics and areas as defined by the North Carolina Administrative Code. Upon completion, students should be able to demonstrate competence in the topics and areas required for the state comprehensive examination. This is a certificate-level course.		

	CJC 111	Introduction to Criminal Justice	3	0	3
Course	Prerequisites:	None			
Descriptions	Corequisites:	None	This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.		

	CJC 112	Criminology	3	0	3
Course	Prerequisites:	None			
Descriptions	Corequisites:	None	This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.		

	CJC 113	Juvenile Justice	3	0	3
Course	Prerequisites:	None			
Descriptions	Corequisites:	None	This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition.		

CJC 114 Investigative Photography

1 2 2

Prerequisites: None

Corequisites: None

This course covers the operation of various photographic equipment and its application to criminal justice. Topics include using various cameras, proper exposure of film, developing film/prints, and preparing photographic evidence. Upon completion, students should be able to demonstrate and explain the role of photography and proper film exposure and development techniques.

Course

Descriptions

CJC 120 Interviews/Interrogations

1 2 2

Prerequisites: None

Corequisites: None

This course covers basic and special techniques employed in criminal justice interviews and interrogations. Emphasis is placed on the interview/interrogation process, including interpretation of verbal and physical behavior and legal perspectives. Upon completion, students should be able to conduct interviews/interrogations in a legal, efficient, and professional manner and obtain the truth from suspects, witnesses, and victims.

CJC 121 Law Enforcement Operations

3 0 3

Prerequisites: None

Corequisites: None

This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations. There will be an emphasis on practical skills. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

CJC 122 Community Policing

3 0 3

Prerequisites: None

Corequisites: None

This course covers the historical, philosophical, and practical dimensions of community policing. Emphasis is placed on the empowerment of police and the community to find solutions to problems by forming partnerships. Upon completion, students should be able to define community policing, describe how community policing strategies solve problems, and compare community policing to traditional policing.

CJC 131 Criminal Law

3 0 3

Prerequisites: None

Corequisites: None

This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements. There will be an emphasis on North Carolina law.

CJC 132 Court Procedure and Evidence

3 0 3

Prerequisites: None

Corequisites: None

This course covers judicial structure/process, procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence.

	CJC 141 Corrections		3	0	3
Course	Prerequisites: None				
Descriptions	Corequisites: None				
	This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.				
	CJC 151 Introduction to Loss Prevention		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course introduces the concepts and methods related to commercial and private security systems. Topics include the historical, philosophical, and legal basis of security, with emphasis on security surveys, risk analysis, and associated functions. Upon completion, students should be able to demonstrate and understand security systems, risk management, and the laws relative to loss prevention.				
	CJC 211 Counseling		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course introduces the basic elements of counseling and specific techniques applicable to the criminal justice setting. Topics include observation, listening, recording, interviewing, and problem exploration necessary to form effective helping relationships. Upon completion, students should be able to discuss and demonstrate the basic techniques of counseling.				
	CJC 212 Ethics and Community Relations		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to demonstrate the ability to apply ethical considerations to the decision-making process in identifiable criminal justice situations.				
	CJC 213 Substance Abuse		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be able to identify various types of drugs, their effects on human behavior and society, and treatment modalities. Drug enforcement programs and techniques will be discussed.				
	CJC 214 Victimology		3	0	3
	Prerequisites: None				
	Corequisites: None				
	This course introduces the study of victims. Emphasis is placed on roles/characteristics of victims, victim interaction with the criminal justice system and society, current victim assistance programs, and other related topics. Upon completion, students should be able to discuss and identify victims, the uniqueness of victims' roles, and current victim assistance programs.				

CJC 215 Organization and Administration

3 0 3

Prerequisites: CJC 111

Corequisites: None

This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations.

Course

Descriptions

CJC 221 Investigative Principles

3 2 4

Prerequisites: CJC 131

Corequisites: None

This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation.

CJC 222 Criminalistics

3 0 3

Prerequisites: None

Corequisites: None

This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence. An emphasis will be placed on current technology for collection and classification of fingerprint evidence.

CJC 223 Organized Crime

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the evolution of traditional and non-traditional organized crime and its effect on society and the criminal justice system. Topics include identifying individuals and groups involved in organized crime, areas of criminal activity, legal and political responses to organized crime, and other related topics. Upon completion, students should be able to identify the groups and activities involved in organized crime and the responses of the criminal justice system.

CJC 225 Crisis Intervention

3 0 3

Prerequisites: None

Corequisites: None

This course introduces critical incident intervention and management techniques as they apply to operational criminal justice practitioners. Emphasis is placed on the victim/offender situation as well as job-related high stress, dangerous, or problem-solving citizen contacts. Upon completion, students should be able to provide insightful analysis of emotional, violent, drug-induced, and other critical and/or stressful incidents that require field analysis and/or resolution.

CJC 231 Constitutional Law

3 0 3

Prerequisites: None

Corequisites: None

The course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/procedures as interpreted by the courts.

	CJC 232 Civil Liability	3 0 3
Course	Prerequisites: None Corequisites: None This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues.	
Descriptions	CJC 251 Forensic Chemistry I	3 2 4
	Prerequisites: None Corequisites: None This course provides a study of the fundamental concepts of chemistry as it relates to forensic science. Topics include physical and chemical properties of substances, metric measurements, chemical changes, elements, compounds, gases, and atomic structure. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of forensic chemistry.	
	CJC 252 Forensic Chemistry II	3 2 4
	Prerequisites: CJC 251 Corequisites: None This course provides a study of specialized areas of chemistry specifically related to forensic science. Topics include properties of light, emission and absorption spectra, spectrophotometry, gas and liquid chromatography, and related topics in organic and biochemistry. Upon completion, students should be able to demonstrate an understanding of specialized concepts in forensic chemistry.	
	CJC 255 Issue in Criminal Justice App	3 0 3
	Prerequisites: CJC 111, CJC 221, and CJC 231 Corequisites: None This course provides an opportunity to exhibit interpersonal and technical skills required for application of criminal justice concepts in contemporary practical situations. Emphasis is placed on critical thinking and integration of theory and practical skills components. Upon completion, students should be able to demonstrate the knowledge required of any entry-level law enforcement officer.	

Construction Management

*CMT 210 Professional Construction Supervision	3 0 3
Prerequisites: None Corequisites: None This course introduces the student to the fundamentals of effective supervision emphasizing professionalism through knowledge and applied skills. Topics include safety, planning and scheduling, contract, problem-solving, communications, conflict resolution, recruitment, employment laws and regulations, leadership, motivation, teamwork, discipline, setting objectives, and training. Upon completion, the student should be able to demonstrate the basic skills necessary to be successful as a supervisor in the construction industry.	
*CMT 212 Total Safety Performance	3 0 3
Prerequisites: None Corequisites: CMT 210 This course covers the importance of managing safety and productivity equally by encouraging people to take individual responsibility for safety and health in the workplace. Topics include safety management, controlling construction hazards, communicating and enforcing policies, OSHA compliance, personal responsibility and accountability, safety planning, training, and personal protective equipment. Upon completion, students should be able to supervise safety at a construction job site and qualify for the OSHA Training Certification.	

***CMT 214 Planning and Scheduling**

3 0 3

Prerequisites: CMT 210 and BPR 130

Corequisites: None

This course covers the need for the process of planning construction projects, as well as the mechanics and vocabulary of project scheduling. Topics include project preplanning, scheduling format, planning for production, short interval planning, schedule updating and revising, and computer-based planning and scheduling. Upon completion, the student should be able to understand the need for planning and scheduling, the language and logic of scheduling, and use of planning skills.

Course

Descriptions

***CMT 216 Costs and Productivity**

3 0 3

Prerequisites: CMT 210

Corequisites: None

This course covers the relationships between time, work completed, work-hours spent, schedule duration, equipment hours, and materials used. Topics include production rates, productivity unit rates, work method improvements, and overall total project cost control. Upon completion, the student should be able to demonstrate an understanding of how costs may be controlled and productivity improved on a construction project.

***CMT 218 Human Relations Issues**

3 0 3

Prerequisites: CMT 210

Corequisites: None

This course provides instruction on human relations issues as they relate to construction project supervision. Topics include relationships, human behavior, project staffing issues, teamwork, effective communication networks, laws and regulations, and identifying and responding to conflict, crisis, and discipline. Upon completion, the student will demonstrate an understanding of the importance of human relations in the success of a construction project.

Cooperative Education**COE 111 Co-op Work Experience I**

0 0 10 1

Prerequisites: See department chair for prerequisites

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. This course is also available through the Virtual Learning Community (VLC).

COE 112 Co-op Work Experience I

0 0 20 2

Prerequisites: See department chair for prerequisites

Corequisites: None

This course provides work experience with a college approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 113 Co-op Work Experience I

0 0 30 3

Prerequisites: See department chair for prerequisites

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

	COE 115	Work Experience Seminar I	1	0	0	1
	Prerequisites:	See department chair for prerequisites				
	Corequisites:	COE 111, COE 112, COE 113, or COE 114				
	This course description may be written by the individual colleges.					
	COE 121	Co-op Work Experience II	0	0	10	1
Course	Prerequisites:	See department chair for prerequisites				
	Corequisites:	None				
Descriptions	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.					
	COE 122	Co-op Work Experience II	0	0	20	2
	Prerequisites:	See department chair for prerequisites				
	Corequisites:	None				
	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.					
	COE 123	Co-op Work Experience II	0	0	30	3
	Prerequisites:	See department chair for prerequisites				
	Corequisites:	None				
	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.					
	COE 125	Work Experience Seminar II	1	0	0	1
	Prerequisites:	See department chair for prerequisites				
	Corequisites:	COE 121, COE 122, COE 123, or COE 124				
	This course description may be written by the individual college.					
	COE 131	Co-op Work Experience III	0	0	10	1
	Prerequisites:	See department chair for prerequisites				
	Corequisites:	None				
	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.					
	*COE 132	Co-op Work Experience III	0	0	20	2
	Prerequisites:	See department chair for prerequisites				
	Corequisites:	None				
	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.					
	*COE 135	Work Experience Seminar III	1	0	0	1
	Prerequisites:	See department chair for prerequisites				
	Corequisites:	COE 131, COE 132, COE 133, or COE 134				
	This course description my be written by the individual colleges.					

COE 211 Co-op Work Experience IV **0 0 10 1**

Prerequisites: See department chair for prerequisites

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

Course

Descriptions

COE 212 Work Experience IV **0 0 20 2**

Prerequisites: See department chair for prerequisites

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 213 Co-op Work Experience IV **0 0 30 3**

Prerequisites: See department chair for prerequisites

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 215 Work Experience Seminar IV **1 0 0 1**

Prerequisites: See department chair for prerequisites

Corequisites: COE 211, COE 212, COE 213, or COE 214

This course description may be written by the individual colleges.

Communications

COM 120 Interpersonal Communication **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute). This course is also available through the Virtual Learning Community (VLC).

COM 231 Public Speaking **3 0 3**

Prerequisites: None

Corequisites: None

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in speech/communications.

	COM 250	Public Communication	3	0	3
Course	Prerequisites:	ENG 113 or ENG 114, and COM 120 or COM 231			
Descriptions	Corequisites:	None			

This course provides a comprehensive theoretical background for the practice of speaking in public utilizing rhetoric principles applied in a series of speaking experiences. Emphasis is on informative and persuasive advanced speaking skills; speaking using the teleprompter, and on-camera presentations of news, weather and commercials. Upon completion, students should be able to construct, present, and critique public communications that are complex, dynamic and purposeful. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Computer Programming

CSC 139	Visual BASIC Programming	2	3	3
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Prerequisites:	CIS 115			
Corequisites:	None			
This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level.				

CSC 151	JAVA Programming	2	3	3
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Prerequisites:	CIS 115			
Corequisites:	None			
This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.				

Computer Information Technology

CTS 060	Essential Computer Usage	1	2	2
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Prerequisites:	None			
Corequisites:	None			
This course covers the basic functions and operations of the computer. Topics include identification of components, overview of operating systems and other basic computer operations. Upon completion, students should be able to perform basic computer commands, access files, print documents and complete fundamental application operations.				

CTS 120	Hardware/Software Support	2	3	3
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Prerequisites:	CIS 110 or CIS 111, and NOS 110			
Corequisites:	None			
This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers.				

CTS 125	Presentation Graphics	2	2	3
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Prerequisites: CIS 110 or CIS 111

Corequisites: None

This course provides hands-on experience with a graphics presentation package. Topics include terminology, effective chart usage, design and layout, integrating hardware components, and enhancing presentations with text, graphics, audio and video. Upon completion, students should be able to design and demonstrate an effective presentation.

Course

Descriptions

CTS 130	Spreadsheet	2	2	3
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Prerequisites: CIS 110 or CIS 111 or OST 137, and MAT 070

Corequisites: None

This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts. This course covers advanced functions, charting, macros, databases, and linking.

CTS 135	Integrated Software Intro	2	4	4
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Prerequisites: CIS 110 or CIS 111

Corequisites: None

This course instructs students in the Windows or Linux based program suites for word processing, spreadsheet, database, personal information manager, and presentation software. This course prepares students for introductory level skills in database, spreadsheet, personal information manager, word processing, and presentation applications to utilize data sharing. Upon completion, students should be able to design and integrate data at an introductory level to produce documents using multiple technologies.

CTS 155	Tech Support Functions	2	2	3
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Prerequisites: CIS 110, DBA 110, and WEB 140

Corequisites: None

This course introduces a variety of diagnostic and instructional tools that are used to evaluate the performance of technical support technologies. Emphasis is placed in technical support management techniques and support technologies. Upon completion, students should be able to determine the best technologies to support and solve actual technical support problems.

CTS 210	Computer Ethics	3	0	3
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Prerequisites: Select One: Net 110, CIS 110, CIS 111, TNE 111

Corequisites: None

This course introduces the student to current legal and ethical issues in the computer/engineering field. Topics include moral reasoning, ethical standards, intellectual property, social issues, encryption, software piracy, constitutional issues, and public policy in related matters. Upon completion, students should be able to demonstrate an understanding of the moral and social responsibilities and public policy issues facing an industry.

*CTS 217	Computer Training/Support	2	2	3
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Prerequisites: CIS 110, DBA 110, and WEB 140

Corequisites: None

This course introduces computer training and support techniques. Topics include methods of adult learning, training design, delivery, and evaluation, creating documentation, and user support methods. Upon completion, students should be able to design and implement training and provide continued support for computer users.

	CTS 220	Advanced Hard/Software Support	2	3	3
Course	Prerequisites:	CTS 120			
Descriptions	Corequisites:	None			
	This course provides advanced knowledge and competencies in hardware and operating system technologies for computer technicians to support personal computers. Emphasis is placed on configuring and upgrading; diagnosis and troubleshooting; as well as preventative maintenance of hardware and system software. Upon completion, students should be able to install, configure, diagnose, perform preventative maintenance, and maintain basic networking on personal computers.				
	CTS 240	Project Management	2	2	3
	Prerequisites:	CIS 110 or CIS 111, CIS 115 and CTS 135			
	Corequisites:	None			
	This course introduces computerized project management software. Topics include identifying critical paths, cost management, time management, and problem solving. Upon completion, students should be able to plan a computer project and project time and cost accurately.				
	CTS 250	User Support and Software Eval	2	2	3
	Prerequisites:	CTS 120, NOS 130, CTS 155, and CTS 217			
	Corequisites:	None			
	This course provides an opportunity to evaluate software and hardware and make recommendations to meet end-user needs. Emphasis is placed on software and hardware evaluation, installation, training, and support. Upon completion, students should be able to present proposals and make hardware and software recommendations based on their evaluations.				
	*CTS 285	Systems Analysis and Design	3	0	3
	Prerequisites:	CIS 115, DBA 110 and Department Chair Approval			
	Corequisites:	None			
	This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.				
	*CTS 288	Professional Practices in IT	2	2	3
	Prerequisites:	CTS 285			
	Corequisites:	None			
	This course provides students with the business skills needed to succeed in the information technology field. Topics include portfolio development, resume design, interviewing techniques and professional practices. Upon completion, students should be able to prepare themselves and their work for a career in the information technology field.				
	*CTS 289	System Support Project	1	4	3
	Prerequisites:	CTS 285			
	Corequisites:	None			
	This course provides an opportunity to complete a significant support project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a project from the definition phase through implementation.				

Culinary

CUL 110 Sanitation and Safety

2 0 2

Prerequisites: None

Corequisites: CUL 110A or CUL 160A

This course introduces the basic principles of sanitation and safety and their relationship to the hospitality industry. Topics include personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of food-borne illness, and other related topics. Upon completion, students should be able to demonstrate an understanding of sanitation and safety procedures in the hospitality industry. Students are required to pass the National Restaurant Association sanitation examination to receive credit for the course.

Course

Descriptions

***CUL 110A Sanitation and Safety Lab**

0 2 1

Prerequisites: None

Corequisites: CUL 110

This course is a laboratory to accompany CUL 110. Emphasis is placed on practical experiences that enhance the materials presented in CUL 110. The focus of the class is to familiarize students with the operation and safe handling of commercial kitchen equipment. Upon completion, students should be able to demonstrate practical applications of sanitation and safety procedures in the hospitality industry.

CUL 112 Nutrition for Foodservice

3 0 3

Prerequisites: None

Corequisites: None

This course covers the principles of nutrition and its relationship to the food-service industry. Topics include fundamentals of personal nutrition, nutrition over the life cycle, weight management and exercise, health aspects of nutrition, developing healthy recipes and menus, healthy cooking techniques and marketing nutrition in a foodservice operation. Upon completion, students should be able to apply basic nutritional concepts to food preparation and selection.

CUL 120 Purchasing

2 0 2

Prerequisites: None

Corequisites: None

This course covers purchasing for hotels and restaurants. Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and food service ethics. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product.

***CUL 130 Menu Design**

2 0 2

Prerequisites: CUL 140 or CUL 142, and HRM 220

Corequisites: None

This course introduces menu design. Topics include development of standardized recipes, layout, nutritional concerns, product utilization, demographics, and customer needs. Upon completion, students should be able to write, lay out, and produce effective menus for a variety of hospitality settings.

***CUL 135 Food and Beverage Service**

2 0 2

Prerequisites: CUL 180 or HRM 124

Corequisites: None

This course covers the practical skills and knowledge for effective food and beverage service in a variety of settings. Topics include reservations, greeting and service of guests, styles of service, handling complaints, and sales and merchandising. Upon completion, students should be able to demonstrate competence in human relations and technical skills required in the service of foods and beverages.

	*CUL 135A Food and Beverage Service Lab	0	2	1
Course	Prerequisites: CUL 180 or HRM 124 Corequisites: None This course is a laboratory to accompany CUL 135. Emphasis is placed on practical experiences that enhance the materials presented in CUL 135. Upon completion, students should be able to demonstrate practical applications of skills required in the service of foods and beverages.			
Descriptions	*CUL 140 Basic Culinary Skills	2	6	5
	Prerequisites: None Corequisites: CUL 110, CUL 110A This course introduces the fundamental concepts, skills, and techniques involved in basic cookery. Emphasis is placed on recipe conversion, measurements, terminology, knife skills, safe food handling, cooking methods, flavorings, seasonings, stocks/sauces/soups, and other related topics. Upon completion, students should be able to exhibit the basic cooking skills used in the food service industry. Weekly participation in American Regional and International buffets, banquets, and a la carte production enhances students' culinary and service skills.			
	*CUL 142 Fundamentals of Food	2	6	5
	Prerequisites: None Corequisites: CUL 110, CUL 110A, HRM 124 This course introduces the student to the basic principles of cooking, baking, and kitchen operations. Topics include protein, starch, vegetable/fruit identification, selection, storage and preparation; breakfast cookery, breads, sweet doughs and pastries; knife/organizational skills, and work coordination. Upon completion, students should be able to execute efficiently a variety of cooking/baking skills as they apply to different stations in the kitchen. Weekly participation in American regional and international buffets, banquets, and a la carte production enhances student service skills.			
	*CUL 150 Food Science	1	2	2
	Prerequisites: None Corequisites: None This course covers the chemical and physical changes in foods that occur with cooking, handling, and processing. Topics include heat transfer and its effect on color, flavor, and texture; and emulsification, protein coagulation, leavening agents, viscosity, and gel formation. Upon completion, students should be able to demonstrate an understanding of the principles covered as they apply to food preparation in an experimental setting.			
	*CUL 160 Baking I	1	4	3
	Prerequisites: BPA Students: None, CUL Students: CUL 110 Corequisites: BPA Students: CUL 110 and CUL 160A, CUL Students: None This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Historical perspectives and current practices will be addressed. Upon completion, students should be able to prepare and evaluate baked products.			
	*CUL 160A Baking I Lab	0	3	1
	Prerequisites: None Corequisites: CUL 160 This is a laboratory course to accompany CUL 160. Emphasis is placed on the practical experiences that enhance the materials and skills presented in CUL 160. Upon completion, students should be able to demonstrate a basic proficiency in bakeshop applications.			

***CUL 170 Gardemanger I**

1 4 3

Prerequisites: CUL 110, CUL 110A

Corequisites: None

This course introduces basic cold food preparation techniques and pantry production. Topics include salads, sandwiches, appetizers, dressings, basic garnishes, cheeses, cold sauces, and related food items. Upon completion, students should be able to lay out a basic cold food display and exhibit an understanding of the cold kitchen and its related terminology.

Course

Descriptions

***CUL 180 International and American Regional Cuisine**

1 8 5

Prerequisites: COE 112, CUL 140, CUL 240, CUL 240A

Corequisites: None

This course provides practical experience in the planning, preparation, and service of representative foods from different countries and regions of America. Emphasis is placed on eating habits, indigenous foods and customs, nutritional concerns, and traditional equipment. Upon completion, students should be able to research and execute international and domestic menus. Weekly participation in buffets, banquets, and a la carte production enhances students' supervisory and technical skills.

***CUL 214 Wine Appreciation**

1 2 2

Prerequisites: CUL 180 or departmental approval

Corequisites: None

This course provides comprehensive and detailed information about wine from all the major wine producing countries. Emphasis is placed on the history of wine, production characteristics, laws, and purchasing and storing requirements. Upon completion, students should be able to determine what wines complement various cuisines and particular tastes. This course will also cover other beverages and legal aspects pertaining to beverage operations.

***CUL 240 Advanced Culinary Skills**

1 8 5

Prerequisites: CUL 140

Corequisites: CUL 240A

This course is a continuation of CUL 140. Emphasis is placed on meat fabrication and butchery; vegetable, starch, and protein cookery; compound sauces; plate presentation; breakfast cookery; and quantity food preparation. Upon completion, students should be able to plan, execute, and successfully serve entrees with complementary side items. Weekly participation in a la carte production enhances students' culinary and service skills.

***CUL 240A Advanced Culinary Skills Lab**

0 3 1

Prerequisites: CUL 140

Corequisites: CUL 240

This is a laboratory course to accompany CUL 240. Emphasis is placed on the practical experiences that enhance the materials and skills presented in CUL 240. Upon completion, students should be able to demonstrate a basic proficiency in the preparation of entrees and accompaniments.

***CUL 250 Classical Cuisine**

1 8 5

Prerequisites: CIS 110, COE 112, CUL 120, CUL 130, CUL 140, CUL 160, CUL 180, CUL 240, CUL 270, HRM 145 and HRM 220

Corequisites: CUL 135, CUL 135A and CUL 214

This course reinforces the classical culinary kitchen as established by Escoffier. Topics include the working Grand Brigade of the kitchen, table d'hote menus, signature dishes, and classical banquets. Upon completion, students should be able to demonstrate competence in food preparation in a classical/upscale restaurant or banquet setting. This course includes weekly a la carte service encompassing contemporary and classical preparation and a capstone final exam.

	*CUL 260 Baking II		1	4	3
Course	Prerequisites: CUL 160				
Descriptions	Corequisites: None This course is a continuation of CUL 160. Topics include specialty breads, understanding, development and maintaining of natural sourdough, classical desserts, laminated pastry dough, cake and torte decorating and dessert plating and presentation. Upon completion, students should be able to demonstrate pastry presentation and plating, specialty sourdough production, cake decorating and dessert buffet production skills.				

	*CUL 270 Gardemanger II		1	4	3
Course	Prerequisites: CUL 170, CUL 240 and CUL 240A				
Descriptions	Corequisites: None This course is a continuation of CUL 170. Topics include pates, terrines, galantines, ice and tallow carving, chaud-froid/aspic work, charcuterie, smoking, canapes, hors d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering function to include a classical cold buffet with appropriate show pieces.				

	*CUL 285 Competition Fundamentals		1	4	3
Course	Prerequisites: CUL 110, CUL 110A, and CUL 140 or CUL 160				
Descriptions	Corequisites: None This course provides practical expertise in the planning, techniques, and procedures required for culinary competitions and exhibitions. Emphasis is placed on competition strategies including menu planning, teamwork, plate design, flavor profiles, recipe development, nutrition, advanced knife/culinary skills, professionalism and portfolio development. Upon completion, students should be able to apply exhibition/competition skills and standards in the competition arena and professional kitchen.				

Database Management Technology

DBA 110 Database Concepts		2	3	3
Prerequisites: CIS 110, CIS 111 or CIS 115				
Corequisites: None This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports and forms.				

DBA 115 Database Applications		2	2	3
Prerequisites: DBA 110				
Corequisites: None This course applies concepts learned in DBA 110 to a specific DBMS. Topics include manipulating multiple tables, advanced queries, screens and reports, linking and command files. Upon completion, students should be able to create multiple table systems that demonstrate updates, screens, and reports representative of industry requirements.				

DBA 120 Database Programming I		2	2	3
Prerequisites: DBA 110				
Corequisites: None This course is designed to develop SQL programming proficiency. Emphasis is placed on data definition, data manipulation, and data control statements as well as on report generation. Upon completion, students should be able to write programs which create, update and produce reports.				

DBA 210 Database Administration

2 3 3

Prerequisites: DBA 120

Corequisites: None

This course covers database administration issues and distributed database concepts. Topics include database administrator (DBA) goals and functions, backup and recovery, standards and procedures, training, and database security and performance evaluations. Upon completion, students should be able to produce functional DBA documentation and administer a database.

Course

Descriptions

Design Drafting***DDF 211 Design Drafting I**

1 6 4

Prerequisites: DFT 112

Corequisites: None

This course emphasizes design processes for finished products. Topics include data collection from manuals and handbooks, efficient use of materials, design sketching, specifications, and vendor selection. Upon completion, students should be able to research and plan the design process for a finished product.

Developmental Disabilities**DDT 110 Developmental Disabilities**

3 0 0 3

Prerequisites: None

Corequisites: None

This course identifies the characteristics and causes of various disabilities. Topics include history of service provision, human rights, legislation and litigation, advocacy, and accessing support services. Upon completion, students should be able to demonstrate an understanding of current and historical developmental disability definitions and support systems used throughout the life span.

Dental***DEN 101 Preclinical Procedures**

4 6 0 7

Prerequisites: None

Corequisites: DEN 111

This course provides instruction in procedures for the clinical dental assistant as specified by the North Carolina Dental Practice Act. Emphasis is placed on orientation to the profession, infection control techniques, instruments, related expanded functions, and diagnostic, operative, and specialty procedures. Upon completion, students should be able to demonstrate proficiency in clinical dental assisting procedures. This is a diploma-level course.

***DEN 102 Dental Materials**

3 4 0 5

Prerequisites: DEN 111

Corequisites: None

This course provides instruction in identification, properties, evaluation of quality, principles, and procedures related to manipulation and storage of operative and specialty dental materials. Emphasis is placed on the understanding and safe application of materials used in the dental office and laboratory. Upon completion, students should be able to demonstrate proficiency in the laboratory and clinical application of routinely used dental materials. This is a diploma-level course.

DEN 103 Dental Sciences

2 0 0 2

Prerequisites: None

Corequisites: None

This course is a study of oral pathology, pharmacology, and dental office emergencies. Topics include oral pathological conditions, dental therapeutics, and management of emergency situations. Upon completion, students should be able to recognize abnormal oral conditions, identify classifications, describe actions and effects of commonly prescribed drugs, and respond to medical emergencies. This is a diploma-level course.

	*DEN 104 Dental Health Education	2	2	0	3
Course	Prerequisites: DEN 111				
Descriptions	Corequisites: None This course covers the study of preventative dentistry to prepare dental assisting students for the role of dental health educator. Topics include etiology of dental diseases, preventative procedures, and patient education theory and practice. Upon completion, students should be able to demonstrate proficiency in patient counseling and oral health instruction in private practice or public health settings. This is a diploma-level course.				
	*DEN 105 Practice Management	2	0	0	2
	Prerequisites: Departmental Approval				
	Corequisites: None This course provides a study of principles and procedures related to management of the dental practice. Emphasis is placed on maintaining clinical and financial records, patient scheduling, and supply and inventory control. Upon completion, students should be able to demonstrate fundamental skills in dental practice management. This is a diploma-level course.				
	*DEN 106 Clinical Practice I	1	0	12	5
	Prerequisites: DEN 101 and DEN 111				
	Corequisites: DEN 102, DEN 104, and DEN 112 This course is designed to provide experience assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to utilize classroom theory, laboratory, and clinical skills in a dental setting. This is a diploma-level course.				
	*DEN 107 Clinical Practice II	1	0	12	5
	Prerequisites: DEN 106				
	Corequisites: None This course is designed to increase the level of proficiency in assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to combine theoretical and ethical principles necessary to perform entry-level skills including functions delegable to a DA II. This is a diploma-level course.				
	DEN 110 Orofacial Anatomy	2	2	0	3
	Prerequisites: None				
	Corequisites: None This course introduces the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to relate the identification of normal structures and development to the practice of dental assisting and dental hygiene.				
	DEN 111 Infection/Hazard Control	2	0	0	2
	Prerequisites: None				
	Corequisites: DEN 101 or DEN 121 This course introduces the infection and hazard control procedures necessary for the safe practice of dentistry. Topics include microbiology, practical infection control, sterilization and monitoring, chemical disinfectants, aseptic technique, infectious diseases, OSHA standards, and applicable North Carolina laws. Upon completion, students should be able to understand infectious diseases, disease transmission, infection control procedures, biohazard management, OSHA standards, and applicable North Carolina laws.				

DEN 112 Dental Radiography 2 3 0 3

Prerequisites: Enrollment in the Dental Hygiene or Dental Assisting programs

Corequisites: DEN 101 or DEN 110 and DEN 111

This course provides a comprehensive view of the principles and procedures of radiology as they apply to dentistry. Topics include techniques in exposing, processing, and evaluating radiographs, as well as radiation safety, quality assurance, and legal issues. Upon completion, students should be able to demonstrate proficiency in the production of diagnostically acceptable radiographs using appropriate safety precautions.

Course

Descriptions

DEN 120 Dental Hygiene Preclinic Lecture 2 0 0 2

Prerequisites: Enrollment in the Dental Hygiene program

Corequisites: DEN 121

This course introduces preoperative and clinical dental hygiene concepts. Emphasis is placed on the assessment phase of patient care as well as the theory of basic dental hygiene instrumentation. Upon completion, students should be able to collect and evaluate patient data at a basic level and demonstrate knowledge of dental hygiene instrumentation.

***DEN 121 Dental Hygiene Preclinic Lab 0 6 0 2**

Prerequisites: Enrollment in the Dental Hygiene program

Corequisites: DEN 111 and DEN 120

This course provides the opportunity to perform clinical dental hygiene procedures discussed in DEN 120. Emphasis is placed on clinical skills in patient assessment and instrumentation techniques. Upon completion, students should be able to demonstrate the ability to perform specific preclinical procedures. Also, students should be able to demonstrate aseptic technique used in a dental environment.

DEN 123 Nutrition/Dental Health 2 0 0 2

Prerequisites: DEN 120 and DEN 130

Corequisites: None

This course introduces basic principles of nutrition with emphasis on nutritional requirements and their application to individual patient needs. Topics include the study of the food pyramid, nutrient functions, Recommended Daily Allowances, and related psychological principles. Upon completion, students should be able to recommend and counsel individuals on their food intake as related to their dental health.

DEN 124 Periodontology 2 0 0 2

Prerequisites: DEN 110

Corequisites: None

This course provides an in-depth study of the periodontium, periodontal pathology, periodontal monitoring, and the principles of periodontal therapy. Topics include periodontal anatomy and a study of the etiology, classification, and treatment modalities of periodontal diseases. Upon completion, students should be able to describe, compare, and contrast techniques involved in periodontal/maintenance therapy, as well as patient care management.

***DEN 125 Dental Office Emergencies 0 2 0 1**

Prerequisites: None

Corequisites: None

This course provides a study of the management of dental office emergencies. Topics include methods of prevention, necessary equipment/drugs, medicolegal considerations, recognition and effective initial management of a variety of emergencies. Upon completion, students should be able to recognize, assess, and manage various dental office emergencies and activate advanced medical support when indicated.

	*DEN 130 Dental Hygiene Theory I	2	0	0	2
Course	Prerequisites: DEN 120				
Descriptions	Corequisites: DEN 131				
	This course is a continuation of the didactic dental hygiene concepts necessary for providing an oral prophylaxis. Topics include deposits/removal, instrument sharpening, patient education, fluorides, planning for dental hygiene treatment, charting, and clinical records and procedures. Upon completion, students should be able to demonstrate knowledge needed to complete a thorough oral prophylaxis.				
	*DEN 131 Dental Hygiene Clinic I	0	0	9	3
	Prerequisites: DEN 121				
	Corequisites: DEN 130				
	This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of the recall patients with gingivitis or light deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.				
	*DEN 140 Dental Hygiene Theory II	1	0	0	1
	Prerequisites: DEN 130				
	Corequisites: DEN 141				
	This course provides a continuation of the development, theory, and practice of patient care. Topics include modification of treatment for special needs patients, advanced radiographic interpretation, and ergonomics. Upon completion, students should be able to differentiate necessary treatment modifications, effective ergonomic principles, and radiographic abnormalities.				
	*DEN 141 Dental Hygiene Clinic II	0	0	6	2
	Prerequisites: DEN 131				
	Corequisites: DEN 140				
	This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with early periodontal disease and subgingival deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.				
	*DEN 220 Dental Hygiene Theory III	2	0	0	2
	Prerequisites: BIO 175, DEN 140				
	Corequisites: DEN 221				
	This course provides a continuation in developing the theories and practices of patient care. Topics include periodontal debridement, pain control, subgingival irrigation, air polishing, and case presentations. Upon completion, students should be able to demonstrate knowledge of methods of treatment and management of periodontally compromised patients.				
	*DEN 221 Dental Hygiene Clinic III	0	0	12	4
	Prerequisites: DEN 141				
	Corequisites: DEN 220				
	This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with moderate to advanced periodontal involvement and moderate deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.				
	DEN 222 General and Oral Pathology	2	0	0	2
	Prerequisites: BIO 163 or BIO 165 or BIO 168				
	Corequisites: BIO 169				
	This course provides a general knowledge of oral pathological manifestations associated with selected systemic and oral diseases. Topics include developmental and degenerative diseases, selected microbial diseases, specific and nonspecific immune and inflammatory responses with emphasis on recognizing abnormalities. Upon completion, students should be able to differentiate between normal and abnormal tissues and refer unusual findings to the dentist for diagnosis.				

DEN 223 Dental Pharmacology 2 0 0 2

Prerequisites: Enrollment in the Dental Hygiene program or registered Dental Hygienist (RDH)

Corequisites: BIO 163, BIO 165 or BIO 168

This course provides basic drug terminology, general principles of drug actions, dosages, routes of administration, adverse reactions, and basic principles of anesthesiology. Emphasis is placed on knowledge of drugs in overall understanding of patient histories and health status. Upon completion, students should be able to recognize that each patient's general health or drug usage may require modification of the treatment procedures.

Course

Descriptions

***DEN 224 Materials and Procedures 1 3 0 2**

Prerequisites: DEN 111

Corequisites: None

This course introduces the physical properties of materials and related procedures used in dentistry. Topics include restorative and preventative materials, fabrication of casts and appliances, and chair-side functions of the dental hygienist. Upon completion, students should be able to demonstrate proficiency in the laboratory and/or clinical application of routinely used dental materials and chair-side functions.

***DEN 230 Dental Hygiene Theory IV 1 0 0 1**

Prerequisites: DEN 220

Corequisites: DEN 231

This course provides an opportunity to increase knowledge of the profession. Emphasis is placed on dental specialties and completion of a case presentation. Upon completion, students should be able to demonstrate knowledge of various disciplines of dentistry and principles of case presentations.

***DEN 231 Dental Hygiene Clinic IV 0 0 12 4**

Prerequisites: DEN 221

Corequisites: DEN 230

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on periodontal maintenance and on treating patients with moderate to advanced/refractory periodontal disease. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

***DEN 232 Community Dental Health 2 0 3 3**

Prerequisites: Enrollment in the Dental Hygiene program, COM 231, and SOC 240

Corequisites: None

This course provides a study of the principles and methods used in assessing, planning, implementing, and evaluating community dental health programs. Topics include epidemiology, research methodology, biostatistics, preventative dental care, dental health education, program planning, and financing and utilization of dental services. Upon completion, students should be able to assess, plan, implement, and evaluate a community dental health program.

***DEN 233 Professional Development 2 0 0 2**

Prerequisites: Departmental Approval

Corequisites: None

This course includes professional development, ethics, and jurisprudence with applications to practice management. Topics include conflict management, state laws, resumes, interviews, and legal liabilities as health care professionals. Upon completion, students should be able to demonstrate the ability to practice dental hygiene within established ethical standards and state laws.

DEN 235 Dental Hygiene Concepts 2 0 0 2

Prerequisites: None

Corequisites: None

This course provides an opportunity to exhibit interpersonal and job-related skills for effective dental hygiene practice. Emphasis is placed on critical thinking and integration of didactic and clinical components into the workplace. Upon completion, students should be able to demonstrate the knowledge required of any entry-level dental hygienist.

Drafting

	DFT 110 Basic Drafting		1 2 2
Course	Prerequisites: None		
Descriptions	Corequisites: None		
	This course introduces basic drafting skills, terminology, and applications. Topics include basic mathematics, sketching, introduction to CAD, ANSI and ISO drafting standards, and a survey of various drafting applications. Upon completion, students should be able to perform basic calculations for CAD drafting, sketch drawings using appropriate standards, and recognize drawings from different drafting fields.		
	DFT 111 Technical Drafting I		1 3 2
	Prerequisites: None		
	Corequisites: None		
	This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorial drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices.		
	DFT 115 Architectural Drafting		1 2 2
	Prerequisites: None		
	Corequisites: None		
	This course introduces basic drafting practices used in residential and light commercial design. Topics include floor plans, foundations, details, electrical components, elevations, and dimensioning practice. Upon completion, students should be able to complete a set of working drawings for a simple structure.		
	DFT 117 Technical Drafting		1 2 2
	Prerequisites: None		
	Corequisites: None		
	This course introduces basic drafting practices for non-drafting majors. Emphasis is placed on instrument use and care, shape and size description, sketching, and pictorials. Upon completion, students should be able to produce drawings of assigned parts.		
	DFT 119 Basic CAD		1 2 2
	Prerequisites: None		
	Corequisites: None		
	This course introduces computer-aided drafting software for specific technologies to non-drafting majors. Emphasis is placed on understanding the software command structure and drafting standards for specific technical fields. Upon completion, students should be able to create and plot basic drawings.		
	DFT 151 CAD I		2 3 3
	Prerequisites: None		
	Corequisites: None		
	This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.		
	DFT 152 CAD II		2 3 3
	Prerequisites: DFT 151		
	Corequisites: None		
	This course is a continuation of DFT 151. Topics include advanced two-dimensional, three-dimensional, and solid modeling and extended CAD applications. Upon completion, students should be able to generate and manage CAD drawings and models to produce engineering documents.		

DFT 153	CAD III	2	3	3
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Prerequisites: DFT 151 and DFT 152

Corequisites: None

This course covers basic principles of three-dimensional CAD wireframe and surface models. Topics include user coordinate systems, three-dimensional viewpoints, three-dimensional wireframes, and surface components and viewpoints. Upon completion, students should be able to create and manipulate three-dimensional wireframe and surface models.

Course

Descriptions

DFT 154	Intro Solid Modeling	2	3	3
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Prerequisites: DFT 151

Corequisites: None

This course is an introduction to basic three-dimensional solid modeling and design software. Topics include basic design, creation, editing, rendering and analysis of solid models and creation of multiview drawings. Upon completion, students should be able to use design techniques to create, edit, render and generate a multiview drawing.

DFT 170	Engineering Graphics	2	2	3
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Prerequisites: None

Corequisites: None

This course introduces basic engineering graphics skills and applications. Topics include sketching, selection and use of current methods and tools, and the use of engineering graphics applications. Upon completion, students should be able to demonstrate an understanding of basic engineering graphics principles and practices. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

DFT 189	Emerging Technologies in CAD	1	2	2
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Prerequisites: None

Corequisites: None

This course provides an opportunity to explore new and emerging technologies related to Computer-Aided Drafting. Emphasis is placed on introducing a selected CAD technology or topic, identified as being "new" or "emerging", from a variety of drafting disciplines. Upon completion, students should be able to demonstrate an understanding of and practical skill in the use of the CAD technology studied.

DFT 251	Customizing CAD Software	2	2	3
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Prerequisites: DFT 151 and DFT 152

Corequisites: None

This course covers customizing CAD software. Topics include the creation of symbol libraries and screen menus, macro writing, and automation of common drafting functions on CAD. Upon completion, students should be able to create a symbol library and screen menu and automate common drawing functions. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

*DFT 253	CAD Data Management	2	2	3
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Prerequisites: CIS 110, DFT 151, and DFT 251

Corequisites: None

This course covers engineering document management techniques. Topics include efficient control of engineering documents, manipulation of CAD drawing data, generation of bill of materials, and linking to spreadsheets or databases. Upon completion, students should be able to utilize systems for managing CAD drawings, extract data from drawings, and link data to spreadsheets or database applications. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

	*DFT 259 CAD Project		1	4	3
Course	Prerequisites: ARC 112, ARC 113, and DFT 251				
Descriptions	Corequisites: None This course is a capstone course experience for the CAD Systems Management concentration. Emphasis is placed on the use of design principles and computer technology in planning, managing, and completing a design project. Upon completion, students should be able to plan and produce engineering documents of a design project, including solid models, working drawings, bom□, annotations, and spreadsheets. This course is a unique concentration requirement in the CAD Systems Management concentration in the Mechanical Drafting Technology program.				

Digital Media Technology

DME 110 Intro to Digital Media	2	2	3
Prerequisites: ART 171			
Corequisites: None This course introduces students to key concepts, technologies, and issues related to digital media. Topics include emerging standards, key technologies and related design issues, terminology, media formats, career paths, and ethical issues. Upon completion, students should be able to demonstrate the various media formats that are used in digital media technology.			
DME 115 Graphic Design Tools	2	2	3
Prerequisites: ART 171			
Corequisites: None This course provides students with an introduction to creative expression and art/design techniques in a digital environment. Emphasis is placed on designing, creating, editing, and integrating, visual components consisting of bit-mapped and vector-based images, drawings, banners, text, simple animations, and multiple layers. Upon completion, students should be able to design and produce a range of visual products using digital processing techniques.			
DME 120 Intro to Multimedia Applications	2	2	3
Prerequisites: DME 110			
Corequisites: None This course introduces storyboarding and multimedia application design. Topics include vector and bit-mapped graphics, interactive multimedia interfaces, layering techniques, image and animation libraries, and scripting. Upon completion, students should be able to produce basic high-quality interactive multimedia applications.			
DME 130 Digital Animation I	2	2	3
Prerequisites: DME 110 and DME 120			
Corequisites: None This course introduces concepts for planning and developing animation sequences. Emphasis will be placed on review of digital animation concepts and exploration of various animation software packages. Upon completion, students should be able to produce simple animations.			
DME 140 Intro Audio/Video Media	2	2	3
Prerequisites: DME 110			
Corequisites: None This course is designed to teach students how to manipulate digital and audio content for multimedia applications. Topics include format conversion and a review of current technologies and digital formats. Upon completion, students should be able to modify existing audio and video content to meet a range of production requirements associated with digital media applications.			

DME 210 User Interface Design **2 2 3**

Prerequisites: DME 110, DME 120, and WEB 115 or WEB 140

Corequisites: None

This course covers current design approaches and emerging standards related to the design and development of user interfaces. Emphasis is placed on conducting research, and analyzing and reviewing current practices in effective interface design. Upon completion, students should be able to intelligently discuss and evaluate new and existing digital media products in terms of the user interface.

Course

Descriptions

DME 220 Interact Multi-Media Programming **2 2 3**

Prerequisites: DME 120 and DME 130

Corequisites: None

This course is designed to build on concepts developed in DME 120 and teaches students to apply custom programming to develop advanced applications and components. Emphasis is placed on scripting language functionalities associated with a variety of software packages. Upon completion, students should be able to produce advanced, high-quality interactive multimedia applications.

DME 230 Digital Animation II **2 2 3**

Prerequisites: DME 130

Corequisites: None

This course introduces state-of-the-art 3D animation techniques and concepts. Emphasis is placed on utilizing the features of current animation software. Upon completion, students should be able to produce 3D animations as components of a multimedia application.

***DME 260 Emerg Tech Digital Media** **2 2 3**

Prerequisites: DME 120, DME 130, and DME 210

Corequisites: None

This course provides students with the latest technologies and strategies in the field of digital media. Emphasis is placed on the evaluation of emerging digital media technologies and presenting those findings to the class. Upon completion, students should be able to critically analyze emerging digital media technologies and establish informed opinions.

***DME 270 Prof Prac Digital Media** **2 2 3**

Prerequisites: DME 120, DME 130, and DME 210

Corequisites: None

This course introduces students to business skills needed to succeed in the digital media workplace. Topics include portfolio development, resume design, and preparation of media contacts. Upon completion, students should be able to prepare themselves and their work for a career in the digital media workplace.

***DME 285 Systems Projects** **2 2 3**

Prerequisites: DME 120, DME 130, DME 140, and DME 210

Corequisites: None

This course provides an opportunity to complete a significant digital media project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete, maintain and implement a digital media project.

Drama

DRA 111 Theatre Appreciation

3 0 3

Prerequisites: None

Corequisites: None

Course

This course provides a study of the art, craft, and business of the theatre. Emphasis is placed on the audience's appreciation of the work of the playwright, director, actor, designer, producer, and critic. Upon completion, students should be able to demonstrate a vocabulary of theatre terms and to recognize the contributions of various theatre artists. Attendance at one play performance and in-depth reading of two plays are required. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 112 Literature of the Theatre

3 0 3

Prerequisites: None

Corequisites: None

This course provides a survey of dramatic works from the classical Greek through the present. Emphasis is placed on the language of drama, critical theory, and background as well as on play reading and analysis. Upon completion, students should be able to articulate, orally and in writing, their appreciation and understanding of dramatic works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 120 Voice for Performance

3 0 3

Prerequisites: None

Corequisites: None

This course provides guided practice in the proper production of speech for the theatre. Emphasis is placed on improving speech, including breathing, articulation, pronunciation, and other vocal variables. Upon completion, students should be able to demonstrate effective theatrical speech. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

DRA 122 Oral Interpretation

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the dramatistic study of literature through performance. Emphasis is placed on analysis and performance of poetry, drama, and prose fiction. Upon completion, students should be able to embody and discuss critically the speakers inherent in literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 124 Readers Theatre

3 0 3

Prerequisites: None

Corequisites: None

This course provides a theoretical and applied introduction to the medium of readers theatre. Emphasis is placed on the group performance considerations posed by various genres of literature. Upon completion, students should be able to adapt and present a literary script following the conventions of readers theatre. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

DRA 130 Acting I

0 6 3

Prerequisites: None

Corequisites: None

This course provides an applied study of the actor's craft. Topics include role analysis, training the voice, and body concentration, discipline, and self-evaluation. Upon completion, students should be able to explore their creativity in an acting ensemble. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

DRA 131 Acting II

0 6 3

Prerequisites: DRA 130

Corequisites: None

This course provides additional hands-on practice in the actor's craft. Emphasis is placed on further analysis, characterization, growth, and training for acting competence. Upon completion, students should be able to explore their creativity in an acting ensemble. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Course

Descriptions

DRA 140 Stagecraft I

0 6 3

Prerequisites: None

Corequisites: None

This course introduces the theory and basic construction of stage scenery and properties. Topics include stage carpentry, scene painting, stage electrics, properties, and backstage organization. Upon completion, students should be able to pursue vocational and avocational roles in technical theatre. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

DRA 141 Stagecraft II

0 6 3

Prerequisites: DRA 140

Corequisites: None

This course provides additional hands-on practice in the elements of stagecraft. Emphasis is placed on the design and implementation of the arts and crafts of technical theatre. Upon completion, students should be able to pursue vocational or avocational roles in technical theatre. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

DRA 145 Stage Make-up

1 2 2

Prerequisites: None

Corequisites: None

This course covers the research, design, selection of materials, and application of stage make-up, prosthetics, wigs, and hairpieces. Emphasis is placed on the development of techniques, style, and presentation of the finished make-up. Upon completion, students should be able to create and apply make-up prosthetics, and hairpieces. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

DRA 170 Play Production I

0 9 3

Prerequisites: None

Corequisites: None

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

DRA 171 Play Production II

0 9 3

Prerequisites: DRA 170

Corequisites: None

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

	DRA 211	Theatre History I	3	0	3
Course Descriptions	Prerequisites:	None			
	Corequisites:	None			
	This course covers the development of theatre from its origin to the closing of the British theatre in 1642. Topics include the history, aesthetics, and representative dramatic literature of the period. Upon completion, students should be able to trace the evolution of theatre and recognize the styles and types of world drama. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.				
	DRA 212	Theatre History II	3	0	3
	Prerequisites:	None			
	Corequisites:	None			
	This course covers the development of theatre from 1660 through the diverse influences which shaped the theatre of the twentieth century. Topics include the history, aesthetics, and representative dramatic literature of the period. Upon completion, students should be able to trace the evolution of theatre and recognize the styles and types of world drama. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.				
	DRA 240	Lighting for the Theatre	2	2	3
	Prerequisites:	None			
	Corequisites:	None			
	This course is an applied study of theatre lighting and is designed to train theatre technicians. Emphasis is placed on lighting technology including the mechanics of lighting and light control equipment by practical work with lighting equipment. Upon completion, students should be able to demonstrate competence with lighting equipment. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.				
	DRA 250	Theatre Management	1	3	2
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces the organization and operation of a theatre. Emphasis is placed on organization, communication, networking with other organizations, and grant writing. Upon completion, students should be able to demonstrate an understanding of the structure and operation of a theatre organization. This course has been approved to satisfy the Comprehensive Articulation Agreement general education elective requirement in humanities/fine arts.				

Economics

	ECO 151	Survey of Economics	3	0	3
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces basic concepts of micro- and macroeconomics. Topics include supply and demand, optimizing economic behavior, prices and wages, money, interest rates, banking system, unemployment, inflation, taxes, government spending, and international trade. Upon completion, students should be able to explain alternative solutions for economic problems faced by private and government sectors. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/be-havioral sciences.				

ECO 251 Principles of Microeconomics

3 0 3

Prerequisites: None

Corequisites: None

This course introduces economic analysis of individual, business, and industry choices in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, income distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to efficiently achieve economic objectives. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

ECO 252 Principles of Macroeconomics

3 0 3

Prerequisites: ECO 151 or ECO 251

Corequisites: None

This course introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socioeconomic goals. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

Education

EDU 118 Teacher Associate Principals and Practices

3 0 3

Prerequisites: None

Corequisites: None

This course covers the teacher associate's role in the educational system. Topics include history of education, professional responsibilities and ethics, cultural diversity, communication skills, and identification of the optimal learning environment. Upon completion, students should be able to describe the supporting professional role of the teacher associate, demonstrate positive communication, and discuss educational philosophy. This course is a unique concentration requirement in the Teacher Associate concentration in the Early Childhood Associate program.

EDU 119 Intro to Early Childhood Education

4 0 4

Prerequisites: None

Corequisites: None

This course covers the foundations of the education profession, the diverse educational settings for young children, professionalism, and planning developmentally appropriate programs for children. Topics include historical foundations, program types, career options, professionalism and creating inclusive environments and curriculum that are responsive to the needs of children and families. Upon completion, students should be able to design career plans and develop appropriate schedules, environments and activity plans while incorporating adaptations for children with exceptionalities.

***EDU 131 Child, Family, and Community**

3 0 3

Prerequisites: None

Corequisites: None

This course covers the development of partnerships between families, inclusive programs for children/schools that serve young children with and without disabilities, and the community. Emphasis is placed on requisite skills and benefits for successfully establishing, supporting, and maintaining respectful collaborative relationships between today's diverse families, centers/schools, and community resources. Upon completion, students should be able to describe appropriate relationships with parents/caretakers, center/school colleagues, and community agencies that enhance the educational experiences/well-being of all children.

Course

Descriptions

	EDU 144	Child Development I	3	0	3
Course	Prerequisites:	None			
Descriptions	Corequisites:	None			
	This course covers the theories of child development, developmental sequences, and factors that influence children's development, from conception through pre-school for all children. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development and the multiple influences on development and learning of the whole child. Upon completion, students should be able to identify typical and atypical development characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments.				
	*EDU 145	Child Development II	3	0	3
	Prerequisites:	None			
	Corequisites:	None			
	This course covers theories of child development, developmental sequences, and factors that influence children's development, from pre-school through middle childhood for all children. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development multiple influences on development and learning of the whole child. Upon completion, students should be able to identify typical and atypical developments characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments.				
	*EDU 146	Child Guidance	3	0	3
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces practical principles and techniques for developmentally appropriate guidance for all children with and without disabilities, including those at risk. Emphasis is placed on encouraging self-esteem, cultural awareness, effective communication skills, direct/ indirect techniques/strategies and observation to understand the underlying causes of behavior. Upon completion, students should be able to demonstrate appropriate interactions with children and families and promote conflict resolution, self-control, self-motivation, and self-esteem in children.				
	*EDU 151	Creative Activities	3	0	3
	Prerequisites:	None			
	Corequisites:	EDU 151A			
	This course covers planning, creation and adaptation of developmentally supportive learning environments with attention to curriculum, interactions, teaching practices and learning materials. Emphasis is placed on creating and adapting integrated, meaningful, challenging and engaging developmentally supportive learning experiences in art, music, movement and physical skills, and dramatics. Upon completion, students should be able to create, manage, adapt and evaluate developmentally supportive learning materials, experiences and environments.				
	*EDU 151A	Creative Activities Lab	0	2	1
	Prerequisites:	None			
	Corequisites:	EDU 151			
	This course provides a laboratory component to complement EDU 151. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate creative activities.				

***EDU 153 Health, Safety, and Nutrition** **3 0 3**

Prerequisites: None

Corequisites: EDU 153A

This course focuses on promoting and maintaining the health and well-being of all children. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy learning environments, recognition and reporting of abuse and neglect and state regulations. Upon completion, students should be able demonstrate knowledge of health, safety, and nutritional needs, implement safe leaning environments, and adhere to state regulations.

Course

Descriptions

EDU 153A Health, Safety, and Nutrition Lab **0 2 1**

Prerequisites: None

Corequisites: EDU 153

This course provides a laboratory component to complement EDU 153. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of safe indoor/outdoor environments and nutrition education programs.

EDU 162 Early Experience/Prospective Teachers **1 2 2**

Prerequisites: None

Corequisites: None

This course provides an opportunity to observe teachers and pupils in a natural classroom environment. Emphasis is placed on observation methods, planning, teaching, evaluation, personal goal assessment, and curriculum. Upon completion, students should be able to demonstrate an understanding of their own personal teaching goals, teaching methods, planning methods, and student performance evaluation.

EDU 186 Reading and Writing Methods **3 0 3**

Prerequisites: None

Corequisites: None

This course covers concepts, resources and methods for teaching reading and writing to school-age children. Topics include the importance of literacy, learning styles, skills assessment, various reading and writing approaches, and instructional strategies. Upon completion, students should be able to assess, plan, implement, and evaluate developmentally appropriate reading and writing experiences. This course is a unique concentration requirement in the Teacher Associate concentration in the Early Childhood Associate program.

***EDU 216 Introduction to Education** **3 2 4**

Prerequisites: None

Corequisites: None

This course introduces the American educational system and the teaching profession. Topics include historical and philosophical foundations of education, contemporary educational trends and issues, curriculum development, and observation and participation in public school classrooms. Upon completion, students should be able to relate classroom observations to the roles of teachers and schools and the process of teacher education. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

***EDU 221 Children with Exceptionalities** **3 0 3**

Prerequisites: EDU 144 and EDU 145

Corequisites: None

This course, based on the foundation of typical development, introduces working with children with exceptionalities. Emphasis is placed on the characteristics and assessment of children and strategies for adapting the learning environment. Upon completion, students should be able to recognize atypical development, make appropriate referrals, and work collaboratively with famlites and professionals to plan, implement, and evaluate inclusion strategies.

	*EDU 234 Infants, Toddlers, and Twos	3 0 3
Course	Prerequisites: None Corequisites: None This course covers the skills needed to effectively implement group care for infants, toddlers, and 2-year-olds. Emphasis is placed on child development and developmentally appropriate practices. Upon completion, students should be able to identify, plan, select materials and equipment, and implement and evaluate a developmentally appropriate curriculum.	
Descriptions	EDU 235 School-Age Dev and Program	2 0 2
	Prerequisites: None Corequisites: None This course presents developmentally appropriate practices in group care for school-age children. Topics include principles of development, environmental planning, and positive guidance techniques. Upon completion, students should be able to discuss developmental principles for children five to twelve years of age and plan and implement age-appropriate activities.	
	*EDU 251 Exploration Activities	3 0 3
	Prerequisites: None Corequisites: EDU 251A This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children.	
	*EDU 251A Exploration Activities Lab	0 2 1
	Prerequisites: None Corequisites: EDU 251 This course provides a laboratory component to complement EDU 251. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate science, math, and social studies activities for children.	
	*EDU 259 Curriculum Planning	3 0 3
	Prerequisites: EDU 119 Corequisites: None This course covers early childhood curriculum planning. Topics include philosophy, curriculum, indoor and outdoor environmental design, scheduling, observation and assessment, and instructional planning and evaluation. Upon completion, students should be able to assess children and curriculum; plan for daily, weekly, and long-range instruction; and design environments with appropriate equipment and supplies.	
	*EDU 261 Early Childhood Administration I	3 0 3
	Prerequisites: None Corequisites: None This course covers the policies, procedures, and responsibilities for the management of early childhood education programs. Topics include implementation of goals, principles of supervision, budgeting and financial management, and meeting the standards for a NC Child Day Care license. Upon completion, students should be able to develop program goals, explain licensing standards, determine budgeting needs, and describe effective methods of personnel supervision.	
	*EDU 262 Early Childhood Administration II	3 0 3
	Prerequisites: EDU 261 Corequisites: None This course provides a foundation for budgetary, financial, and personnel management of the child care center. Topics include budgeting, financial management, marketing, hiring, supervision, and professional development of a child care center. Upon completion, students should be able to formulate marketing, financial management, and fund development plans and develop personnel policies, including supervision and staff development plans.	

EDU 271 Educational Technology

2 2 3

Prerequisites: CIS 110 or CIS 111

Corequisites: None

This course introduces the use of technology to enhance teaching and learning in all educational settings. Topics include technology concepts, instructional strategies, materials and adaptive technology for children with exceptionalities, facilitation of assessment/evaluation, and ethical issues surrounding the use of technology. Upon completion, students should be able to apply technology enhanced instructional strategies, use a variety of technology resources and demonstrate appropriate technology skills in educational environments.

Course

Descriptions

EDU 275 Effective Teacher Training

2 0 2

Prerequisites: None

Corequisites: None

This course provides specialized training using an experienced-based approach to learning. Topics include instructional preparation and presentation, student interaction, time management, learning expectations, evaluation, and curriculum principles and planning. Upon completion, students should be able to prepare and present a six-step lesson plan and demonstrate ways to improve students' time-on-task.

***EDU 280 Language and Literacy Experiences**

3 0 3

Prerequisites: None

Corequisites: None

This course explores the continuum of children's communication development, including verbal and written language acquisition and other forms of communication. Topics include selection of literature and other media, the integration of literacy concepts throughout the classroom environment, inclusive practices and appropriate assessments. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate literacy experiences.

EDU 285 Internship Experience-School Age

1 0 1

Prerequisites: ENG 111 and completion of curriculum core requirements

Corequisites: COE 121 or COE 122

This course provides an opportunity to discuss internship experiences with peers and faculty. Emphasis is placed on evaluating and integrating practicum experiences. Upon completion, students should be able to demonstrate competence in early childhood education.

Engineering

***EGR 110 Introduction to Engineering Tech**

1 2 2

Prerequisites: None

Corequisites: None

This course introduces general topics relevant to engineering technology. Skills developed include goal setting and career assessment, professional ethics, critical thinking and problem solving, using college resources for study and research, and using tools for engineering computations. Upon completion, students should be able to choose a career option in engineering technology and utilize college resources to meet their educational goals.

EGR 115 Introduction to Technology

2 3 3

Prerequisites: None

Corequisites: None

This course introduces the basic skills and career fields for technicians. Topics include career options, technical vocabulary, dimensional analysis, measurement systems, engineering graphics, calculator applications, professional ethics, safety practices, and other related topics. Upon completion, students should be able to demonstrate an understanding of the basic technologies, prepare drawings and sketches, and perform computations using a scientific calculator.

	EGR 115A Introduction to Technology	0	3	1
Course	Prerequisites: None Corequisites: EGR 115			
	This course provides a laboratory setting for EGR 115. Emphasis is placed on developing skills in dimensional analysis, measurement systems, engineering graphics, and calculator operations. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in EGR 115.			
Descriptions	EGR 125 Appl Software for Tech	1	2	2
	Prerequisites: None Corequisites: None			
	This course introduces personal computer software and teaches students how to customize the software for technical applications. A suite of office applications software will be used to demonstrate the use of programs such as spreadsheets, word processing, graphics and Internet access. Upon completion, students should be able to demonstrate competency in using applications software to solve technical problems and communicate the end results in text and graphical formats.			
	EGR 130 Engineering Cost Control	2	2	3
	Prerequisites: MAT 121 or MAT 161 or MAT 171 Corequisites: None			
	This course covers the management of projects and systems through the control of costs. Topics include economic analysis of alternatives within budget constraints and utilization of the time value of money approach. Upon completion, students should be able to make choices that optimize profits on both short-term and long-term decisions.			
Electrical				
	ELC 111 Introduction to Electricity	2	2	3
	Prerequisites: None Corequisites: None			
	This course introduces the fundamental concepts of electricity and test equipment to nonelectrical/electronic majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors, and capacitors); power; and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.			
	ELC 112 DC/AC Electricity	3	6	5
	Prerequisites: None Corequisites: None			
	This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/AC circuits.			
	ELC 113 Basic Wiring I	2	6	4
	Prerequisites: None Corequisites: None			
	This course introduces the care/usage of tools and materials used in electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical blueprint reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with basic electrical installations.			

ELC 115 Industrial Wiring

2 6 4

Prerequisites: None

Corequisites: None

This course covers layout, planning, and installation of wiring systems in industrial facilities. Emphasis is placed on industrial wiring methods and materials. Upon completion, students should be able to install industrial systems and equipment.

Course

ELC 117 Motors and Controls

2 6 4

Descriptions

Prerequisites: ELC 111, ELC 112 or ELC 131

Corequisites: None

This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.

ELC 118 National Electrical Code

1 2 2

Prerequisites: None

Corequisites: None

This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC.

ELC 119 NEC Calculations

1 2 2

Prerequisites: None

Corequisites: None

This course covers branch circuit, feeder, and service calculations. Emphasis is placed on sections of the National Electrical Code related to calculations. Upon completion, students should be able to use appropriate code sections to size wire, conduit, and overcurrent devices for branch circuits, feeders, and service.

ELC 121 Electrical Estimating

1 2 2

Prerequisites: ELC 113

Corequisites: None

This course covers the principles involved in estimating electrical projects. Topics include take-offs of materials and equipment, labor, overhead, and profit. Upon completion, students should be able to estimate simple electrical projects.

ELC 125 Diagrams and Schematics

1 2 2

Prerequisites: None

Corequisites: None

This course covers the interpretation of electrical diagrams, schematics, and drawings common to electrical applications. Emphasis is placed on reading and interpreting electrical diagrams and schematics. Upon completion, students should be able to read and interpret electrical diagrams and schematics.

ELC 128 Introduction to PLC

2 3 3

Prerequisites: None

Corequisites: None

This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to install PLCs and create simple programs.

ELC 131 DC/AC Circuit Analysis

4 3 5

Prerequisites: None

Corequisites: MAT 121

This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation software, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

	ELC 131A DC/AC Circuit Analysis Lab	0 3 1
Course	Prerequisites: None Corequisites: ELC 131	
Descriptions	This course provides laboratory assignments as applied to fundamental principles of DC/AC electricity. Emphasis is placed on measurements and evaluation of electrical components, devices and circuits. Upon completion, the students will gain hands-on experience by measuring voltage, current, and opposition to current flow utilizing various meters and test equipment.	
	ELC 132 Electrical Drawings	1 3 2
	Prerequisites: None Corequisites: None	
	This course introduces the technical documentation that is typically found or used in the industrial environment. Topics include interpretation of service manuals, freehand sketching of lines, orthographic views and dimensions, and blueprint reading. Upon completion, students should be able to interpret technical documents and blueprints and use basic drafting skills to prepare usable field drawings.	
	ELC 213 Instrumentation	3 2 4
	Prerequisites: ELC 111 or ELC 112 or ELC 131 Corequisites: None	
	This course covers the fundamentals of instrumentation used in industry. Emphasis is placed on electric, electronic, and pneumatic instruments. Upon completion, students should be able to design, install, maintain, and calibrate instrumentation.	
	ELC 228 PLC Applications	2 6 4
	Prerequisites: ELC 128 Corequisites: None	
	This course continues the study of the programming and applications of programmable logic controllers. Emphasis is placed on advanced programming, networking, advanced I/O modules, reading and interpreting error codes, and troubleshooting. Upon completion, students should be able to program and troubleshoot programmable logic controllers.	
	*ELC 229 Applications Project	1 3 2
	Prerequisites: ELC 112 or ELC 113 or ELC 140 Corequisites: None	
	This course provides an individual and/or integrated team approach to a practical project as approved by the instructor. Topics include project selection and planning, implementation and testing, and a final presentation. Upon completion, students should be able to plan and implement an applications-oriented project.	
Electronics		
	ELN 131 Electronic Devices	3 3 4
	Prerequisites: None Corequisites: ELC 112, ELC 131, or ELC 140	
	This course includes semiconductor-based devices such as diodes, bipolar transistors, FETs, thyristors, and related components. Emphasis is placed on analysis, selection, biasing, and applications in power supplies, small signal amplifiers, and switching and control circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment.	

ELN 132 Linear IC Applications

3 3 4

Prerequisites: ELN 131 or BMT 113

Corequisites: None

This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, differential amplifiers, instrumentation amplifiers, waveform generators, active filters, PLLs, and IC voltage regulators. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment.

Course

Descriptions

ELN 133 Digital Electronics

3 3 4

Prerequisites: ELC 111 or ELC 112, ELC 131 or ELC 140

Corequisites: None

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AC/DC converters, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

ELN 152 Fabrication Techniques

1 3 2

Prerequisites: None

Corequisites: None

This course covers the fabrication methods required to create a prototype product from the initial circuit design. Topics include CAD, layout, sheet metal working, component selection, wire wrapping, PC board layout and construction, reverse engineering, soldering, and other related topics. Upon completion, students should be able to design and construct an electronic product with all its associated documentation.

ELN 154 Introduction to Data Comm

2 3 3

Prerequisites: ELN 133

Corequisites: None

This course introduces the principal elements and theory (analog and digital techniques) of data communication systems and how they are integrated as a complete network. Topics include an overview of data communication, OSI model, transmission modes, serial and parallel interfaces, applications of ICs, protocols, network configurations, modems, and related applications. Upon completion, students should be able to demonstrate knowledge of the concepts associated with data communication systems and high speed networks.

ELN 232 Introduction to Microprocessors

3 3 4

Prerequisites: ELN 133

Corequisites: None

This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include assembly language programming, bus architecture, bus cycle types, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.

ELN 234 Communication Systems

3 3 4

Prerequisites: ELN 132 or ELN 140

Corequisites: None

This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment.

	ELN 237 Local Area Networks	2 3 3
Course	Prerequisites: Select One: CET 111, CIS 110, CIS 111, ELC 127	
Descriptions	Corequisites: None This course introduces the fundamentals of local area networks and their operation in business and computer environments. Topics include the characteristics of network topologies, system hardware (repeaters, bridges, routers, gateways), system configuration, and installation and administration of the LAN. Upon completion, students should be able to install, maintain, and manage a local area network.	

	ELN 238 Advanced LANs	2 3 3
Course	Prerequisites: ELN 237	
Descriptions	Corequisites: None This course covers advanced concepts, tools, and techniques associated with servers, workstations, and overall local area network performance. Topics include network security and configuration, system performance and optimization, communication protocols and packet formats, troubleshooting techniques, multi-platform integration, and other related topics. Upon completion, students should be able to use advanced techniques to install, manage, and troubleshoot networks and optimize server and workstation performance.	

	ELN 275 Troubleshooting	1 2 2
Course	Prerequisites: None	
Descriptions	Corequisites: ELN 133 or ELN 141 This course covers techniques of analyzing and repairing failures in electronic equipment. Topics include safety, signal tracing, use of service manuals, and specific troubleshooting methods for analog, digital, and other electronics-based circuits and systems. Upon completion, students should be able to logically diagnose and isolate faults and perform necessary repairs to meet manufacturers' specifications.	

Emergency Medical Science

	EMS 110 EMT - Basic	5 6 0 7
Course	Prerequisites: Enrollment in EMS program	
Descriptions	Corequisites: None This course introduces basic emergency medical care. Topics include preparatory, airway, patient assessment, medical emergencies, trauma, infants and children, and operations. Upon completion, students should be able to demonstrate the knowledge and skills necessary for the EMT-Basic certification.	

	EMS 111 Prehospital Environment	2 2 0 3
Course	Prerequisites: Enrollment in EMS program	
Descriptions	Corequisites: None This course introduces the prehospital care environment and is required for all levels of EMT certification. Topics include roles, responsibilities, laws, ethics, communicable diseases, hazardous materials recognition, therapeutic communications, EMS systems, and defense tactics. Upon completion of EMS 110 and EMS 111, students should be able to demonstrate competencies and skills necessary to achieve EMT-Basic certification.	

	EMS 115 Defense Tactics for EMS	1 3 0 2
Course	Prerequisites: Enrollment in EMS program	
Descriptions	Corequisites: None This course is designed to provide tactics that can be used for self-protection in dangerous and violent situations. Emphasis is placed on prediction, recognition, and response to dangerous and violent situations. Upon completion, students should be able to recognize potentially hostile situations and protect themselves during a confrontation.	

EMS 120 Intermediate Interventions 2 3 0 3

Prerequisites: BIO 168 and EMS 110, EMS 111 or EMS 115, and enrollment in EMS program

Corequisites: EMS 121 or EMS 122, EMS 130, EMS 131, and BIO 169

This course is designed to provide the necessary information for interventions appropriate to the EMT-Intermediate, and is required for intermediate certification. Topics include automated external defibrillation, basic cardiac electrophysiology, intravenous therapy, venipuncture, acid-base balance, and fluids and electrolytes. Upon completion, students should be able to properly establish an IV line, obtain venous blood, utilize AED's, and correctly interpret arterial blood gases. Current N.C. EMT certification is required for students enrolling in this course.

EMS 121 EMS Clinical Practicum I 0 0 6 2

Prerequisites: BIO 168, EMS 110, EMS 111 or EMS 115, and enrollment in EMS program

Corequisites: EMS 120, EMS 130, EMS 131, and BIO 169

This course is the initial hospital and field internship and is required for intermediate and paramedic certification. Emphasis is placed on intermediate-level care. Upon completion, students should be able to demonstrate competence with intermediate-level skills. Current N.C. EMT certification is required for students enrolling in this course.

EMS 125 EMS Instructor Methodology 1 2 0 2

Prerequisites: None

Corequisites: None

This course covers the information needed to develop and instruct EMS courses. Topics include instructional methods, lesson plan development, time management skills, and theories of adult learning. Upon completion, students should be able to teach EMS courses and meet the North Carolina EMS requirements for instructor methodology.

EMS 130 Pharmacology for EMS 1 3 0 2

Prerequisites: BIO 168, EMS 110, and enrollment in EMS program

Corequisites: BIO 169, EMS 120, and EMS 131

This course introduces the fundamental principles of pharmacology and medication administration and is required for intermediate and paramedic certification. Topics include terminology, pharmacokinetics, pharmacodynamics, weights, measures, drug calculations, legislation, and administration routes. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology.

EMS 131 Advanced Airway Management 1 2 0 2

Prerequisites: BIO 168, EMS 110, and enrollment in EMS program

Corequisites: BIO 169, EMS 120, and EMS 130

This course is designed to provide advanced airway management techniques and is required for intermediate and paramedic certification. Topics include respiratory anatomy and physiology, airway, ventilation, adjuncts, surgical intervention, and rapid sequence intubation. Upon completion, students should be able to properly utilize all airway adjuncts and pharmacology associated with airway control and maintenance.

EMS 140 Rescue Scene Management 1 3 0 2

Prerequisites: Enrollment in EMS program

Corequisites: EMS 140A

This course introduces rescue scene management and is required for paramedic certification. Topics include response to hazardous material conditions, medical incident command, and extrication of patients from a variety of situations. Upon completion, students should be able to recognize and manage rescue operations based upon initial and follow-up scene assessment. Skills will include vehicle extrication, water rescue, rescue from heights, and confined space rescue.

Course

Descriptions

	EMS 140A Rescue Scene Skills Lab	0	3	0	1
Course	Prerequisites: Enrollment in EMS Program				
	Corequisites: EMS 140				
	This course is designed to provide enhanced rescue scene skills for EMS providers. Emphasis is placed on advanced rescue scene evolutions including hazardous materials and major incident response. Upon completion, students should be able to demonstrate skills necessary to safely effect patients rescue in a variety of situations.				
Descriptions	EMS 150 Emergency Vehicles and EMS Communication	3	0	2	
	Prerequisites: Enrollment in EMS program				
	Corequisites: None				
	This course examines the principles governing maintenance of emergency vehicles and EMS communication equipment and is required for paramedic certification. Topics include applicable motor vehicle laws affecting emergency vehicle operation, defensive driving, collision avoidance techniques, communication systems, and information management systems. Upon completion, students should have a basic knowledge of emergency vehicles, maintenance, and communication needs.				
	EMS 210 Advanced Patient Assessment	1	3	0	2
	Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or EMS 122				
	Corequisites: None				
	This course covers advanced patient assessment techniques and is required for paramedic certification. Topics include initial assessment, medical-trauma history, field impression, complete physical exam process, on-going assessment, and documentation skills. Upon completion, students should be able to utilize basic communication skills and record and report collected patient data.				
	EMS 220 Cardiology	2	6	0	4
	Prerequisites: EMS 120, EMS 121, EMS 130, and EMS 131				
	Corequisites: EMS 210 and EMS 221				
	This course provides an in-depth study of cardiovascular emergencies and is required for paramedic certification. Topics include anatomy and physiology, pathophysiology, rhythm interpretation, cardiac pharmacology, and patient treatment. Upon completion, students should be able to certify at the Advanced Cardiac Life Support provider level utilizing American Heart Association Guidelines. In addition, the course provides instruction in the use of various cardiac monitoring devices.				
	EMS 221 EMS Clinical Practicum II	0	0	9	3
	Prerequisites: EMS 121 or EMS 122 and COE 111, EMS 120, EMS 130 and EMS 131				
	Corequisites: EMS 210 and EMS 220				
	This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Current N.C. EMT certification is required for students enrolling in this course.				
	EMS 230 Pharmacology II for EMS	1	3	0	2
	Prerequisites: EMS 130				
	Corequisites: None				
	This course explores the fundamental classification and action of common pharmacologic agents. Emphasis is placed on the action and use of compounds most commonly encountered in the treatment of chronic and acutely ill patients. Upon completion, students should be able to demonstrate general knowledge of drugs covered during the course.				

EMS 231 EMS Clinical Practicum III 0 0 9 3

Prerequisites: EMS 221 or EMS 222 and COE 121, EMS 210 and EMS 220

Corequisites: EMS 250 and EMS 260

This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Current N.C. EMT certification is required for students enrolling in this course.

Course

Descriptions

EMS 240 Special Needs Patients 1 2 0 2

Prerequisites: EMS 120, EMS 121 or EMS 122, EMS 130, and EMS 131

Corequisites: EMS 241

This course includes concepts of crisis intervention and techniques of dealing with special needs patients and is required for paramedic certification. Topics include behavioral emergencies, abuse, assault, challenged patients, personal well-being, home care, and psychotherapeutic pharmacology. Upon completion, students should be able to recognize and manage frequently encountered special needs patients.

EMS 241 EMS Clinical Practicum IV 0 0 9 3

Prerequisites: EMS 231 or EMS 232 and COE 131, EMS 250, and EMS 260

Corequisites: EMS 240, EMS 270, and EMS 285

This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to provide advanced-level patient care as an entry-level paramedic. Current N.C. EMT certification is required for students enrolling in this course.

EMS 250 Advanced Medical Emergencies 2 3 0 3

Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or EMS 122, EMS 210, EMS 220, and EMS 221

Corequisites: EMS 231

This course presents an in-depth study of medical conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include pulmonology, neurology, endocrinology, anaphylaxis, gastroenterology, toxicology, and environmental emergencies integrating case presentation and emphasizing pharmacotherapeutics. Upon completion, students should be able to recognize and manage frequently encountered medical conditions based upon initial patient impression.

EMS 260 Advanced Trauma Emergencies 1 3 0 2

Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or EMS 122, EMS 210, EMS 220, and EMS 221

Corequisites: EMS 231

This course presents in-depth study of trauma including pharmacological interventions for conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include hemorrhage control, shock, burns, and trauma to head, spine, soft tissue, thoracic, abdominal, and musculoskeletal areas with case presentations utilized for special problems situations. Upon completion, students should be able to recognize and manage trauma situations based upon patient impressions and should meet requirements of BTLS or PHTLS courses.

EMS 270 Life Span Emergencies 2 2 0 3

Prerequisites: EMS 120, EMS 130 and EMS 131, EMS 231, EMS 250 and EMS 260

Corequisites: EMS 241

This course, required for paramedic certification, covers medical/ethical/legal issues and the spectrum of age-specific emergencies from conception through death. Topics include gynecological, obstetrical, neonatal, pediatric, and geriatric emergencies and pharmacological therapeutics. Upon completion, students should be able to recognize and treat age-specific emergencies and certify at the Pediatric Advanced Life Support provider level.

	EMS 280	EMS Bridging Course	2	2	0	3
Course	Prerequisites:	Enrollment in EMS Program				
Descriptions	Corequisites:	None	This course is designed to bridge the knowledge gained in a continuing education paramedic program with the knowledge gained in an EMS curriculum program. Topics include patient assessment, documentation, twelve-lead ECG analysis, thrombolytic agents, cardiac pacing, and advanced pharmacology. Upon completion, students should be able to perform advanced patient assessment documentation using the problem-oriented medical record format and manage complicated patients.			

	EMS 285	EMS Capstone	1	3	0	2
Prerequisites:	EMS 220, EMS 231, EMS 250, and EMS 260					
Corequisites:	EMS 241	This course provides an opportunity to demonstrate problem-solving skills as a team leader in simulated patient scenarios and is required for paramedic certification. Emphasis is placed on critical thinking, integration of didactic and psychomotor skills, and effective performance in simulated emergency situations. Upon completion, students should be able to recognize and appropriately respond to a variety of EMS related events.				

English

	ENG 080	Writing Foundations	3	2	4
Prerequisites:	ENG 070 or ENG 075 or placement				
Corequisites:	None	This course introduces the writing process and stresses effective sentences. Emphasis is placed on applying the conventions of written English, reflecting standard usage and mechanics in structuring a variety of sentences. Upon completion, students should be able to write correct sentences and a unified, coherent paragraph. This course does not satisfy the developmental writing prerequisite for ENG 111.			

	ENG 090	Composition Strategies	3	0	3
Prerequisites:	ENG 080 or ENG 085 or placement				
Corequisites:	ENG 090A	This course provides practice in the writing process and stresses effective paragraphs. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay. This course, with ENG 090A, satisfies the developmental writing prerequisite for ENG 111.			

	ENG 090A	Composition Strategies Lab	0	2	1
Prerequisites:	ENG 080 or ENG 085				
Corequisites:	ENG 090	This writing lab is designed to practice the skills introduced in ENG 090. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay.			

	ENG 102	Applied Communications II	3	0	3
Prerequisites:	None				
Corequisites:	None	This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing interpersonal communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications. This is a diploma-level course.			

ENG 111 Expository Writing **3 0 3**

Prerequisites: ENG 090, ENG 090A or ENG 095, RED 090, or placement test

Corequisites: None

This course is the required first course in a series of two designed to develop the ability to produce clear expository prose. Emphasis is placed on the writing process including audience analysis, topic selection, thesis support and development, editing, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

Course

Descriptions

ENG 112 Argument-Based Research **3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course, the second in a series of two, introduces research techniques, documentation styles, and argumentative strategies. Emphasis is placed on analyzing data and incorporating research findings into documented argumentative essays and research projects. Upon completion, students should be able to summarize, paraphrase, interpret, and synthesize information from primary and secondary sources using standard research format and style. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

ENG 113 Literature-Based Research **3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course, the second in a series of two, expands the concepts developed in ENG 111 by focusing on writing that involves literature-based research and documentation. Emphasis is placed on critical reading and thinking and the analysis and interpretation of prose, poetry, and drama: plot, characterization, theme, cultural context, etc. Upon completion, students should be able to construct mechanically-sound, documented essays and research papers that analyze and respond to literary works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

ENG 114 Professional Research and Reporting **3 0 3**

Prerequisites: ENG 111

Corequisites: Admission to a Major Program or English Department approval

This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations. Students entering this course should be able to demonstrate in-depth knowledge in a technical field and should anticipate interdepartmental evaluation of course projects. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

ENG 125 Creative Writing I **3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

	ENG 126	Creative Writing II	3	0	3
Course Descriptions	Prerequisites: ENG 125				
	Corequisites: None				
	This course is designed as a workshop approach for advancing imaginative and literary skills. Emphasis is placed on the discussion of style, techniques, and challenges for first publications. Upon completion, students should be able to submit a piece of their writing for publication. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.				
	ENG 131	Introduction to Literature	3	0	3
	Prerequisites: ENG 111				
	Corequisites: ENG 112, ENG 113, or ENG 114				
	This course introduces the principal genres of literature. Emphasis is placed on literary terminology, devices, structure, and interpretation. Upon completion, students should be able to analyze and respond to literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities /fine arts.				
	ENG 133	Introduction to the Novel	3	0	3
	Prerequisites: ENG 111				
	Corequisites: ENG 112, ENG 113, or ENG 114				
	This course provides intensive study of the novel as a literary form, based on close reading of representative texts. Emphasis is placed on the development and analysis of the novel. Upon completion, students should be able to interpret, analyze, and discuss the distinguishing features of the novel. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.				
	ENG 134	Introduction to Poetry	3	0	3
	Prerequisites: ENG 111				
	Corequisites: ENG 112, ENG 113, or ENG 114				
	This course provides intensive study of the poem as a literary form, based on close reading of representative texts. Emphasis is placed on the development and analysis of poetry. Upon completion, students should be able to interpret, analyze, and discuss the distinguishing features of poetry. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.				
	ENG 135	Introduction to Short Fiction	3	0	3
	Prerequisites: ENG 111				
	Corequisites: ENG 112, ENG 113, or ENG 114				
	This course provides intensive study of short fiction as a literary form, based on close reading of representative texts. Emphasis is placed on the development and analysis of short fiction. Upon completion, students should be able to interpret, analyze, and discuss the distinguishing forms of short fiction. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.				
	ENG 231	American Literature I	3	0	3
	Prerequisites: ENG 112, ENG 113, or ENG 114				
	Corequisites: None				
	This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course requires a research paper. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.				

ENG 232 American Literature II

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course requires a research paper. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Course

Descriptions

ENG 241 British Literature I

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. Reading and writing about an eighteenth century novel is required. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ENG 242 British Literature II

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. Reading and writing about a nineteenth century novel is required. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ENG 243 Major British Writers

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course provides an intensive study of the works of several major British authors. Emphasis is placed on British history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ENG 253 The Bible as Literature

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course introduces the Hebrew Old Testament and the Christian New Testament as works of literary art. Emphasis is placed on the Bible's literary aspects including history, composition, structure, and cultural contexts. Upon completion, students should be able to identify and analyze selected books and passages using appropriate literary conventions. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ENG 261 World Literature I

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from their literary beginnings through the 17th century. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

	ENG 262 World Literature II	3 0 3
Course	Prerequisites: ENG 112, ENG 113, or ENG 114	
Descriptions	Corequisites: None This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from the 18th century to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.	
	ENG 265 Thematic World Lit I	3 0 3
	Prerequisites: ENG 112, ENG 113, or ENG 114	
	Corequisites: None This course provides a thematic survey of selected works from major world authors. Emphasis is placed on understanding literary themes, such as initiation, conformity, and rebellion, from historical, critical, and universal perspectives. Upon completion, students should be able to interpret, analyze, and respond to selected works relating to universal themes. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.	
	ENG 266 Thematic World Literature II	3 0 3
	Prerequisites: ENG 112, ENG 113, or ENG 114	
	Corequisites: None This course provides a thematic survey of selected works from major world authors. Emphasis is placed on understanding literary themes, such as existentialism, love, hate, and death, from historical, critical, and universal perspectives. Upon completion, students should be able to interpret, analyze, and respond to selected works relating to universal themes. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.	
	ENG 271 Contemporary Literature	3 0 3
	Prerequisites: ENG 112, ENG 113, or ENG 114	
	Corequisites: None This course includes a study of contemporary literature. Emphasis is placed on literary and cultural trends of selected texts. Upon completion, students should be able to interpret, analyze, and respond to the literature. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.	
	ENG 272 Southern Literature	3 0 3
	Prerequisites: ENG 112, ENG 113, or ENG 114	
	Corequisites: None This course provides an analytical study of the works of several Southern authors. Emphasis is placed on the historical and cultural contexts, themes, aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.	
	ENG 273 African-American Literature	3 0 3
	Prerequisites: ENG 112, ENG 113, or ENG 114	
	Corequisites: None This course provides a survey of the development of African-American literature from its beginnings to the present. Emphasis is placed on historical and cultural context, themes, literary traditions, and backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and respond to selected texts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.	

ENG 274 Literature by Women

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course provides an analytical study of the works of several women authors. Emphasis is placed on the historical and cultural contexts, themes and aesthetic features of individual works, and biographical backgrounds of the authors.

Upon completion, students should be able to interpret, analyze, and discuss selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Course

Descriptions

ENG 275 Science Fiction

3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course covers the relationships between science and literature through analysis of short stories and novels. Emphasis is placed on scientific discoveries that shaped Western culture and our changing view of the universe as reflected in science fiction literature. Upon completion, students should be able to trace major themes and ideas and illustrate relationships between science, world view, and science fiction literature. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Fire Protection Technology

FIP 120 Introduction to Fire Protection

3 0 3

Prerequisites: None

Corequisites: None

This course provides an overview of the history, development, methods, systems, and regulations as they apply to the fire protection field. Topics include history, evolution, statistics, suppression, organizations, careers, curriculum, and other related topics. Upon completion, students should be able to demonstrate a broad understanding of the fire protection field.

FIP 124 Fire Prevention and Public Education

3 0 3

Prerequisites: None

Corequisites: None

This course introduces fire prevention concepts as they relate to community and industrial operations. Topics include the development and maintenance of fire prevention programs, educational programs, and inspection programs. Upon completion, students should be able to research, develop, and present a fire safety program to a citizens or industrial group.

FIP 128 Detection and Investigation

3 0 3

Prerequisites: None

Corequisites: None

This course covers procedures for determining the origin and cause of accidental and incendiary fires. Topics include collection and preservation of evidence, detection and determination of accelerants, courtroom procedure and testimony, and documentation of the fire scene. Upon completion, students should be able to conduct a competent fire investigation and present those findings to appropriate officials or equivalent.

FIP 132 Building Construction

3 0 3

Prerequisites: None

Corequisites: None

This course covers the principles and practices related to various types of building construction, including residential and commercial, as impacted by fire conditions. Topics include types of construction and related elements, fire resistive aspects of construction materials, building codes, collapse, and other related topics. Upon completion, students should be able to understand and recognize various types of construction and their positive or negative aspects as related to fire conditions.

	FIP 136 Inspections and Codes	3	0	3
Course	Prerequisites: None			
	Corequisites: None			
	This course covers the fundamentals of fire and building codes and procedures to conduct an inspection. Topics include review of fire and building codes, writing inspection reports, identifying hazards, plan reviews, site sketches, and other related topics. Upon completion, students should be able to conduct a fire code compliance inspection and produce a written report.			
Descriptions	FIP 140 Industrial Fire Protection	3	0	3
	Prerequisites: None			
	Corequisites: None			
	This course covers fire protection systems in industrial facilities. Topics include applicable health and safety standards, insurance carrier regulations, other regulatory agencies, hazards of local industries, fire brigade operation, and loss prevention programs. Upon completion, students should be able to prepare a procedure to plan, organize, and evaluate an industrial facility's fire protection.			
	FIP 152 Fire Protection Law	3	0	3
	Prerequisites: None			
	Corequisites: None			
	This course covers fire protection law. Topics include torts, legal terms, contracts, liability, review of case histories, and other related topics. Upon completion, students should be able to discuss laws, codes, and ordinances as they relate to fire protection.			
	FIP 220 Fire Fighting Strategies	3	0	3
	Prerequisites: None			
	Corequisites: None			
	This course provides preparation for command of initial incident operations involving emergencies within both the public and private sector. Topics include incident management, fire-ground tactics and strategies, incident safety, and command/control of emergency operations. Upon completion, students should be able to describe the initial incident system as it relates to operations involving various emergencies in fire and non-fire situations.			
	FIP 224 Instructional Methodology	4	0	4
	Prerequisites: None			
	Corequisites: None			
	This course covers the knowledge, skills, and abilities needed to train others in fire service operations. Topics include planning, presenting, and evaluating lesson plans, learning styles, use of media, communication, and other related topics. Upon completion, students should be able to meet all requirements of NFPA 1041 Fire Service Instructor Level Two.			
	FIP 228 Local Government Finance	3	0	3
	Prerequisites: None			
	Corequisites: None			
	This course introduces local governmental financial principles and practices. Topics include budget preparation and justification, revenue policies, statutory requirements, taxation, audits, and the economic climate. Upon completion, students should be able to comprehend the importance of finance as it applies to the operation of a department.			
	FIP 230 Chemistry of Hazardous Materials I	5	0	5
	Prerequisites: None			
	Corequisites: None			
	This course covers the evaluation of hazardous materials. Topics include use of the periodic table, hydrocarbon derivatives, placards and labels, parameters of combustion, and spill and leak mitigation. Upon completion, students should be able to demonstrate knowledge of the chemical behavior of hazardous materials.			

FIP 232 Hydraulics and Water Distribution

2 2 3

Prerequisites: MAT 115

Corequisites: None

This course covers the flow of fluids through fire hoses, nozzles, appliances, pumps, standpipes, water mains, and other devices. Emphasis is placed on supply and delivery systems, fire flow testing, hydraulic calculations, and other related topics. Upon completion, students should be able to perform hydraulic calculations, conduct water availability tests, and demonstrate knowledge of water distribution systems.

Course

Descriptions

FIP 236 Emergency Management

3 0 3

Prerequisites: None

Corequisites: None

This course covers the four phases of emergency management: mitigation, preparedness, response, and recovery. Topics include organizing for emergency management, coordinating for community resources, public sector liability, and the roles of government agencies at all levels. Upon completion, students should be able to demonstrate an understanding of comprehensive emergency management and the integrated emergency management system.

FIP 240 Fire Service Supervision

3 0 3

Prerequisites: None

Corequisites: None

This course covers supervisory skills and practices in the fire protection field. Topics include the supervisor's job, supervision skills, the changing work environment, managing change, organizing for results, discipline and grievances, and loss control. Upon completion, students should be able to demonstrate an understanding of the roles and responsibilities of the effective fire service supervisor.

FIP 260 Fire Protection Planning

3 0 3

Prerequisites: None

Corequisites: None

This course covers the need for a comprehensive approach to fire protection planning. Topics include the planning process, using an advisory committee, establishing goals and objectives, and techniques used to approve and implement a plan. Upon completion, students should be able to demonstrate a working knowledge of the concepts and principles of planning as it relates to fire protection.

FIP 276 Managing Fire Services

3 0 3

Prerequisites: None

Corequisites: None

This course provides an overview of fire department operative services. Topics include finance, staffing, equipment, code enforcement, management information, specialized services, legal issues, planning, and other related topics. Upon completion, students should be able to understand concepts and apply fire department management and operations principles.

French

FRE 111 Elementary French I

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the fundamental elements of the French language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

	FRE 112 Elementary French II	3	0	3
Course	Prerequisites: FRE 111 Corequisites: None			
Descriptions	This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.			

	FRE 211 Intermediate French I	3	0	3
Course	Prerequisites: FRE 112 Corequisites: None			
Descriptions	This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.			

	FRE 212 Intermediate French II	3	0	3
Course	Prerequisites: FRE 211 Corequisites: None			
Descriptions	This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.			

Geography

	GEO 111 World Regional Geography	3	0	3
Course	Prerequisites: None Corequisites: None			
Descriptions	This course introduces the regional concept which emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.			

	*GEO 112 Cultural Geography	3	0	3
Course	Prerequisites: None Corequisites: None			
Descriptions	This course is designed to explore the diversity of human cultures and to describe their shared characteristics. Emphasis is placed on the characteristics, distribution, and complexity of earth's cultural patterns. Upon completion, students should be able to demonstrate an understanding of the differences and similarities in human cultural groups. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.			

Geology

GEL 111 Introductory Geology

3 2 4

Prerequisites: None

Corequisites: None

This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon completion, students should be able to describe basic geological processes that shape the earth. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

Course

Descriptions

GEL 230 Environmental Geology

3 2 4

Prerequisites: GEL 111 or PHS 130

Corequisites: None

This course provides insights into geologic forces that cause environmental changes influencing man's activities. Emphasis is placed on natural hazards and disasters caused by geologic forces. Upon completion, students should be able to relate major hazards and disasters to the geologic forces responsible for their occurrence. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

German

GER 111 Elementary German I

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the fundamental elements of the German language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written German and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

GER 112 Elementary German II

3 0 3

Prerequisites: GER 111

Corequisites: None

This course is a continuation of GER 111 focusing on the fundamental elements of the German language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written German and demonstrate further cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

GER 211 Intermediate German I

3 0 3

Prerequisites: GER 112

Corequisites: None

This course provides a review and expansion of the essential skills of the German language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

	GER 212	Intermediate German II	3	0	3
Course	Prerequisites:	GER 211			
Descriptions	Corequisites:	None	This course is a continuation of GER 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.		

Geographic Information Systems

GIS 111	Introduction to GIS	2	2	3
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Prerequisites:	None			
Corequisites:	None	This course introduces the hardware and software components of a Geographic Information System and reviews GIS applications. Topics include data structures and basic functions, methods of data capture and sources of data, and the nature and characteristics of spatial data and objects. Upon completion, students should be able to identify GIS hardware components, typical operations, product/applications, and differences between database models and between raster and vector systems.		

GIS 121	Georeferencing and Mapping	2	2	3
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Prerequisites:	None			
Corequisites:	None	This course introduces coordinate systems, fundamentals of surveying, and cartography. Topics include the theory, acquisition, and use of locational data using both continuous and discrete georeferencing methods. Upon completion, students should be able to identify appropriate coordinate systems for a situation and translate data into correct map form.		

GIS 125	CAD for GIS	2	2	3
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Prerequisites:	None			
Corequisites:	None	This course introduces the concepts of Computer Aided Drafting (CAD) as well as software that is used for building geographic data for a GIS. Emphasis is placed on the learning of basic commands used in building spatial data. Upon completion, students will be able to operate within a CAD environment.		

Health

HEA 110	Personal Health/Wellness	3	0	3
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Prerequisites:	None			
Corequisites:	None	This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.		

HEA 112	First Aid and CPR	1	2	2
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Prerequisites:	None			
Corequisites:	None	This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.		

Heavy Equipment and Transport Technology

*HET 110 Diesel Engines

3 9 6

Prerequisites: None

Corequisites: None

This course introduces theory, design, terminology, and operating adjustments for diesel engines. Emphasis is placed on safety, theory of operation, inspection, measuring, and rebuilding diesel engines according to factory specifications. Upon completion, students should be able to measure, diagnose problems, and repair diesel engines.

Course

Descriptions

*HET 112 Diesel Electrical Systems

3 6 5

Prerequisites: None

Corequisites: None

This course introduces electrical theory and applications as they relate to diesel powered equipment. Topics include lighting, accessories, safety, starting, charging, instrumentation, and gauges. Upon completion, students should be able to follow schematics to identify, repair, and test electrical circuits and components.

*HET 114 Power Trains

3 6 5

Prerequisites: None

Corequisites: None

This course introduces power transmission devices. Topics include function and operation of gears, chains, clutches, planetary gears, drive lines, differentials, and transmissions. Upon completion, students should be able to identify, research specifications, repair, and adjust power train components.

*HET 115 Electronic Engines

2 3 3

Prerequisites: None

Corequisites: HET 112

This course introduces the principles of electronically controlled diesel engines. Emphasis is placed on testing and adjusting diesel engines in accordance with manufacturers' specifications. Upon completion, students should be able to diagnose, test, and calibrate electronically controlled diesel engines.

*HET 116 Air Conditioning/Diesel Equipment

1 2 2

Prerequisites: None

Corequisites: None

This course provides a study of the design, theory, and operation of heating and air conditioning systems in newer models of medium and heavy duty vehicles. Topics include component function, refrigerant recovery, and environmental regulations. Upon completion, students should be able to use proper techniques and equipment to diagnose and repair heating/air conditioning systems according to industry standards.

*HET 118 Mechanical Orientation

2 0 2

Prerequisites: None

Corequisites: None

This course introduces the care and safe use of power and hand tools. Topics include micrometers, dial indicators, torque wrenches, drills, taps, dies, screw extractors, thread restorers, and fasteners. Upon completion, students should be able to select and properly use tools for various operations.

*HET 119 Mechanical Transmissions

2 2 3

Prerequisites: None

Corequisites: None

This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power take-offs, sliding idler clutches, and friction clutches. Upon completion, students should be able to diagnose, inspect, and repair mechanical transmissions.

	*HET 125 Preventive Maintenance		1	3	2
Course	Prerequisites: None				
Descriptions	Corequisites: None This course introduces preventive maintenance practices used on medium and heavy duty vehicles and rolling assemblies. Topics include preventive maintenance schedules, services, DOT rules and regulations, and roadability. Upon completion, students should be able to set up and follow a preventive maintenance schedule as directed by manufacturers.				

	*HET 128 Medium/Heavy Duty Tune Up		1	2	2
Course	Prerequisites: None				
Descriptions	Corequisites: None This course introduces tune-up and troubleshooting according to manufacturers' specifications. Topics include troubleshooting engine systems, tune-up procedures, and use and care of special test tools and equipment. Upon completion, students should be able to troubleshoot, diagnose, and repair engines and components using appropriate diagnostic equipment.				

	*HET 231 Medium/Heavy Duty Brake Systems		1	3	2
Course	Prerequisites: None				
Descriptions	Corequisites: None This course covers the theory and repair of braking systems used in medium and heavy duty vehicles. Topics include air, hydraulic, and ABS system diagnosis and repair. Upon completion, students should be able to troubleshoot, adjust, and repair braking systems on medium and heavy duty vehicles.				

	*HET 233 Suspension and Steering		2	4	4
Course	Prerequisites: None				
Descriptions	Corequisites: None This course introduces the theory and principles of medium and heavy duty steering and suspension systems. Topics include wheel and tire problems, frame members, fifth wheel, bearings, and coupling systems. Upon completion, students should be able to troubleshoot, adjust, and repair suspension and steering components on medium and heavy duty vehicles.				

History

	HIS 111 World Civilizations I		3	0	3
Course	Prerequisites: None				
Descriptions	Corequisites: None This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco-Roman civilizations and Christian, Islamic and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.				

	HIS 112 World Civilizations II		3	0	3
Course	Prerequisites: None				
Descriptions	Corequisites: None This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.				

HIS 115 Introduction to Global History

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the study of global history. Emphasis is placed on topics such as colonialism, industrialism, and nationalism. Upon completion, students should be able to analyze significant global historical issues. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

Course

Descriptions

HIS 131 American History I

3 0 3

Prerequisites: None

Corequisites: None

This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

HIS 132 American History II

3 0 3

Prerequisites: None

Corequisites: None

This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

HIS 162 Women and History

3 0 3

Prerequisites: None

Corequisites: None

This course surveys the experience of women in historical perspective. Topics include the experiences and contributions of women in culture, politics, economics, science, and religion. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural contributions of women in history. This course covers American women from colonial times to the present. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

HIS 227 Native American History

3 0 3

Prerequisites: None

Corequisites: None

This course surveys the history and cultures of Native Americans from pre-history to the present. Topics include Native American civilizations, relations with Europeans, and the continuing evolution of Native American cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments among Native Americans. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

HIS 236 North Carolina History

3 0 3

Prerequisites: None

Corequisites: None

This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Hotel and Restaurant Management

	HRM 110 Introduction to Hospitality	2 0 2
Course	Prerequisites: None	
Descriptions	Corequisites: None	
	This course covers the growth and progress of the hospitality industry. Topics include financing, hotels, restaurants, and clubs. Upon completion, students should be able to demonstrate an understanding of the background, context, and career opportunities that exist in the hospitality industry.	
	*HRM 120 Front Office Procedures	3 0 3
	Prerequisites: None	
	Corequisites: HRM 120A	
	This course provides a systematic approach to hotel front office procedures. Topics include reservations, registration, guest satisfaction, occupancy and rate management, security, interdepartmental communications, and related guest services. Upon completion, students should be able to demonstrate a basic understanding of current front office operating systems, including efficient and courteous guest service. This course will also examine the housekeeping department of the hotel, its operation and management, and its working relationship with the front office.	
	*HRM 120A Front Office Procedures Lab	0 2 1
	Prerequisites: None	
	Corequisites: HRM 120	
	This course is laboratory to accompany HRM 120. Emphasis is placed on practical computer applications of theory covered in HRM 120. Upon completion, students should be able to demonstrate a basic proficiency in computer-based, front office applications.	
	HRM 124 Introduction to Service Mgt.	2 2 3
	Prerequisites: None	
	Corequisites: CUL 142	
	This course is designed to provide an introduction to the culture of dining room service management. Emphasis is placed on dignity of service work, psychology of service, dining room organization, service delivery and modeling management roles in a dining room environment. Upon completion, students should be able to demonstrate an understanding of the guest/server dynamic and apply these principles in a dining room setting.	
	*HRM 130 Bed and Breakfast Management	2 0 2
	Prerequisites: None	
	Corequisites: None	
	This course provides an overview of the management of bed and breakfast facilities. Emphasis is placed on lifestyle commitment, property needs, computer operations, business and marketing plans, customer service and facility management. Upon completion, students should be able to describe and apply the principles of management unique to the bed and breakfast industry.	
	*HRM 135 Facilities Management	2 0 2
	Prerequisites: None	
	Corequisites: None	
	This course introduces the basic elements of planning and designing hospitality facilities, including their maintenance and upkeep. Topics include equipment and plant preventive maintenance, engineering, interior design, space utilization, remodeling and expansion, and traffic and workflow patterns. Upon completion, students should be able to demonstrate an understanding of the planning, design, and maintenance of hospitality physical plants and equipment.	

***HRM 140 Hospitality Tourism Law**

3 0 3

Prerequisites: None

Corequisites: None

This course covers the rights and responsibilities that the law grants to or imposes upon the hospitality industry. Topics include federal and state regulations, historical and current practices, safety and security, risk management, loss prevention, torts, and contracts. Upon completion, students should be able to demonstrate an understanding of the legal system to prevent or minimize organizational liability.

Course

Descriptions

***HRM 145 Hospitality Supervision**

3 0 3

Prerequisites: None

Corequisites: None

This course covers principles of supervision as they apply to the hospitality industry. Topics include recruitment, selection, orientation, training, evaluation, and leadership skills. Upon completion, students should be able to understand and apply basic supervisory skills unique to the hospitality and service industry.

***HRM 210 Meetings and Conventions**

3 0 3

Prerequisites: None

Corequisites: None

This course introduces organization, arrangement, and operation of conventions, trade shows, professional meetings, and food functions. Emphasis is placed on the methods of marketing, selling, and servicing conventions and trade shows and the division of administrative responsibilities in their operation. Upon completion, students should be able to describe and apply the principles of management to multi-function, multi-day conferences and events.

***HRM 215 Restaurant Management**

3 0 3

Prerequisites: CUL 135, CUL 135A and HRM 124

Corequisites: HRM 215A

This course provides an overview of the various challenges and responsibilities encountered in managing food and beverage operation. Topics include planning, administration, organization, accounting, marketing, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate an understanding of the operation of a restaurant.

***HRM 215A Restaurant Management Lab**

0 2 1

Prerequisites: CUL 135, CUL 135A and HRM 124

Corequisites: HRM 215

This course is a laboratory to accompany HRM 215. Emphasis is placed on practical applications of restaurant management principles. Upon completion, students should be able to demonstrate a basic proficiency in restaurant management applications.

***HRM 220 Food and Beverage Control**

3 0 3

Prerequisites: None

Corequisites: None

This course introduces controls and accounting procedures used in the hospitality industry. Topics include analysis of financial statements, reports, and costs. Upon completion, students should be able to understand and apply food, beverage, and labor cost control systems.

HRM 225 Beverage Management

2 0 2

Prerequisites: None

Corequisites: None

This course introduces the management of beverage operations in a hospitality operation. Topics include history, service, procurement, storage, and control of wines, fermented and distilled beverages, sparkling waters, coffees, and teas.

Upon completion, students should be able to demonstrate knowledge of the beverages consumed in a hospitality operation.

	*HRM 240 Hospitality Marketing	3	0	3
Course	Prerequisites: None			
Descriptions	Corequisites: None			
	This course covers planning, organizing, directing, and analyzing the results of marketing programs in the hospitality industry. Emphasis is placed on market segmentation and analysis, product and image development, sales planning, advertising, public relations, and collateral materials. Upon completion, students should be able to prepare a marketing plan applicable to the hospitality industry.			
	*HRM 280 Hospitality Management Problems	3	0	3
	Prerequisites: ACC 120, CIS 110, COE 112, CUL 142, HRM 110, HRM 120, HRM 135, HRM 145, HRM 215, HRM 225, HRM 240			
	Corequisites: HRM 210			
	This course addresses timely issues in the hospitality industry and is intended to move students into managerial thinking. Emphasis is placed on problem-solving skills using currently available resources. Upon completion, students should be able to apply hospitality management principles to real challenges facing industry managers.			

Human Services

*HSE 110 Introduction to Human Services	2	2	0	3
Prerequisites: None				
Corequisites: None				
This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/professional characteristics, diverse populations, community resources, disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker.				
*HSE 112 Group Process I	1	2	0	2
Prerequisites: Enrollment in the HSE program				
Corequisites: None				
This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by their interactions in group settings.				
*HSE 123 Interviewing Techniques	2	2	0	3
Prerequisites: None				
Corequisites: None				
This course covers the purpose, structure, focus, and techniques employed in effective interviewing. Emphasis is placed on observing, attending, listening, responding, recording, and summarizing of personal histories with instructor supervision. Upon completion, students should be able to perform the basic interviewing skills needed to function in the helping relationship.				
*HSE 125 Counseling	2	2	0	3
Prerequisites: PSY 150				
Corequisites: None				
This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of self-exploration, problem-solving, decision-making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques.				

*HSE 210	Human Services Issues	2	0	0	2
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Prerequisites: Departmental approval

Corequisites: None

This course covers current issues and trends in the field of human services.

Emphasis is placed on contemporary topics with relevance to special issues in a multifaceted field. Upon completion, students should be able to integrate the knowledge, skills, and experiences gained in classroom and clinical experiences with emerging trends in the field.

Course

*HSE 220	Case Management	2	2	0	3
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Prerequisites: HSE 110

Corequisites: None

This course covers the variety of tasks associated with professional case management. Topics include treatment planning, needs assessment, referral procedures, and follow-up and integration of services. Upon completion, students should be able to effectively manage the care of the whole person from initial contact through termination of services.

Descriptions

*HSE 225	Crisis Intervention	3	0	0	3
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Prerequisites: None

Corequisites: None

This course introduces the basic theories and principles of crisis intervention.

Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Upon completion, students should be able to assess crisis situations and respond appropriately.

A.A.S. Humanities/Fine Arts

General Education Electives

The following courses are classified as Humanities/Fine Arts for A.A.S. degree programs. A.A.S. students may take any course on this list. College transfer students (A.A., A.S., A.F.A.) should select general education courses listed on pages 228-237 of the catalog.

Course

Descriptions

ART

- ART 111 Art Appreciation
- ART 114 Art History Survey I
- ART 115 Art History Survey II
- ART 117 Non-Western Art History

DRAMA

- DRA 111 Theatre Appreciation
- DRA 112 Literature of the Theatre
- DRA 122 Oral Interpretation
- DRA 124 Readers Theatre
- DRA 211 Theatre History I
- DRA 212 Theatre History II

ENGLISH

- ENG 131 Introduction to Literature
- ENG 231 American Literature I
- ENG 232 American Literature II
- ENG 241 British Literature I
- ENG 242 British Literature II
- ENG 243 Major British Writers
- ENG 261 World Literature I
- ENG 262 World Literature II

HUMANITIES

- HUM 110 Technology and Society
- HUM 115 Critical Thinking
- HUM 120 Cultural Studies
- HUM 122 Southern Culture
- HUM 123 Appalachian Culture
- HUM 130 Myth and Human Culture
- HUM 150 American Women's Studies
- HUM 160 Introduction to Film
- HUM 211 Humanities I
- HUM 212 Humanities II
- HUM 220 Human Values and Meaning

MUSIC

- MUS 110 Music Appreciation
- MUS 113 American Music
- MUS 114 Non-Western Music

PHILOSOPHY

- PHI 210 History of Philosophy
- PHI 215 Philosophical Issues
- PHI 230 Introduction to Logic
- PHI 240 Introduction to Ethics

RELIGION

- REL 110 World Religions
- REL 211 Introduction to Old Testament
- REL 212 Introduction to New Testament

FOREIGN LANGUAGES

A.A.S. students may take a two-semester foreign language sequence to satisfy the Humanities/Fine Arts requirement:

- | | |
|---------------------|--------------------|
| ASL 111 and ASL 112 | Elementary ASL |
| FRE 111 and FRE 112 | Elementary French |
| GER 111 and GER 112 | Elementary German |
| SPA 111 and SPA 112 | Elementary Spanish |

Humanities

HUM 110 Technology and Society

3 0 3

Prerequisites: None

Corequisites: None

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Course

Descriptions

HUM 115 Critical Thinking

3 0 3

Prerequisites: ENG 095 or ENG 090 and RED 090

Corequisites: None

This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 120 Cultural Studies

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 122 Southern Culture

3 0 3

Prerequisites: None

Corequisites: None

This course explores the major qualities that make the South a distinct region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 123 Appalachian Culture

3 0 3

Prerequisites: None

Corequisites: None

This course provides an interdisciplinary study of the unique features of Appalachian culture. Topics include historical, political, sociological, psychological, and artistic features which distinguish this region. Upon completion, students should be able to demonstrate a broad-based awareness and appreciation of Appalachian culture. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

HUM 130 Myth in Human Culture

3 0 3

Prerequisites: None

Corequisites: None

This course provides an in-depth study of myths and legends. Topics include the varied sources of myths and their influence on the individual and society within diverse cultural contexts. Upon completion, students should be able to demonstrate a general familiarity with myths and a broad-based understanding of the influence of myths and legends on modern culture. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

	HUM 150 American Women's Studies	3 0 3
Course	Prerequisites: None Corequisites: None This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.	
Descriptions	HUM 160 Introduction to Film	2 2 3
	Prerequisites: None Corequisites: None This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Attendance at five film showings and an in-depth written analysis of one film are required. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.	
	HUM 211 Humanities I	3 0 3
	Prerequisites: ENG 111 Corequisites: None This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from ancient through early modern times. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.	
	HUM 212 Humanities II	3 0 3
	Prerequisites: ENG 111 Corequisites: None This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from early modern times to the present. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.	
	HUM 220 Human Values and Meaning	3 0 3
	Prerequisites: ENG 111 Corequisites: None This course presents some major dimensions of human experience as reflected in art, music, literature, philosophy, and history. Topics include the search for identity, the quest for knowledge, the need for love, the individual and society, and the meaning of life. Upon completion, students should be able to recognize interdisciplinary connections and distinguish between open and closed questions and between narrative and scientific models of understanding. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.	

Hydraulics

***HYD 110 Hydraulics/Pneumatics I** **2 3 3**

Prerequisites: MAT 121 or MAT 161

Corequisites: None

This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting.

HYD 112 Hydraulics/Medium/Heavy Duty **1 2 2**

Prerequisites: None

Corequisites: None

This course introduces hydraulic theory and applications as applied to mobile equipment. Topics include component studies such as pumps, motors, valves, cylinders, filters, reservoirs, lines, and fittings. Upon completion, students should be able to identify, diagnose, test, and repair hydraulic systems using schematics and technical manuals.

Industrial Science

ISC 121 Environmental Health and Safety **3 0 3**

Prerequisites: None

Corequisites: None

This course covers workplace environmental health and safety concepts. Emphasis is placed on managing the implementation and enforcement of environmental health and safety regulations and on preventing accidents, injuries, and illnesses. Upon completion, students should be able to demonstrate an understanding of basic concepts of environmental health and safety.

Machining

MAC 111 Machining Technology I **2 12 6**

Prerequisites: None

Corequisites: None

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 112 Machining Technology II **2 12 6**

Prerequisites: MAC 111

Corequisites: None

This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 113 Machining Technology III **2 12 6**

Prerequisites: MAC 112

Corequisites: None

This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications.

Course
Descriptions

	MAC 114 Introduction to Metrology	2	0	2
Course	Prerequisites: None Corequisites: None This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.			
Descriptions	MAC 118 Machine Shop Basic	1	3	2
	Prerequisites: None Corequisites: None This course will introduce the fundamentals of measuring tools, tolerances, and the basic set up and operations of drill presses, lathes, and milling machines. Emphasis is placed on manufacturing standards and procedures used in welding, automotive, and engineering environments. Upon completion, students should be able to use measuring tools, perform basic machining operations, and apply manufacturing standards.			
	MAC 121 Introduction to CNC	2	0	2
	Prerequisites: None Corequisites: None This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Students will learn computer skills necessary for machinists. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.			
	MAC 122 CNC Turning	1	3	2
	Prerequisites: None Corequisites: None This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.			
	MAC 124 CNC Milling	1	3	2
	Prerequisites: None Corequisites: None This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.			
	MAC 151 Machining Calculations	1	2	2
	Prerequisites: None Corequisites: None This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.			
	MAC 152 Advanced Machining Calculations	1	2	2
	Prerequisites: None Corequisites: None This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.			
	MAC 214 Machining Technology IV	2	12	6
	Prerequisites: MAC 112 Corequisites: None This course provides advanced applications and practical experience in the manufacturing of complex parts. Emphasis is placed on inspection, gauging, and the utilization of machine tools. Upon completion, students should be able to manufacture complex assemblies to specifications.			

MAC 224 Advanced CNC Milling

1 3 2

Prerequisites: MAC 124

Corequisites: None

This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.

Course

MAC 226 CNC EDM Machining

1 3 2

Descriptions

Prerequisites: None

Corequisites: None

This course introduces the programming, setup, and operation of CNC electrical discharge machines. Topics include programming formats, control functions, program editing, production of parts, and inspection. Upon completion, students should be able to manufacture simple parts using CNC electrical discharge machines.

MAC 229 CNC Programming

2 0 2

Prerequisites: Select one: MAC 121, MAC 122, MAC 124, MAC 226

Corequisites: None

This course provides concentrated study in advanced programming techniques for working with modern CNC machine tools. Topics include custom macros and subroutines, canned cycles, and automatic machining cycles currently employed by the machine tool industry. Upon completion, students should be able to program advanced CNC functions while conserving machine memory.

MAC 241 Jigs and Fixtures I

2 6 4

Prerequisites: MAC 112

Corequisites: None

This course introduces the application and use of jigs and fixtures. Emphasis is placed on design and manufacture of simple jigs and fixtures. Upon completion, students should be able to design and build simple jigs and fixtures.

MAC 245 Mold Construction I

2 6 4

Prerequisites: MAC 112

Corequisites: None

This course introduces the principles of mold making. Topics include types, construction, and application of molds. Upon completion, students should be able to design and build simple molds.

MAC 246 Mold Construction II

1 9 4

Prerequisites: MAC 245

Corequisites: None

This course provides continued study in the application and use of molds. Emphasis is placed on design and manufacturing of complex molds. Upon completion, students should be able to design and build complex molds. This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.

MAC 247 Production Tooling

2 0 2

Prerequisites: MAC 111

Corequisites: None

This course provides advanced study in tooling currently utilized in the production of metal parts. Emphasis is placed on the proper use of tooling used on CNC and other production machine tools. Upon completion, students should be able to choose proper tool grades based on manufacturing requirements and troubleshoot carbide tooling problems.

Mathematics

MAT 060	Essential Mathematics	3 2 4
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Prerequisites: MAT 050 or placement

Corequisites: RED 080 or placement

Course

This course is a comprehensive study of mathematical skills which should provide a strong mathematical foundation to pursue further study. Topics include principles and applications of decimals, fractions, percents, ratio and proportion, order of operations, geometry, measurement, and elements of algebra and statistics. Upon completion, students should be able to perform basic computations and solve relevant, multi-step mathematical problems using technology where appropriate. The operation of a scientific calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 070	Introductory Algebra	3 2 4
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Prerequisites: MAT 060 or placement

Corequisites: RED 080 or ENG 085 or placement

Descriptions

This course establishes a foundation in algebraic concepts and problem solving. Topics include signed numbers, exponents, order of operations, simplifying expressions, solving linear equations and inequalities, graphing, formulas, polynomials, factoring, and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. The operation of a graphing calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 080	Intermediate Algebra	3 2 4
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Prerequisites: MAT 070 or placement

Corequisites: RED 080 or ENG 085 or placement

This course continues the study of algebraic concepts with emphasis on applications. Topics include factoring; rational expressions; rational exponents; rational, radical, and quadratic equations; systems of equations; inequalities; graphing; functions; variations; complex numbers; and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. The operation of a graphing calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 101	Applied Mathematics I	2 2 3
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Prerequisites: Select one: MAT 060, MAT 070, MAT 080, MAT 090, MAT 095

Corequisites: None

This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve practical problems in their specific areas of study. This course is intended for certificate and diploma programs.

MAT 115	Mathematical Models	2 2 3
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Prerequisites: Select one: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: None

This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematics-intensive programs. Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions and their graphs, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently.

MAT 121 Algebra/Trigonometry I

2 2 3

Prerequisites: Select one: MAT 070, MAT 080, MAT 090, MAT 095

Corequisites: None

This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include simplification, evaluation, and solving of algebraic and radical functions; complex numbers; right triangle trigonometry; systems of equation; and the use of technology. Upon completion, students should be able to demonstrate an understanding of the use of mathematics and technology to solve problems and analyze and communicate results.

Course

Descriptions

MAT 122 Algebra/Trigonometry II

2 2 3

Prerequisites: Select one: MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: None

This course extends the concepts covered in MAT 121 to include additional topics in algebra, function analysis, and trigonometry. Topics include exponential and logarithmic functions, translation and scaling of functions, Sine Law, Cosine Law, vectors, and statistics. Upon completion, students should be able to demonstrate an understanding of the use of technology to solve problems and to analyze and communicate results.

MAT 140 Survey of Mathematics

3 0 3

Prerequisites: Select one: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: None

This course provides an introduction in a nontechnical setting to selected topics in mathematics. Topics may include, but are not limited to, sets, logic, probability, statistics, matrices, mathematical systems, geometry, topology, mathematics of finance, and modeling. Upon completion, students should be able to understand a variety of mathematical applications, think logically, and be able to work collaboratively and independently. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 151 Statistics I

3 0 3

Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 140, MAT 161, MAT 171, MAT 175

Corequisites: MAT 151A

This course provides a project-based approach to the study of basic probability, descriptive and inferential statistics, and decision making. Emphasis is placed on measures of central tendency and dispersion, correlation, regression, discrete and continuous probability distributions, quality control, population parameter estimation, and hypothesis testing. Upon completion, students should be able to describe important characteristics of a set of data and draw inferences about a population from sample data. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative option).

MAT 151A Statistics I Lab

0 2 1

Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 140, MAT 161, MAT 171, MAT 175

Corequisites: MAT 151

This course is a laboratory for MAT 151. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

	MAT 161 College Algebra	3	0	3
Course	Prerequisites: MAT 080, MAT 090 or MAT 095			
Descriptions	Corequisites: MAT 161A This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on applications involving equations and inequalities; polynomials, rational, exponential and logarithmic functions; and graphing and data analysis/modeling. Upon completion, students should be able to choose an appropriate model to fit a data set and use the model for analysis and prediction. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics for the A.A. degree.			
	MAT 161A College Algebra Lab	0	2	1
	Prerequisites: MAT 080 , MAT 090 or MAT 095			
	Corequisites: MAT 161 This course is a laboratory for MAT 161. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	MAT 167 Discrete Mathematics	3	0	3
	Prerequisites: Select one: MAT 121, MAT 161, MAT 171, MAT 280			
	Corequisites: None This course is a study of discrete mathematics with emphasis on applications. Topics include number systems, combinations/permutations, mathematical logic/proofs, sets/counting, Boolean algebra, mathematical induction, trees/graphs, and algorithms. Upon completion, students should be able to demonstrate competence in the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	MAT 171 Precalculus Algebra	3	0	3
	Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 161			
	Corequisites: MAT 171A This is the first of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on equations and inequalities, functions (linear, polynomial, rational), systems of equations and inequalities, and parametric equations. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and predictions. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.			
	MAT 171A Precalculus Algebra Lab	0	2	1
	Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 161			
	Corequisites: MAT 171 This course is a laboratory for MAT 171. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	MAT 172 Precalculus Trigonometry	3	0	3
	Prerequisites: MAT 171			
	Corequisites: MAT 172A This is the second of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on properties and applications of transcendental functions and their graphs, right and oblique triangle trigonometry, conic sections, vectors, and polar coordinates. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.			

MAT 172A Precalculus Trigonometry Lab

0 2 1

Prerequisites: MAT 171

Corequisites: MAT 172

This course is a laboratory for MAT 172. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Course

Descriptions

MAT 175 Precalculus

4 0 4

Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: None

This course provides an intense study of the topics which are fundamental to the study of calculus. Emphasis is placed on functions and their graphs with special attention to polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic trigonometry. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 223 Applied Calculus

2 2 3

Prerequisites: MAT 122

Corequisites: None

This course provides an introduction to the calculus concepts of differentiation and integration by way of application and is designed for engineering technology students. Topics include limits, slope, derivatives, related rates, areas, integrals, and applications. Upon completion, students should be able to demonstrate an understanding of the use of calculus and technology to solve problems and to analyze and communicate results.

MAT 271 Calculus I

3 2 4

Prerequisites: MAT 172 or MAT 175

Corequisites: None

This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications.

Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 272 Calculus II

3 2 4

Prerequisites: MAT 271

Corequisites: None

This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 273 Calculus III

3 2 4

Prerequisites: MAT 272

Corequisites: None

This course covers the calculus of several variables and is third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

	MAT 280 Linear Algebra	3	0	3
Course	Prerequisites: MAT 271			
Descriptions	Corequisites: None This course provides a study of linear algebra topics with emphasis on the development of both abstract concepts and applications. Topics include vectors, systems of equations, matrices, determinants, vector spaces, linear transformations in two or three dimensions, eigenvectors, eigenvalues, diagonalization and orthogonality. Upon completion, students should be able to demonstrate both an understanding of the theoretical concepts and appropriate use of linear algebra models to solve application problems. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.			

	MAT 285 Differential Equations	3	0	3
Course	Prerequisites: MAT 272			
Descriptions	Corequisites: None This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the phenomena. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			

Mechanical

	MEC 110 Introduction to CAD/CAM	1	2	2
Course	Prerequisites: None			
Descriptions	Corequisites: None This course introduces CAD/CAM. Emphasis is placed on transferring part geometry from CAD to CAM for the development of a CNC-ready program. Upon completion, students should be able to use CAD/CAM software to produce a CNC program.			
	*MEC 111 Machine Processes I	1	4	3

Prerequisites: None

	MEC 111 Machine Processes I	1	4	3
Course	Prerequisites: None			
Descriptions	Corequisites: None This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to safely machine simple parts to specified tolerances.			

	MEC 130 Mechanisms	2	2	3
Course	Prerequisites: None			
Descriptions	Corequisites: None This course introduces the purpose and action of various mechanical devices. Topics include cams, cables, gear trains, differentials, screws, belts, pulleys, shafts, levers, lubricants, and other devices. Upon completion, students should be able to analyze, maintain, and troubleshoot the components of mechanical systems.			

	*MEC 180 Engineering Materials	2	3	3
Course	Prerequisites: None			
Descriptions	Corequisites: None This course covers the physical and mechanical properties of materials. Topics include testing, heat treating, ferrous and non-ferrous metals, plastics, composites, and material selection. Upon completion, students should be able to specify basic tests and properties and select appropriate materials on the basis of specific properties.			

MEC 231 Computer-Aided Manufacturing I

1 4 3

Prerequisites: None

Corequisites: None

This course introduces computer-aided manufacturing (CAM) applications and concepts. Emphasis is placed on developing/defining part geometry and the processing information needed to manufacture parts. Upon completion, students should be able to demonstrate skills in defining part geometry, program development, and code generation using CAM software.

Course

Descriptions

MEC 232 Computer-Aided Manufacturing II

1 4 3

Prerequisites: MEC 231

Corequisites: None

This course provides an in-depth study of CAM applications and concepts. Emphasis is placed on the manufacturing of complex parts using computer-aided manufacturing software. Upon completion, students should be able to manufacture complex parts using CAM software.

MEC 267 Thermal Systems

2 2 3

Prerequisites: PHY 131 or PHY 151

Corequisites: None

This course introduces the fundamental laws of thermodynamics. Topics include work and energy, open and closed systems, and heat engines. Upon completion, students should be able to demonstrate a knowledge of the laws and principles that apply to thermal power.

Medical Transcription

MED 121 Medical Terminology I

3 0 0 3

Prerequisites: None

Corequisites: None

This course introduces prefixes, suffixes, and word roots used in the language of medicine. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 122 Medical Terminology II

3 0 0 3

Prerequisites: MED 121

Corequisites: None

This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

Marketing and Retailing

MKT 120 Principles of Marketing

3 0 3

Prerequisites: None

Corequisites: None

This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making.

MKT 121 Retailing

3 0 3

Prerequisites: None

Corequisites: None

This course examines the role of retailing in the economy. Topics include the development of present retail structure, functions performed, effective operations, and managerial problems resulting from current economic and social trends. Upon completion, students should be able to demonstrate an understanding of the basic principles of retailing.

	MKT 122 Visual Merchandising	3 0 3
Course Descriptions	Prerequisites: None Corequisites: None This course introduces basic layout design and commercial display in retail and service organizations. Topics include an analysis of display as a visual merchandising medium and an examination of the principles and applications of display and design. Upon completion, students should be able to plan, build, and evaluate designs and displays. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.	
	MKT 123 Fundamentals of Selling	3 0 3
	Prerequisites: None Corequisites: None This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.	
	MKT 220 Advertising and Sales Promotion	3 0 3
	Prerequisites: None Corequisites: None This course covers the elements of advertising and sales promotion in the business environment. Topics include advertising and sales promotion appeals, selection of media, use of advertising and sales promotion as a marketing tool, and means of testing effectiveness. Upon completion, students should be able to demonstrate an understanding of the concepts covered through application.	
	MKT 221 Consumer Behavior	3 0 3
	Prerequisites: None Corequisites: None This course is designed to describe consumer behavior as applied to the exchange processes involved in acquiring, consuming, and disposing of goods and services. Topics include an analysis of basic and environmental determinants of consumer behavior with emphasis on the decision-making process. Upon completion, students should be able to analyze concepts related to the study of the individual consumer.	
	MKT 224 International Marketing	3 0 3
	Prerequisites: None Corequisites: None This course covers the basic concepts of international marketing activity and theory. Topics include product promotion, placement, and pricing strategies in the international marketing environment. Upon completion, students should be able to demonstrate a basic understanding of the concepts covered.	
	MKT 225 Marketing Research	3 0 3
	Prerequisites: MKT 120 Corequisites: None This course provides information for decision making by providing guidance in developing, analyzing, and using data. Emphasis is placed on marketing research as a tool in decision making. Upon completion, students should be able to design and conduct a marketing research project and interpret the results. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.	
	MKT 227 Marketing Applications	3 0 3
	Prerequisites: MKT 120 and MKT 221 Corequisites: None This course extends the study of diverse marketing strategies. Emphasis is placed on case studies and small group projects involving research or planning. Upon completion, students should be able to effectively participate in the formulation of a marketing strategy. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.	

Medical Laboratory Technology

MLT 110 Introduction to MLT 2 3 0 3

Prerequisites: Enrollment in the Medical Laboratory Technology program

Corequisites: None

This course is designed to introduce all aspects of the medical laboratory profession. Topics include health care/laboratory organization, professional ethics, basic laboratory techniques, safety, quality assurance, and specimen collection. Upon completion, students should be able to demonstrate a basic understanding of laboratory operations and be able to perform basic laboratory skills.

Course

Descriptions

MLT 111 Urinalysis and Body Fluids 1 3 0 2

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163

Corequisites: None

This course introduces the laboratory analysis of urine and body fluids. Topics include physical, chemical, and microscopic examination of the urine and body fluids. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting urinalysis and body fluid tests.

MLT 120 Hematology/Hemostasis 3 3 0 4

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163

Corequisites: None

This course introduces the theory and technology used in analyzing blood cells and the study of hemostasis. Topics include hematology, hemostasis, and related laboratory testing. Upon completion, students should be able to demonstrate theoretical comprehension of hematology/hemostasis, perform diagnostic techniques, and correlate laboratory findings with disorders.

MLT 126 Immunology and Serology 1 2 0 2

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163

Corequisites: None

This course introduces the immune system and response and basic concepts of antigens, antibodies, and their reactions. Emphasis is placed on basic principles of immunologic and serodiagnostic techniques and concepts of cellular and humoral immunity in health and disease. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing and interpreting routine immunologic and serodiagnostic procedures.

MLT 127 Transfusion Medicine 2 3 0 3

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 126

Corequisites: None

This course introduces the blood group systems and their applications in transfusion medicine. Emphasis is placed on blood bank techniques including blood grouping and typing, pre-transfusion testing, donor selection and processing, and blood component preparation and therapy. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing/interpreting routine blood bank procedures and recognizing/resolving common problems.

MLT 130 Clinical Chemistry 3 3 0 4

Prerequisites: Enrollment in the Medical Laboratory Technology program, CHM 130, and CHM 130A

Corequisites: None

This course introduces the quantitative analysis of blood and body fluids and their variations in health and disease. Topics include clinical biochemistry, methodologies, instrumentation, and quality control. Upon completion, students should be able to demonstrate theoretical comprehension of clinical chemistry, perform diagnostic techniques, and correlate laboratory findings with disorders.

	MLT 140	Introduction to Microbiology	2	3	0	3
Course	Prerequisites:	Enrollment in the Medical Laboratory Technology program				
Descriptions	Corequisites:	None				
	This course is designed to introduce basic techniques and safety procedures in clinical microbiology. Emphasis is placed on the morphology and identification of common pathogenic organisms, aseptic technique, staining techniques, and usage of common media. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting basic clinical microbiology procedures.					
	MLT 215	Professional Issues	1	0	0	1
	Prerequisites:	Enrollment in the Medical Laboratory Technology program				
	Corequisites:	None				
	This course surveys professional issues in preparation for career entry. Emphasis is placed on work readiness and theoretical concepts in microbiology, immunohematology, hematology, and clinical chemistry. Upon completion, students should be able to demonstrate competence in career entry-level areas and be prepared for the national certification examination.					
	MLT 240	Special Clinic Microbiology	2	3	0	3
	Prerequisites:	MLT 140				
	Corequisites:	None				
	This course is designed to introduce special techniques in clinical microbiology. Emphasis is placed on advanced areas in microbiology. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting specialized clinical microbiology procedures.					
	*MLT 252	MLT Practicum I**	0	0	6	2
	Prerequisites:	Enrollment in the Medical Laboratory Technology program, MLT120, MLT 126, MLT 130, MLT 240, BIO 163, CHM 130, and CHM 130A				
	Corequisites:	MLT 111 and MLT 127				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of Phlebotomy.					
	*MLT 254	MLT Practicum I**	0	0	12	4
	Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 252				
	Corequisites:	None				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of blood banking.					
	*MLT 255	MLT Practicum I**	0	0	15	5
	Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 252				
	Corequisites:	None				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of microbiology.					
	*MLT 261	MLT Practicum II**	0	0	3	1
	Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 252				
	Corequisites:	None				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of donors and component therapy.					

MLT 265 MLT Practicum II*

0 0 15 5

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 252

Corequisites: None

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of hematology.

MLT 275 MLT Practicum III*

0 0 15 5

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 252

Corequisites: None

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of clinical chemistry. ** MLT 252, 254, 255, 261, 265, 275 Because of clinical space restrictions, students will have individual schedules for MLT Practicums. Students will register for these courses as assigned by the department chairperson. During each student's first clinical experience course, general hospital orientation will be covered.

Maintenance

MNT 110 Intro to Maint Procedures

1 3 2

Prerequisites: None

Corequisites: None

This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.

MNT 111 Maintenance Practices

2 2 3

Prerequisites: None

Corequisites: None

This course provides in-depth theory and practical applications relating to predictive and preventive maintenance programs. Emphasis is placed on equipment failure analysis, maintenance management software, and techniques such as vibration and infrared analysis. Upon completion, students should be able to demonstrate an understanding of modern analytical and documentation methods.

Music

MUS 110 Music Appreciation

3 0 3

Prerequisites: None

Corequisites: None

This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Course

Descriptions

	MUS 113 American Music	3	0	3
Course Descriptions	Prerequisites: None Corequisites: None This course introduces various musical styles, influences, and composers of the United States from pre-Colonial times to the present. Emphasis is placed on the broad variety of music particular to American culture. Upon completion, students should be able to demonstrate skills in basic listening and understanding of American music. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.			
	MUS 114 Non-Western Music	3	0	3
	Prerequisites: None Corequisites: None This course provides a basic survey of the music of the non-Western world. Emphasis is placed on nontraditional instruments, sources, and performing practices. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of non-Western music. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.			
	MUS 121 Music Theory I	3	2	4
	Prerequisites: None Corequisites: None This course provides an in-depth introduction to melody, rhythm, and harmony. Emphasis is placed on fundamental melodic, rhythmic, and harmonic analysis, introduction to part writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	MUS 122 Music Theory II	3	2	4
	Prerequisites: MUS 121 Corequisites: None This course is a continuation of studies begun in MUS 121. Emphasis is placed on advanced melodic, rhythmic, and harmonic analysis and continued studies in part-writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	Networking Technology			
	NET 110 Networking Concepts	2	2	3
	Prerequisites: None Corequisites: None This course introduces students to the networking field. Topics include network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols. This course is also available through the Virtual Learning Community (VLC).			
	NET 125 Networking Basics	1	4	3
	Prerequisites: None Corequisites: None This course introduces the networking field. Emphasis is placed on network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols.			

NET 126	Routing Basics	1 4 3
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Prerequisites: NET 125

Corequisites: None

This course focuses on initial router configuration, router software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Emphasis will be placed on the fundamentals of router configuration, managing router software, routing protocol, and access lists. Upon completion, students should have an understanding of routers and their role in WANs, router configuration, routing protocols, TCP/IP, troubleshooting, and ACLs.

Course

Descriptions

NET 175	Wireless Technology	2 2 3
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Prerequisites: NET 110 or NET 125 and NET 126

Corequisites: None

This course introduces the student to wireless technology and interoperability with different communication protocols. Topics include Wireless Application Protocol (WAP), Wireless Mark-up language (WML), link manager, service discovery protocol, transport layer and frequency band. Upon completion, students should be able to discuss in written and oral form protocols and procedures required for different wireless applications.

NET 225	Routing and Switching I	1 4 3
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Prerequisites: NET 126

Corequisites: None

This course focuses on advanced IP addressing techniques, intermediate routing protocols, command-line interface configuration of switches, Ethernet switching, VLANs, STP, and VTP. Emphasis will be placed on application and demonstration of skills acquired in pre-requisite courses. Upon completion, students should be able to perform tasks related to VLSM, routing protocols, switching concepts and configuration, STP, VLANs, and VTP.

NET 226	Routing and Switching II	1 4 3
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Prerequisites: NET 225

Corequisites: None

This course introduces WAN theory and design, WAN technology, PPP, Frame Relay, ISDN, and additional case studies. Topics include network congestion problems, TCP/IP transport and network layer protocols, advanced routing and switching configuration, ISDN protocols, PPP encapsulation operations on a router. Upon completion, students should be able to provide solutions for network routing problems, identify ISDN protocols, and describe the Spanning Tree protocol.

NET 260	Internet Development and Support	3 0 3
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Prerequisites: NET 110, NOS 120 and NOS 130

Corequisites: None

This course covers issues relating to the development and implementation of Internet related tools and services. Topics include Internet organization, site registration, e-mail servers, Web servers, Web page development, legal issues, firewalls, multimedia, TCP/IP, service providers, FTP, list servers, and gateways. Upon completion, students should be able to develop and support the Internet services needed within an organization.

NET 270	Building Scalable Networks	1 4 3
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Prerequisites: NET 226

Corequisites: None

This course covers principles and techniques of scalable networks. Topics include building multi-layer networks, controlling overhead traffic in growing routed networks, and router capabilities used to control traffic over LANs and WANs. Upon completion, students should be able to design; implement; and improve traffic flow, reliability, redundancy, and performance in enterprise networks.

	NET 271	Remote Access Networks	1	4	3
Course	Prerequisites:	NET 226			
Descriptions	Corequisites:	None			
	This course covers how to build a remote access network to interconnect central sites to branch offices, home offices, and telecommuters. Topics include enabling on-demand/permanent connections to the central site, scaling and troubleshooting remote access networks, and maximizing bandwidth utilization over remote links. Upon completion, students should be able to assemble and configure equipment, establish WAN connections, enable protocols/technologies, allow traffic between sites, and implement accessible access control.				
	NET 272	Multi-Layer Networks	1	4	3
	Prerequisites:	NET 226			
	Corequisites:	None			
	This course covers building campus networks using multi-layer switching technologies over a high-speed Ethernet. Topics include improving IP routing performance with multi-layer switching, implementing fault tolerance routing, and managing high bandwidth broadcast while controlling IP multi-cast access to networks. Upon completion, students should be able to install and configure multi-layer enterprise networks and determine the required router configurations to support new services and applications.				
	NET 273	Internetworking Support	1	4	3
	Prerequisites:	NET 226			
	Corequisites:	None			
	This course covers how to baseline and troubleshoot an internetworking environment using routers and switches for multi-protocol client, host and servers. Topics include troubleshooting processes, routing and routed protocols, campus switching, and WAN troubleshooting. Upon completion, students should be able to troubleshoot Ethernet, Fast Ethernet, and Token Ring LANs; and Serial, Frame Relay, and ISDN connections.				
	NET 289	Networking Project	1	4	3
	Prerequisites:	NOS 220 and NOS 231			
	Corequisites:	NET 226			
	This course provides an opportunity to complete a significant networking project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete a project from the definition phase through implementation.				
	Networking Operating Systems				
	NOS 110	Operating Systems Concepts	2	3	3
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is placed on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems. The course will include file management and simple user creation under at least two operating systems.				
	NOS 120	Linus/UNIX Single User	2	2	3
	Prerequisites:	NOS 110			
	Corequisites:	None			
	This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles.				

NOS 130 Windows Single User

2 2 3

Prerequisites: NOS 110

Corequisites: None

This course introduces operating system concepts for single-user systems.

Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating systems functions at the support level in a single-user environment.

Course

Descriptions

NOS 220 Linux/UNIX Admin I

2 2 3

Prerequisites: NOS 120

Corequisites: None

This course introduces the Linux file system, group administration, and system hardware controls. Topics include installation, creation and maintaining file systems, NIS client and DHCP client configuration, NFS, SMB/Samba, Configure X, Gnome, KDE, basic memory, processes, and security. Upon completion, students should be able to perform system administration tasks including installation, configuring and attaching a new Linux workstation to an existing network.

NOS 221 Linux/UNIX Admin II

2 2 3

Prerequisites: NOS 220

Corequisites: None

This course includes skill-building in configuring common network services and security administration using Linux. Topics include server-side setup, configuration, basic administration of common networking services, and security administration using Linux. Upon completion, students should be able to setup a Linux server and configure common network services including security requirements.

NOS 222 Linux/UNIX Admin III

2 2 3

Prerequisites: NOS 221

Corequisites: None

This course includes technical topics in preparing an enterprise Linux system for common uses. Topics include advanced study of hardware, installation, boot process, file system administration, software administration, user administration, system administration, kernel services, configuration, securing services, and troubleshooting. Upon completion, students should be able to administer an enterprise Linux system.

NOS 230 Windows Admin I

2 2 3

Prerequisites: NOS 130

Corequisites: None

This course covers the installation and administration of a Windows Server network operating system. Topics include managing and maintaining physical and logical devices, access to resources, the server environment, managing users, computers, and groups, and Managing/Implementing Disaster Recovery. Upon completion, students should be able to manage and maintain a Windows Server environment.

NOS 231 Windows Admin II

2 2 3

Prerequisites: NOS 230

Corequisites: None

This course covers implementing, managing, and maintaining a Windows Server network infrastructure. Topics include implementing, managing, and maintaining IP addressing, name resolution, network security, routing and remote access, and managing a network infrastructure. Upon completion, students should be able to manage and maintain a Windows Server environment.

	NOS 232	Windows Admin III	2	2	3
Course Descriptions	Prerequisites: NOS 231 Corequisites: None	This course covers implementing and administering security in a Windows Server network. Topics include implementing, managing, and trouble shooting security policies, patch management infrastructure, security for network communications, authentication, authorization, and PKI. Upon completion, students should be able to implement, manage, and maintain a Windows Server network infrastructure.			

	NOS 240	Novell Admin I	2	2	3
Course Descriptions	Prerequisites: NOS 110 Corequisites: None	This course will introduce students to the Novell network operating system. Topics include installing and using NetWare, managing printing, storage space, implementing internet services, and managing security. Upon completion, students should have basic knowledge about implementing NetWare and using its management tools.			

Nursing

*NUR 101	Practical Nursing I	7	6	6	11
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Prerequisites: Admission into the Practical Nursing program Corequisites: BIO 163 and PSY 110	This course introduces concepts as related to the practical nurse's care-giver and discipline-specific roles. Emphasis is placed on the nursing process, legal/ethical/professional issues, wellness/illness patterns, and basic nursing skills. Upon completion, students should be able to demonstrate beginning understanding of nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diploma-level course.	7	6	6	11
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*NUR 102	Practical Nursing II	8	0	12	12
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Prerequisites: BIO 163, NUR 101, and PSY 110 Corequisites: ENG 102 and CIS 110	This course includes more advanced concepts as related to the practical nurse's care-giver and discipline-specific roles. Emphasis is placed on the nursing process, delegation, cost effectiveness, legal/ethical/professional issues, and wellness/illness patterns. Upon completion, students should be able to begin participating in the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diploma-level course.	8	0	12	12
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*NUR 103	Practical Nursing III	6	0	12	10
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Prerequisites: CIS 110, ENG 102, and NUR 102 Corequisites: None	This course focuses on use of nursing/related concepts by practical nurses as providers of care/members of discipline in collaboration with health team members. Emphasis is placed on the nursing process, wellness/illness patterns, entry level issues, accountability, advocacy, professional development, evolving technology, and changing health care delivery systems. Upon completion, students should be able to use the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diploma-level course.	6	0	12	10
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*NUR 115	Fundamentals of Nursing	2	3	6	5
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Prerequisites: Admission into the Associate Degree Nursing program Corequisites: None	This course introduces concepts basic to beginning nursing practice. Emphasis is placed on the application of the nursing process to provide and manage care as a member of the discipline of nursing. Upon completion, students should be able to demonstrate beginning competence in caring for individuals with common alterations of health.	2	3	6	5
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***NUR 116 Nursing of Older Adults**

2 3 3 4

Prerequisites: NUR 125 and NUR 255

Corequisites: None

This course provides an opportunity to utilize the provider of care and manager of care roles to meet nursing needs of older adults in a variety of settings. Emphasis is placed on the aging process as it applies to normal developmental changes and alterations in health commonly occurring in the older adult. Upon completion, students should be able to apply the nursing process in caring for the older adult.

Course

Descriptions

***NUR 117 Pharmacology**

1 3 0 2

Prerequisites: Admission into the Associate Degree Nursing program

Corequisites: None

This course introduces information concerning sources, effects, legalities, and the safe use of medications as therapeutic agents. Emphasis is placed on nursing responsibility, accountability, pharmacokinetics, routes of medication administration, contraindications and side effects. Upon completion, students should be able to compute dosages and administer medication safely.

***NUR 125 Maternal-Child Nursing**

5 3 6 8

Prerequisites: NUR 115, NUR 135, NUR 185, NUR 188 and SOC 215

Corequisites: None

This course introduces nursing concepts related to the delivery of nursing care for the expanding family. Emphasis is placed on utilizing the nursing process as a framework for managing/providing nursing care to individuals and families along the wellness-illness continuum. Upon completion, students should be able to utilize the nursing process to deliver nursing care to mothers, infants, children, and families.

***NUR 133 Nursing Assessment**

2 3 0 3

Prerequisites: Departmental Approval

Corequisites: None

This course provides theory and application experience for performing nursing assessment of individuals across the life span. Emphasis is placed on interviewing and physical assessment techniques and documentation of findings appropriate for nursing. Upon completion, students should be able to complete a health history and perform a non-invasive physical assessment.

***NUR 135 Adult Nursing I**

5 3 9 9

Prerequisites: BIO 168, NUR 115, NUR 117, and NUR 133

Corequisites: None

This course introduces concepts related to the nursing care of individuals experiencing acute and chronic alterations in health. Emphasis is placed on utilizing the nursing process as a framework for providing and managing nursing care to individuals along the wellness-illness continuum. Upon completion, students should be able to apply the nursing process to individuals experiencing acute and chronic alterations in health.

***NUR 185 Mental Health Nursing**

3 0 6 5

Prerequisites: BIO 169, NUR 115, NUR 117 and NUR 135

Corequisites: None

This course includes concepts related to the nursing care of individuals experiencing alterations in social and psychological functioning. Emphasis is placed on utilizing the nursing process to provide and manage nursing care for individuals with common psychiatric disorders or mental health needs. Upon completion, students should be able to apply psychosocial theories in the nursing care of individuals with psychiatric/mental health needs.

	*NUR 188 Nursing in the Community	1	0	6	3
Course	Prerequisites: BIO 169, NUR 115, NUR 117 and NUR 135				
Descriptions	Corequisites: None This course is designed to introduce basic concepts and practices of community-based nursing. Emphasis is placed on roles and functions of nurses as members of interdisciplinary teams in the community and utilization of the nursing process to meet the needs or problems of individuals and groups in the community. Upon completion, students should be able to provide nursing care to individuals and/or groups in community-based settings.				
	*NUR 189 Nursing Transition	1	3	0	2
	Prerequisites: None				
	Corequisites: None				
	This course is designed to assist the licensed practical nurse in transition to the role of the associate degree nurse. Topics include the role of the registered nurse, nursing process, homeostasis, and validation of selected nursing skills and physical assessment. Upon completion, students should be able to articulate into the ADN program at the level of the generic student.				
	*NUR 235 Adult Nursing II	4	3	15	10
	Prerequisites: CIS 110, ENG 114, NUR 125, NUR 135 and NUR 255				
	Corequisites: None				
	This course provides expanded concepts related to nursing care for individuals experiencing common complex alterations in health. Emphasis is placed on the nurse's role as a member of a multi-disciplinary team and as a manager of care for a group of individuals. Upon completion, students should be able to provide comprehensive nursing care for groups of individuals with common complex alterations in health.				
	*NUR 255 Professional Issues	3	0	0	3
	Prerequisites: SOC 215				
	Corequisites: None				
	This course explores basic concepts of practice in the management of patient care in a complex health care system. Emphasis is placed on professional, legal, ethical, and political issues and management concepts. Upon completion, students should be able to articulate professional and management concepts.				
	Office Systems Technology				
	OST 080 Basic Keyboarding	1	2	2	
	Prerequisites: None				
	Corequisites: None				
	This course is designed to develop elementary keyboarding skills. Emphasis is placed on mastery of the keyboard. Upon completion, students should be able to demonstrate basic proficiency in keyboarding.				
	OST 131 Keyboarding	1	2	2	
	Prerequisites: None				
	Corequisites: None				
	This course covers basic keyboarding skills. Emphasis is placed on the touch system, correct techniques, and development of speed and accuracy. Upon completion, students should be able to key at an acceptable speed and accuracy level using the touch system. Students should be able to complete timed writing competencies consisting of three timed writings at 25 nwam for three minutes with three or fewer errors and 160 keystrokes per minute for two minutes with two or less errors on the numeric keypad using the touch system.				

OST 132 Keyboard Skill Building

1 2 2

Prerequisites: OST 134

Corequisites: None

This course provides accuracy and speed-building drills. Emphasis is placed on diagnostic tests to identify accuracy and speed deficiencies followed by corrective drills. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed. Students should be able to complete timed writing competencies consisting of three timed writings at 60 nwam for five minutes with five or fewer errors using the touch system.

Course

Descriptions

OST 134 Text Entry and Formatting

2 2 3

Prerequisites: None

Corequisites: None

This course is designed to provide the skills needed to increase speed, improve accuracy, and format documents. Topics include letters, memos, tables, and business reports. Upon completion, students should be able to produce mailable documents. Students will be able to complete timed writings at speeds commensurate with employability. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed. Students should be able to complete timed writing competencies consisting of three timed writings at 40 nwam for five minutes with five or fewer errors using the touch system.

OST 136 Word Processing

1 2 2

Prerequisites: None

Corequisites: None

This course introduces word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment. Upon course entrance, a keyboarding proficiency test requiring 25 gwam at 98 percent accuracy using the touch system will be administered.

OST 137 Office Software Applications

1 2 2

Prerequisites: None

Corequisites: None

This course introduces the concepts and functions of software that meets the changing needs of the community. Emphasis is placed upon the terminology and use of software through a hands on approach. Upon completion, students should be able to use software in a business environment.

OST 148 Medical Coding, Billing, and Insurance

3 0 3

Prerequisites: CIS 110 and MED 121

Corequisites: None

This course introduces CPT and ICD coding as they apply to medical insurance and billing. Emphasis is placed on accuracy in coding, forms preparation, and posting. Upon completion, students should be able to describe the steps of the total billing cycle and explain the importance of accuracy.

***OST 149 Medical Legal Issues**

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the complex legal, moral, and ethical issues involved in providing health-care services. Emphasis is placed on the legal requirements of medical practices; the relationship of physician, patient, and office personnel; professional liabilities; and medical practice liability. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.

	OST 164 Text Editing Applications		3	0	3
Course	Prerequisites: None Corequisites: None This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.				
Descriptions	OST 184 Records Management		1	2	2
	Prerequisites: None Corequisites: None This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system. ARMA indexing rules are used.				
	OST 201 Medical Transcription I		3	2	4
	Prerequisites: OST 136 and OST 164 Corequisites: MED 122 This course introduces dictating equipment and typical medical dictation. Emphasis is placed on efficient use of equipment, dictionaries, PDRs, and other reference materials. Upon completion, students should be able to efficiently operate dictating equipment and to accurately transcribe a variety of medical documents in a specified time.				
	*OST 202 Medical Transcription II		3	2	4
	Prerequisites: OST 201 Corequisites: None This course provides additional practice in transcribing documents from various medical specialties. Emphasis is placed on increasing transcription speed and accuracy and understanding medical procedures and terminology. Upon completion, students should be able to accurately transcribe a variety of medical documents in a specified time.				
	OST 233 Office Publications Design		2	2	3
	Prerequisites: OST 136 Corequisites: None This course provides entry-level skills in using software with desktop publishing capabilities. Topics include principles of page layout, desktop publishing terminology and applications, and legal and ethical considerations of software use. Upon completion, students should be able to design and produce professional business documents and publications.				
	OST 247 CPT Coding in the Medical Office		1	2	2
	Prerequisites: MED 122 or OST 142, and OST 148 Corequisites: None This course provides in-depth coverage of procedural coding. Emphasis is placed on CPT and HCPCS rules for Medicare billing. Upon completion, students should be able to properly code procedures and services performed by physicians in ambulatory settings.				
	OST 248 Diagnostic Coding		1	2	2
	Prerequisites: MED 122 and OST 142 Corequisites: None This course provides an in-depth study of diagnostic coding for the medical office. Emphasis is placed on ICD-9-CM codes used on superbills and other encounter forms. Upon completion, students should be able to apply the principles of diagnostic coding in the physician's office.				

***OST 286 Professional Development**

3 0 3

Prerequisites: None

Corequisites: None

This course covers the personal competencies and qualities needed to project a professional image in the office. Topics include interpersonal skills, healthy life-styles, appearance, attitude, personal and professional growth, multicultural awareness, and professional etiquette. Upon completion, students should be able to demonstrate these attributes in the classroom, office, and society.

Course

Descriptions

***OST 289 Office Systems Management**

2 2 3

Prerequisites: OST 164 and either OST 134 or OST 136

Corequisites: None

This course provides a capstone course for the office professional. Topics include administrative office procedures, imaging, communication techniques, ergonomics, and equipment utilization. Upon completion, students should be able to function proficiently in a changing office environment.

Phlebotomy***PBT 100 Phlebotomy Technology**

5 2 0 6

Prerequisites: Enrollment in the Phlebotomy Technology program

Corequisites: PBT 101

This course provides instruction in the skills needed for the proper collection of blood and other specimens used for diagnostic testing. Emphasis is placed on ethics, legalities, medical terminology, safety and universal precautions, health care delivery systems, patient relations, anatomy and physiology, and specimen collection. Upon completion, students should be able to demonstrate competence in the theoretical comprehension of phlebotomy techniques. This is a certificate-level course.

***PBT 101 Phlebotomy Practicum**

0 0 9 3

Prerequisites: Enrollment in the Phlebotomy Technology program

Corequisites: PBT 100

This course provides supervised experience in the performance of venipuncture and microcollection techniques in a clinical facility. Emphasis is placed on patient interaction and application of universal precautions, proper collection techniques, special procedures, specimen handling, and data management. Upon completion, students should be able to safely perform procedures necessary for specimen collections on patients in various health care settings. This is a certificate-level course.

Physical Education**PED 110 Fit and Well for Life**

1 2 2

Prerequisites: None

Corequisites: None

This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 111 Physical Fitness I

0 3 1

Prerequisites: None

Corequisites: None

This course provides an individualized approach to physical fitness utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

	PED 112 Physical Fitness II	0	3	1
Course	Prerequisites: PED 111 Corequisites: None			
Descriptions	This course is an intermediate-level fitness class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, students should be able to implement and evaluate an individualized physical fitness program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 113 Aerobics I	0	3	1
	Prerequisites: None Corequisites: None			
	This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 114 Aerobics II	0	3	1
	Prerequisites: PED 113 Corequisites: None			
	This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 115 Step Aerobics I	0	3	1
	Prerequisites: None Corequisites: None			
	This course introduces the fundamentals of step aerobics. Emphasis is placed on basic stepping up and down on an adjustable platform; cardiovascular fitness; and upper body, floor, and abdominal exercises. Upon completion, students should be able to participate in basic step aerobics. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 116 Step Aerobics II	0	3	1
	Prerequisites: PED 115 Corequisites: None			
	This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises. Upon completion, students should be able to participate in and design a step aerobics routine. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 117 Weight Training I	0	3	1
	Prerequisites: None Corequisites: None			
	This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight training program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			

PED 118 Weight Training II

0 3 1

Prerequisites: PED 117

Corequisites: None

This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and interests. Upon completion, students should be able to establish and implement an individualized advanced weight training program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Course

Descriptions

PED 119 Circuit Training

0 3 1

Prerequisites: None

Corequisites: None

This course covers the skills necessary to participate in a developmental fitness program. Emphasis is placed on the circuit training method which involves a series of conditioning timed stations arranged for maximum benefit and variety. Upon completion, students should be able to understand and appreciate the role of circuit training as a means to develop fitness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 120 Walking for Fitness

0 3 1

Prerequisites: None

Corequisites: None

This course introduces fitness through walking. Emphasis is placed on stretching, conditioning exercises, proper clothing, fluid needs, and injury prevention. Upon completion, students should be able to participate in a recreational walking program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 121 Walk, Jog, Run

0 3 1

Prerequisites: None

Corequisites: None

This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 122 Yoga I

0 2 1

Prerequisites: None

Corequisites: None

This course introduces the basic discipline of yoga. Topics include proper breathing, relaxation techniques, and correct body positions. Upon completion, students should be able to demonstrate the procedures of yoga. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 123 Yoga II

0 2 1

Prerequisites: PED 122

Corequisites: None

This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. Upon completion, students should be able to demonstrate advanced procedures of yoga. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

	PED 125 Self-Defense - Beginning	0 2 1
Course	Prerequisites: None	
Descriptions	Corequisites: None This course is designed to aid students in developing rudimentary skills in self-defense. Emphasis is placed on stances, blocks, punches, and kicks as well as non-physical means of self-defense. Upon completion, students should be able to demonstrate basic self-defense techniques of a physical and non-physical nature. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	PED 126 Self-Defense - Intermediate	0 2 1
	Prerequisites: PED 125	
	Corequisites: None This course is designed to aid students in building on the techniques and skills developed in PED 125. Emphasis is placed on the appropriate psychological and physiological responses to various encounters. Upon completion, students should be able to demonstrate intermediate skills in self-defense stances, blocks, punches, and kick combinations. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.	
	PED 128 Golf - Beginning	0 2 1
	Prerequisites: None	
	Corequisites: None This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	PED 129 Golf - Intermediate	0 2 1
	Prerequisites: PED 128	
	Corequisites: None This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases of the game such as club selection, trouble shots, and course management. Upon completion, students should be able demonstrate the knowledge and ability to play a recreational round of golf. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	PED 130 Tennis - Beginning	0 2 1
	Prerequisites: None	
	Corequisites: None This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	
	PED 131 Tennis - Intermediate	0 2 1
	Prerequisites: PED 130	
	Corequisites: None This course emphasizes the refinement of playing skills. Topics include continuing the development of fundamentals, learning advanced serves, strokes, pace and strategies in singles and doubles play. Upon completion, students should be able to play competitive tennis. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.	

PED 137 Badminton

0 2 1

Prerequisites: None

Corequisites: None

This course covers the fundamentals of badminton. Emphasis is placed on the basics of serving, clears, drops, drives, smashes, and the rules and strategies of singles and doubles. Upon completion, students should be able to apply these skills in playing situations. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Course

Descriptions

PED 139 Bowling - Beginning

0 2 1

Prerequisites: None

Corequisites: None

This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 140 Bowling - Intermediate

0 2 1

Prerequisites: PED 139

Corequisites: None

This course covers more advanced bowling techniques. Emphasis is placed on refining basic skills and performing advanced shots, spins, pace, and strategy. Upon completion, students should be able to participate in competitive bowling. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 142 Lifetime Sports

0 2 1

Prerequisites: None

Corequisites: None

This course is designed to give an overview of a variety of sports activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime sports. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime sports activities. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 143 Volleyball - Beginning

0 2 1

Prerequisites: None

Corequisites: None

This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 144 Volleyball - Intermediate

0 2 1

Prerequisites: PED 143

Corequisites: None

This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 145 Basketball - Beginning

0 2 1

Prerequisites: None

Corequisites: None

This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

	PED 146 Basketball - Intermediate	0	2	1
Course	Prerequisites: PED 145 Corequisites: None			
Descriptions	This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 148 Softball	0	2	1
	Prerequisites: None Corequisites: None			
	This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in recreational softball. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 170 Backpacking	0	2	1
	Prerequisites: None Corequisites: None			
	This course covers the proper techniques for establishing a campsite, navigating in the wilderness, and planning for an overnight trip. Topics include planning for meals, proper use of maps and compass, and packing and dressing for extended periods in the outdoors. Upon completion, students should be able to identify quality backpacking equipment, identify the principles of no-trace camping, and successfully complete a backpacking experience. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 171 Nature Hiking	0	2	1
	Prerequisites: None Corequisites: None			
	This course provides instruction on how to equip and care for oneself on the trail. Topics include clothing, hygiene, trail ethics, and necessary equipment. Upon completion, students should be able to successfully participate in nature trail hikes. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 210 Team Sports	0	3	1
	Prerequisites: None Corequisites: None			
	This course introduces the fundamentals of popular American team sports. Emphasis is placed on rules, equipment, and motor skills used in various sports. Upon completion, students should be able to demonstrate knowledge of the sports covered. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PED 215 Outdoor Cycling	0	2	1
	Prerequisites: None Corequisites: None			
	This course is designed to promote physical fitness through cycling. Emphasis is placed on selection and maintenance of the bicycle, gear shifting, pedaling techniques, safety procedures, and conditioning exercises necessary for cycling. Upon completion, students should be able to demonstrate safe handling of a bicycle for recreational use. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.			

PED 217 Pilates I

0 2 1

Prerequisites: None

Corequisites: None

This course provides an introduction to the pilates method of body conditioning exercise. Topics include instruction in beginning and intermediate pilates exercises using a mat or equipment, history of the pilates method, and relevant anatomy and physiology. Upon completion, students should be able to perform beginning and intermediate exercises, and possess an understanding of the benefits of conditioning the body's core muscles. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Course

Descriptions

PED 218 Pilates II

0 2 1

Prerequisites: PED 217

Corequisites: None

This course provides continued instruction to the pilates method of body conditioning exercise. Topics include instruction in intermediate and advanced pilates exercises using a mat or equipment, relevant anatomy and physiology, and further discussion of related concepts. Upon completion, students should be able to perform intermediate and advanced exercises, and possess the autonomy to maintain their own personal pilates practice. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 220 Exercise for Physically Challenged

0 2 1

Prerequisites: None

Corequisites: None

This course is designed to improve physical strength, endurance, and range of motion while focusing on individual needs. Emphasis is placed on exercises which are designed and adapted to serve those with special needs. Upon completion, students should be able to show improved physical fitness, body awareness, and an appreciation for their physical well-being. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 230 Shotokan Karate

0 3 1

Prerequisites: None

Corequisites: None

This course introduces martial arts using the Shotokan Karate form. Topics include proper conditioning exercises, proper terminology, historical foundations, etiquette and drills. Upon completion, students should be able to perform skills and techniques related to this form of martial arts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 254 Coaching Basketball

1 2 2

Prerequisites: None

Corequisites: None

This course introduces the theory and methods of coaching basketball. Emphasis is placed on rules, game strategies, and selected techniques of coaching basketball. Upon completion, students should be able to demonstrate competent coaching skills in basketball. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 256 Coaching Baseball

1 2 2

Prerequisites: None

Corequisites: None

This course introduces the theory and methods of coaching baseball. Emphasis is placed on rules, game strategies, and selected techniques of coaching baseball. Upon completion, students should be able to demonstrate competent coaching skills in baseball. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Philosophy

PHI 210 History of Philosophy 3 0 3

Prerequisites: ENG 111

Corequisites: None

Course

This course introduces fundamental philosophical issues through an historical perspective. Emphasis is placed on such figures as Plato, Aristotle, Lao-Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

PHI 215 Philosophical Issues 3 0 3

Prerequisites: ENG 111

Corequisites: None

This course introduces fundamental issues in philosophy considering the views of classical and contemporary philosophers. Emphasis is placed on knowledge and belief, appearance and reality, determinism and free will, faith and reason, and justice and inequality. Upon completion, students should be able to identify, analyze, and critique the philosophical components of an issue. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

PHI 230 Introduction to Logic 3 0 3

Prerequisites: ENG 111

Corequisites: None

This course introduces basic concepts and techniques for distinguishing between good and bad reasoning. Emphasis is placed on deduction, induction, validity, soundness, syllogisms, truth functions, predicate logic, analogical inference, common fallacies, and scientific methods. Upon completion, students should be able to analyze arguments, distinguish between deductive and inductive arguments, test validity, and appraise inductive reasoning. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

PHI 240 Introduction to Ethics 3 0 3

Prerequisites: ENG 111

Corequisites: None

This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on utilitarianism, rule-based ethics, existentialism, relativism versus objectivism, and egoism. Upon completion, students should be able to apply various ethical theories to individual moral issues such as euthanasia, abortion, crime and punishment, and justice. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Physical Science

PHS 140 Weather and Climate 3 0 3

Prerequisites: None

Corequisites: None

This course introduces the nature, origin, processes, and dynamics of the earth's atmospheric environment. Topics include general weather patterns, climate, and ecological influences on the atmosphere. Upon completion, students should be able to demonstrate an understanding of weather formation, precipitation, storm patterns, and processes of atmospheric pollution. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Physics

PHY 110 Conceptual Physics

3 0 3

Prerequisites: None

Corequisites: PHY 110A

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

Course

Descriptions

PHY 110A Conceptual Physics Lab

0 2 1

Prerequisites: None

Corequisites: PHY 110

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

PHY 122 Applied Physics II

3 2 4

Prerequisites: None

Corequisites: None

This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Emphasis is placed on systems of units, problem-solving methods, graphical analysis, static electricity, AC and DC circuits, magnetism, transformers, AC and DC motors, and generators.

Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.

PHY 125 Health Sciences Physics

3 2 4

Prerequisites: None

Corequisites: None

This course introduces fundamental physical principles as they apply to health technologies. Topics include motion, force, work, power, simple machines, and other topics as required by the student's area of study. Upon completion, students should be able to demonstrate an understanding of the fundamental principles covered as they relate to practical applications in the health sciences.

PHY 131 Physics - Mechanics

3 2 4

Prerequisites: MAT 121, MAT 161, MAT 171, or MAT 175

Corequisites: None

This algebra/trigonometry-based course introduces fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem-solving methods, graphical analysis, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 151 College Physics I

3 2 4

Prerequisites: MAT 161 or MAT 171

Corequisites: None

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

	PHY 152	College Physics II	3	2	4
Course	Prerequisites:	PHY 151			
Descriptions	Corequisites:	None			
	This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.				
	*PHY 251	General Physics I	3	3	4
	Prerequisites:	MAT 271			
	Corequisites:	MAT 272			
	This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vector operations, linear kinematics and dynamics, energy, power, momentum, rotational mechanics, periodic motion, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.				
	*PHY 252	General Physics II	3	3	4
	Prerequisites:	MAT 272 and PHY 251			
	Corequisites:	None			
	This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.				
	Plastics				
	PLA 110	Introduction to Plastics	2	0	2
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces the plastics processing industry, including thermoplastics and thermosets. Emphasis is placed on the description, classification, and properties of common plastics and processes and current trends in the industry. Upon completion, students should be able to describe the differences between thermoplastics and thermosets and recognize the basics of the different plastic processes.				
	Political Science				
	POL 110	Introduction to Political Science	3	0	3
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces basic political concepts used by governments and addresses a wide range of political issues. Topics include political theory, ideologies, legitimacy, and sovereignty in democratic and nondemocratic systems. Upon completion, students should be able to discuss a variety of issues inherent in all political systems and draw logical conclusions in evaluating these systems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.				

POL 120 American Government

3 0 3

Prerequisites: None

Corequisites: None

This course is a study of the origins, development, structure, and functions of American national government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

Course

Descriptions

POL 210 Comparative Government

3 0 3

Prerequisites: None

Corequisites: None

This course provides a cross-national perspective on the government and politics of contemporary nations such as Great Britain, France, Germany, and Russia. Topics include each country's historical uniqueness, key institutions, attitudes and ideologies, patterns of interaction, and current political problems. Upon completion, students should be able to identify and compare various nations' governmental structures, processes, ideologies, and capacity to resolve major problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

Psychology

PSY 110 Life Span Development

3 0 3

Prerequisites: None

Corequisites: None

This course provides an introduction to the study of human growth and development. Emphasis is placed on the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span and apply this knowledge to their specific field of study. This course is intended for certificate, diploma, and A.A.S. degree programs.

PSY 118 Interpersonal Psychology

3 0 3

Prerequisites: None

Corequisites: None

This course introduces the basic principles of psychology as they relate to personal and professional development. Emphasis is placed on personality traits, communication/leadership styles, effective problem solving, and cultural diversity as they apply to personal and work environments. Upon completion, students should be able to demonstrate an understanding of these principles of psychology as they apply to personal and professional development. This course is intended for certificate, diploma, and A.A.S. degree programs.

PSY 150 General Psychology

3 0 3

Prerequisites: None

Corequisites: None

This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

	PSY 237 Social Psychology	3	0	3
Course	Prerequisites: PSY 150 or SOC 210			
Descriptions	Corequisites: None			
	This course introduces the study of individual behavior within social contexts. Topics include affiliation, attitude formation and change, conformity, altruism, aggression, attribution, interpersonal attraction, and group behavior. Upon completion, students should be able to demonstrate an understanding of the basic principles of social influences on behavior. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.			
	PSY 241 Developmental Psychology	3	0	3
	Prerequisites: PSY 150			
	Corequisites: None			
	This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.			
	PSY 243 Child Psychology	3	0	3
	Prerequisites: PSY 150			
	Corequisites: None			
	This course provides an overview of physical, cognitive, and psychosocial development from conception through adolescence. Topics include theories and research, interaction of biological and environmental factors, language development, learning and cognitive processes, social relations, and moral development. Upon completion, students should be able to identify typical and atypical childhood behavior patterns as well as appropriate strategies for interacting with children. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	PSY 281 Abnormal Psychology	3	0	3
	Prerequisites: PSY 150			
	Corequisites: None			
	This course provides an examination of the various psychological disorders, as well as theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on terminology, classification, etiology, assessment, and treatment of the major disorders. Upon completion, students should be able to distinguish between normal and abnormal behavior patterns as well as demonstrate knowledge of etiology, symptoms, and therapeutic techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.			
	Radiography			
	RAD 110 Radiography Introduction and Patient Care	2	3	0
	Prerequisites: Enrollment in Radiography program			
	Corequisites: BIO 163, RAD 111, RAD 151, and RAD 182			
	This course provides an overview of the radiography profession and student responsibilities. Emphasis is placed on basic principles of patient care, radiation protection, technical factors, and medical terminology. Upon completion, students should be able to demonstrate basic skills in these areas.			
	RAD 111 RAD Procedures I	3	3	0
	Prerequisites: Enrollment in the Radiography program			
	Corequisites: BIO 163, RAD 110, RAD 151, and RAD 182			
	This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the chest, abdomen, extremities, spine, and pelvis. Upon completion, students should be able to demonstrate competence in these areas.			

RAD 112 RAD Procedures II **3 3 0 4**

Prerequisites: BIO 163, RAD 110, RAD 111, RAD 151, and RAD 182

Corequisites: RAD 121 and RAD 161

This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the skull, bony thorax, and gastrointestinal, biliary, and urinary systems. Upon completion, students should be able to demonstrate competence in these areas.

Course

RAD 121 Radiographic Imaging I **2 3 0 3**

Prerequisites: RAD 110, RAD 111, and RAD 151

Corequisites: RAD 112 and RAD 161

This course covers factors of image quality and methods of exposure control. Topics include density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts. Upon completion, students should be able to demonstrate an understanding of exposure control and the effects of exposure factors on image quality.

Descriptions

RAD 122 Radiographic Imaging II **1 3 0 2**

Prerequisites: RAD 112, RAD 121, and RAD 161

Corequisites: RAD 131 and RAD 171

This course covers image receptor systems and processing principles. Topics include film, film storage, processing, intensifying screens, grids, and beam limitation. Upon completion, students should be able to demonstrate the principles of selection and usage of imaging accessories to produce quality images.

RAD 131 Radiographic Physics I **1 3 0 2**

Prerequisites: RAD 112, RAD 121, and RAD 161

Corequisites: RAD 122 and RAD 171

This course introduces the fundamental principles of physics that underlie diagnostic X-ray production and radiography. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Upon completion, students should be able to demonstrate an understanding of basic principles of physics as they relate to the operation of radiographic equipment.

***RAD 151 RAD Clinical Education I** **0 0 6 2**

Prerequisites: Enrollment in the Radiography program

Corequisites: RAD 110, RAD 111, and RAD 182

This course introduces patient management and basic radiographic procedures in the clinical setting. Emphasis is placed on mastering positioning of the chest and extremities, manipulating equipment and applying principles of ALARA. Upon completion, students should be able to demonstrate successful completion of clinical objectives. This course is designed to be taken in conjunction with RAD 182, RAD Clinical Elective.

***RAD 161 RAD Clinical Education II** **0 0 15 5**

Prerequisites: RAD 110, RAD 111, RAD 151, and RAD 182

Corequisites: RAD 112 and RAD 121

This course provides additional experience in patient management and in more complex radiographic procedures. Emphasis is placed on mastering positioning of the spine, pelvis, head and neck, and thorax, and adapting procedures to meet patient variations. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

***RAD 171 RAD Clinical Education III** **0 0 12 4**

Prerequisites: RAD 112, RAD 121, and RAD 161

Corequisites: RAD 122 and RAD 131

This course provides experience in patient management specific to fluoroscopic and advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and mastering positioning of gastrointestinal and urological studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

	*RAD 182 RAD Clinical Elective	0	0	6	2
Course	Prerequisites: Enrollment in the Radiography program Corequisites: RAD 110, RAD 111, and RAD 151 This course provides advanced knowledge of clinical applications. Emphasis is placed on enhancing clinical skills. Upon completion, students should be able to successfully complete the clinical course objectives. This course is designed to be taken in conjunction with RAD 151, RAD Clinical Education I.				
Descriptions	RAD 211 RAD Procedures III	2	3	0	3
	Prerequisites: RAD 112 and RAD 122 Corequisites: RAD 231, RAD 241, and RAD 251 This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, pathology, and advanced imaging. Upon completion, students should be able to demonstrate competence in these areas.				
	RAD 231 Radiographic Physics II	1	3	0	2
	Prerequisites: RAD 122, RAD 131, and RAD 171 Corequisites: RAD 211, RAD 241, and RAD 251 This course continues the study of physics that underlie diagnostic X-ray production and radiographic and fluoroscopic equipment. Topics include X-ray production, electromagnetic interactions with matter, X-ray devices and equipment circuitry. Upon completion, students should be able to demonstrate an understanding of the application of physical concepts as related to image production.				
	RAD 241 Radiobiology/Protection	2	0	0	2
	Prerequisites: RAD 122, RAD 131, and RAD 171 Corequisites: RAD 211, RAD 231, and RAD 251 This course covers the principles of radiation protection and radiobiology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Upon completion, students should be able to demonstrate an understanding of the effects and uses of radiation in diagnostic radiology.				
	RAD 245 RAD Quality Management	1	3	0	2
	Prerequisites: RAD 211, RAD 231, RAD 241, and RAD 251 Corequisites: RAD 261 and RAD 291 This course provides an overview of imaging concepts and introduces methods of quality assurance. Topics include a systematic approach for image evaluation and analysis of imaging service and quality assurance. Upon completion, students should be able to establish and administer a quality assurance program and conduct a critical review of images.				
	*RAD 251 RAD Clinical Education IV	0	0	21	7
	Prerequisites: RAD 122, RAD 131, and RAD 171 Corequisites: RAD 211, RAD 231, and RAD 241 This course provides the opportunity to continue mastering all basic radiographic procedures and to attain experience in advanced areas. Emphasis is placed on equipment operation, pathological recognition, pediatric and geriatric variations, and a further awareness of radiation protection requirements. Upon completion, students should be able to demonstrate successful completion of clinical objectives.				
	*RAD 261 RAD Clinical Education V	0	0	21	7
	Prerequisites: RAD 211, RAD 231, RAD 241, and RAD 251 Corequisites: RAD 245 and RAD 271 This course is designed to enhance expertise in all radiographic procedures, patient management, radiation protection, and image production and evaluation. Emphasis is placed on developing an autonomous approach to the diversity of clinical situations and successfully adapting to those procedures. Upon completion, students should be able to demonstrate successful completion of clinical objectives.				

RAD 271 Radiography Capstone 0 3 0 1

Prerequisites: RAD 211, RAD 231, RAD 241, RAD 251

Corequisites: RAD 245 and RAD 261

This course provides an opportunity to exhibit problem-solving skills required for certification. Emphasis is placed on critical thinking and integration of didactic and clinical components. Upon completion, students should be able to demonstrate the knowledge required of any entry-level radiographer.

Course

Real Estate Appraisal

Descriptions

***REA 111 Introduction to Real Estate Appraisal R-1** 2 0 2

Prerequisites: None

Corequisites: None

This course introduces the entire valuation process, with specific coverage of residential neighborhood and property analysis. Topics include basic real property law, concepts of value and operation of real estate markets, mathematical and statistical concepts, finance, and residential construction/design. Upon completion, students should be able to demonstrate adequate preparation for valuation principles and practices.

***REA 112 Valuation Principles and Practices R-2** 2 0 2

Prerequisites: REA 111

Corequisites: None

This course introduces procedures used to develop an estimate of value and how the various principles of value relate to the application of such procedures. Topics include the sales comparison approach, site valuation, sales comparison, the cost approach, the income approach, and reconciliation. Upon completion, students should be able to complete the Uniform Residential Appraisal Report (URAR).

***REA 113 Applied Residential Property Valuation R-3** 1 0 1

Prerequisites: REA 112

Corequisites: None

This course covers the laws and standards practiced by appraisers in the appraisal of residential 1-4 unit properties and small farms. Topics include Financial Institutions Reform and Recovery Enforcement Act (FIRREA), and North Carolina statutes and rules. Upon completion, students should be able to demonstrate eligibility to sit for the NC Appraisal Board license trainee examination.

***REA 114 USPAP R-4** 1 0 1

Prerequisites: REA 113

Corequisites: None

This course introduces all aspects of the appraisers conduct, ethics and competency. Topics include appraisal standards, reviews, reports, and the confidentiality provisions as set forth by the North Carolina Appraisal Board. Upon completion, students should be able to demonstrate a knowledge of appraisal standards and sit for the National USPAP examination.

***REA 210 Introduction to Income Property Appraisal G-1** 2 0 2

Prerequisites: REA 113 and REA 114

Corequisites: None

This course introduces concepts and techniques used to appraise real estate income properties. Topics include real estate market analysis, property analysis and site valuation, how to use financial calculators, present value, NOI, and before-tax cash flow. Upon completion, students should be able to estimate income property values using direct capitalization and to sit for the NC Certified Residential Appraiser examination.

	*REA 212 Advanced Income Capitalization Procedures G-2	2	0	2
Course	Prerequisites: REA 210			
Descriptions	Corequisites: None This course expands direct capitalization techniques and introduces yield capitalization. Topics include yield rates, discounted cash flow, financial leverage, and traditional yield capitalization formulas. Upon completion, students should be able to estimate the value of income producing property using yield capitalization techniques.			

	*REA 213 Applied Income Property Valuation G-3	2	0	2
Course	Prerequisites: REA 212			
Descriptions	Corequisites: None This course covers the laws, rules, and standards pertaining to the principles and practices applicable to the appraisal of income properties. Topics include FIR-REA, USPAP, Uniform Commercial and Industrial Appraisal Report (UCIAR) form, North Carolina statutes and rules, and case studies. Upon completion, students should be able to prepare a narrative report that conforms to the USPAP and sit for the NC Certified General Appraisal examination.			

Reading

RED 080 Introduction to College Reading	3	2	4
Prerequisites: ENG 075 or RED 070 or placement			
Corequisites: None This course introduces effective reading and inferential thinking skills in preparation for RED 090. Emphasis is placed on vocabulary, comprehension, and reading strategies. Upon completion, students should be able to determine main ideas and supporting details, recognize basic patterns of organization, draw conclusions, and understand vocabulary in context. This course does not satisfy the developmental reading prerequisite for ENG 111.			

RED 090 Improved College Reading	3	2	4
Prerequisites: ENG 085 or RED 080 or placement			
Corequisites: None This course is designed to improve reading and critical thinking skills. Topics include vocabulary enhancement; extracting implied meaning; analyzing author's purpose, tone, and style; and drawing conclusions and responding to written material. Upon completion, students should be able to comprehend and analyze college-level reading material. This course satisfies the developmental reading prerequisite for ENG 111.			

Religion

REL 110 World Religions	3	0	3
Prerequisites: None			
Corequisites: None This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.			

REL 211 Intro to Old Testament	3	0	3
Prerequisites: None			
Corequisites: None This course is a survey of the literature of the Hebrews with readings from the law, prophets, and other writings. Emphasis is placed on the use of literary, historical, archeological, and cultural analysis. Upon completion, students should be able to use the tools of critical analysis to read and understand Old Testament literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.			

REL 212 Intro to New Testament

3 0 3

Prerequisites: None

Corequisites: None

This course is a survey of the literature of first-century Christianity with readings from the gospels, Acts, and the Pauline and pastoral letters. Topics include the literary structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community.

Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Course

Descriptions

Real Estate***RLS 112 Real Estate Fundamentals**

5 0 5

Prerequisites: None

Corequisites: None

This course provides basic instruction in real estate principles and practices. Topics include law, finance, brokerage, closing, valuation, management, taxation, mathematics, construction, land use, property insurance, and NC License Law and Commission Rules. Upon completion, students should be able to demonstrate basic knowledge and skills necessary for real estate sales.

RLS 113 Real Estate Mathematics

2 0 2

Prerequisites: None

Corequisites: None

This course provides basic instruction in business mathematics applicable to real estate situations. Topics include area computations, percentage of profit/loss, bookkeeping and accounting methods, appreciation and depreciation, financial calculations and interest yields, property valuation, insurance, taxes, and commissions. Upon completion, students should be able to demonstrate proficiency in applied real estate mathematics.

***RLS 117 Real Estate Broker**

4 0 4

Prerequisites: RLS 112 or current real estate license

Corequisites: None

This course consists of advanced-level instruction on a variety of topics related to real estate law and brokerage practices. Topics include real estate brokerage, finance and sales, RESPA, fair housing issues, selected N.C. Real Estate License law and N.C. Real Estate Commission Rule issues. Upon completion, students should be able to demonstrate knowledge of real estate brokerage, law, and finance.

RLS 120 Real Estate Practice

2 0 2

Prerequisites: None

Corequisites: None

This course emphasizes knowledge and skills necessary for successful real estate practice. Topics will include land use controls, proper method of measuring improvements, commercial real estate, property management, selling techniques, and other aspects of the real estate industry. Upon completion, students should be able to demonstrate an understanding of real world real estate practice.

Substance Abuse***SAB 110 Substance Abuse Overview**

3 0 0 3

Prerequisites: None

Corequisites: None

This course provides an overview of the core concepts in substance abuse and dependence. Topics include the history of drug use/abuse, effects on societal members, treatment of addiction, and preventative measures. Upon completion, students should be able to demonstrate knowledge of the etiology of drug abuse, addiction, prevention, and treatment.

Information Systems Security

SEC 110 Security Concepts **3 0 3**

Prerequisites: None

Corequisites: None

Course Description: This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls.

Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy.

SEC 150 Secure Communications **2 2 3**

Prerequisites: SEC 110, NET 110 or NET 125, and NET 126

Corequisites: None

This course provides an overview of current technologies used to provide secure transport of information across networks. Topics include data integrity through encryption, Virtual Private Networks, SSL, SSH, and IPSec. Upon completion, students should be able to implement secure data transmission technologies.

SEC 160 Secure Admin I **2 2 3**

Prerequisites: SEC 110, NET 110 or NET 125, and NET 126

Corequisites: None

This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion, students should be able to identify normal network traffic using network analysis tools and design basic security defenses.

SEC 170 SOHO Security **2 2 3**

Prerequisites: SEC 110

Corequisites: None

This course introduces security principles and topics related to the small office/home office networking environment. Topics include network topologies, network protocols, security issues, and best practices for SOHO environments. Upon completion, students should be able to design, setup, secure, and manage a small office/home office network.

SEC 210 Intrusion Detection **2 2 3**

Prerequisites: SEC 160

Corequisites: None

This course introduces the student to intrusion detection methods in use today. Topics include the types of intrusion detection products, traffic analysis, and planning and placement of intrusion detection solutions. Upon completion, students should be able to plan and implement intrusion detection solutions for networks and host based systems.

SEC 220 Defense-In-Depth **2 2 3**

Prerequisites: SEC 150

Corequisites: SEC 160

This course introduces students to the concepts of defense in-depth, a security industry best practice. Topics include firewalls, backup systems, redundant systems, disaster recovery, and incident handling. Upon completion, students should be able to plan effective information security defenses, backup systems, and disaster recovery procedures.

SEC 240 Wireless Security **2 2 3**

Prerequisites: SEC 110, NET 175

Corequisites: None

This course introduces security principles and topics related to the wireless networking environment. Topics include network topologies, network protocols, security issues, and best practices for wireless environments. Upon completion, students should be able to design, setup, manage, and secure a wireless network.

SEC 289 Security Capstone Project

1 4 3

Prerequisites: SEC 220

Corequisites: None

This course provides the student the opportunity to put into practice all the skills learned to this point. Emphasis is placed on security policy, process planning, procedure definition, business continuity, and systems security architecture.

Upon completion, students should be able to design and implement comprehensive information security architecture from the planning and design phase through implementation.

Course

Descriptions

A.A.S. Social / Behavioral Sciences

General Education Electives

The following courses are classified as Social/Behavioral Sciences for A.A.S. degree programs. A.A.S. students may take any course on this list. College transfer students (A.A., A.S., A.F.A.) should select general education courses listed on pages 228-237 of the catalog.

Course

Descriptions

ANTHROPOLOGY

- ANT 210 General Anthropology
- ANT 220 Cultural Anthropology
- ANT 230 Physical Anthroplogy
- ANT 230A Physical Anthropology Lab
- ANT 240 Archaeology

PSYCHOLOGY

- PSY 110 Life Span Development
- PSY 118 Interpersonal Psychology
- PSY 150 General Psychology
- PSY 237 Social Psychology
- PSY 241 Developmental Psychology
- PSY 281 Abnormal Psychology

ECONOMICS

- ECO 151 Survey of Economics
- ECO 251 Principles of Microeconomics
- ECO 252 Principles of Macroeconomics

SOCIOLOGY

- SOC 210 Introduction to Sociology
- SOC 213 Sociology of the Family
- SOC 215 Group Processes
- SOC 220 Social Problems
- SOC 225 Social Diversity
- SOC 232 Social Context of Aging
- SOC 234 Sociology of Gender
- SOC 240 Social Psychology
- SOC 254 Rural and Urban Sociology

GEOGRAPHY

- GEO 111 World Regional Geography
- GEO 112 Cultural Geography

HISTORY

- HIS 111 World Civilizations I
- HIS 112 World Civilizations II
- HIS 115 Introduction to Global History
- HIS 131 American History I
- HIS 132 American History II
- HIS 162 Women and History
- HIS 227 Native American History
- HIS 236 North Carolina History

POLITICAL SCIENCE

- POL 110 Introduction to Political Science
- POL 120 American Government
- POL 210 Comparative Government

Sociology

SOC 210 Introduction to Sociology 3 0 3

Prerequisites: None

Corequisites: None

This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

SOC 213 Sociology of the Family 3 0 3

Prerequisites: None

Corequisites: None

This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse life-styles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

SOC 215 Group Processes 3 0 3

Prerequisites: None

Corequisites: None

This course introduces group processes and dynamics. Emphasis is placed on small group experiences, roles and relationships within groups, communication, cooperation and conflict resolution, and managing diversity within and among groups. Upon completion, students should be able to demonstrate the knowledge and skills essential to analyze group interaction and to work effectively in a group context. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

SOC 220 Social Problems 3 0 3

Prerequisites: None

Corequisites: None

This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

SOC 225 Social Diversity 3 0 3

Prerequisites: None

Corequisites: None

This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

Course

Descriptions

	SOC 232 Social Context of Aging	3	0	3
Course Descriptions	Prerequisites: None Corequisites: None This course provides an overview of the social implications of the aging process. Emphasis is placed on the roles of older adults within families, work and economics, politics, religion, education, and health care. Upon completion, students should be able to identify and analyze changing perceptions, diverse lifestyles, and social and cultural realities of older adults. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	SOC 234 Sociology of Gender	3	0	3
	Prerequisites: None Corequisites: None This course examines contemporary roles in society with special emphasis on recent changes. Topics include sex role specialization, myths and stereotypes, gender issues related to family, work, and power. Upon completion, students should be able to analyze modern relationships between men and women. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	SOC 240 Social Psychology	3	0	3
	Prerequisites: None Corequisites: None This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.			
	SOC 254 Rural and Urban Sociology	3	0	3
	Prerequisites: None Corequisites: None This course applies sociological concepts to a comparative study of major social issues facing contemporary rural and urban America. Emphasis is placed on growth and development patterns, ecological factors, social organizations, social controls, and processes of change. Upon completion, students should be able to illustrate the differences and similarities that exist between urban and rural environments as they resolve contemporary issues. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.			
	Sonography			
	SON 110 Introduction to Sonography	1	3	3
	Prerequisites: Enrollment in Sonography Program Corequisites: SON 130 This course provides an introduction to medical sonography. Topics include applications, sonographic terminology, history, patient care, ethics, and basic skills. Upon completion, students should be able to define professionalism and sonographic applications and perform basic patient care skills and preliminary scanning techniques.			
	SON 111 Sonographic Physics	3	3	4
	Prerequisites: CVS 163 or SON 110 Corequisites: None This course introduces ultrasound physical principles, bioeffects, and sonographic instrumentation. Topics include sound wave mechanics, transducers, sonographic equipment, Doppler physics, bioeffects, and safety. Upon completion, students should be able to demonstrate knowledge of sound wave mechanics, transducers, sonography equipment, the Doppler effect, bioeffects, and safety.			

SON 120 SON Clinical Ed I

0 0 15 5

Prerequisites: SON 110

Corequisites: None

This course provides active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Course

SON 121 SON Clinical Ed II

0 0 15 5

Descriptions

Prerequisites: SON 120

Corequisites: None

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

SON 130 Abdominal Sonography I

2 3 0 3

Prerequisites: Enrollment in Sonography Program

Corequisites: None

This course introduces abdominal and small parts sonography. Emphasis is placed on the sonographic anatomy of the abdomen and small parts with correlated laboratory exercises. Upon completion, students should be able to recognize and acquire basic abdominal and small parts images.

SON 131 Abdominal Sonography II

1 3 0 2

Prerequisites: SON 130

Corequisites: None

This course covers abdominal and small parts pathology recognizable on sonograms. Emphasis is placed on abnormal sonograms of the abdomen and small parts with correlated sonographic cases. Upon completion, students should be able to recognize abnormal pathological processes in the abdomen and on small parts sonographic examinations.

SON 140 Gynecological Sonography

2 0 0 2

Prerequisites: SON 110

Corequisites: None

This course is designed to relate gynecological anatomy and pathology to sonography. Emphasis is placed on gynecological relational anatomy, endovaginal anatomy, and gynecological pathology. Upon completion, students should be able to recognize normal and abnormal gynecological sonograms.

SON 220 SON Clinical Ed III

0 0 24 8

Prerequisites: SON 121

Corequisites: None

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

SON 221 SON Clinical Ed IV

0 0 24 8

Prerequisites: SON 220

Corequisites: None

This course provides continued active participation off campus in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

SON 225 Case Studies

0 3 0 1

Prerequisites: SON 110 or CVS 163

Corequisites: None

This course offers the opportunity to present interesting cases found during clinical education. Emphasis is placed on presentation methods which integrate patient history, laboratory results, and sonographic findings with reference to current literature. Upon completion, students should be able to correlate information necessary for complete presentation of case studies.

	SON 241	Obstetrical Sonography I	2	0	0	2
Course	Prerequisites:	SON 110				
Descriptions	Corequisites:	None				
	This course covers normal obstetrical sonography techniques, the normal fetal environment, and abnormal first trimester pregnancy states. Topics include gestational dating, fetal anatomy, uterine environment, and first trimester complications. Upon completion, students should be able to produce gestational sonograms which document age, evaluate the uterine environment, and recognize first trimester complications.					
	SON 242	Obstetrical Sonography II	2	0	0	2
	Prerequisites:	SON 241				
	Corequisites:	None				
	This course covers second and third trimester obstetrical complications and fetal anomalies. Topics include abnormal fetal anatomy and physiology and complications in the uterine environment. Upon completion, students should be able to identify fetal anomalies, fetal distress states, and uterine pathologies.					
	SON 250	Vascular Sonography	1	3	0	2
	Prerequisites:	SON 111				
	Corequisites:	None				
	This course provides an in-depth study of the anatomy and pathology of the vascular system. Topics include peripheral arterial, peripheral venous, and cerebrovascular disease testing. Upon completion, students should be able to identify normal vascular anatomy and recognize pathology of the vascular system.					
	SON 289	Sonographic Topics	2	0	0	2
	Prerequisites:	SON 220				
	Corequisites:	SON 221				
	This course provides an overview of sonographic topics in preparation for certification examinations. Emphasis is placed on registry preparation. Upon completion, students should be able to demonstrate a comprehensive knowledge of sonography and be prepared for the registry examinations.					
	Spanish					
	SPA 111	Elementary Spanish I	3	0	3	
	Prerequisites:	None				
	Corequisites:	SPA 181				
	This course introduces the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Lab practice is expected of students. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.					
	SPA 112	Elementary Spanish II	3	0	3	
	Prerequisites:	SPA 111				
	Corequisites:	SPA 182				
	This course is a continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Lab practice is expected of students. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate further cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.					

SPA 120 Spanish for the Workplace

3 0 3

Prerequisites: None

Corequisites: None

This course offers applied Spanish for the workplace to facilitate basic communication with people whose native language is Spanish. Emphasis is placed on oral communication and career-specific vocabulary that targets health, business, and/or public service professions. Upon completion, students should be able to communicate at a functional level with native speakers and demonstrate cultural sensitivity.

SPA 181 Spanish Lab I

0 2 1

Prerequisites: None

Corequisites: None

This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

SPA 182 Spanish Lab II

0 2 1

Prerequisites: SPA 181

Corequisites: None

This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

SPA 211 Intermediate Spanish I

3 0 3

Prerequisites: SPA 112

Corequisites: None

This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Lab practice is expected of students. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

SPA 212 Intermediate Spanish II

3 0 3

Prerequisites: SPA 211

Corequisites: None

This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Lab practice is expected of students. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Course

Descriptions

	SPA 221	Spanish Conversation	3	0	3
Course Descriptions	Prerequisites: SPA 212 Corequisites: None	This course provides an opportunity for intensive communication in spoken Spanish. Emphasis is placed on vocabulary acquisition and interactive communication through the discussion of media materials and authentic texts. Upon completion, students should be able to discuss selected topics, express ideas and opinions clearly, and engage in formal and informal conversations. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.			
	Surveying				
	SRV 110	Surveying I	2	6	4
	Prerequisites: ARC 111 or EGR 115, and MAT 121, MAT 161, MAT 171, or MAT 175 Corequisites: None	This course introduces the theory and practice of plane surveying. Topics include measuring distances and angles, differential and profile leveling, compass applications, topography, and mapping. Upon completion, students should be able to use/care for surveying instruments, demonstrate field note techniques, and apply the theory and practice of plane surveying.			
	SRV 111	Surveying II	2	6	4
	Prerequisites: SRV 110 Corequisites: None	This course introduces route surveying and roadway planning and layout. Topics include simple, compound, reverse, spiral, and vertical curves; geometric design and layout; planning of cross-section and grade line; drainage; earthwork calculations; and mass diagrams. Upon completion, students should be able to calculate and lay out highway curves; prepare roadway plans, profiles, and sections; and perform slope staking.			
	SRV 210	Surveying III	2	6	4
	Prerequisites: SRV 110 Corequisites: None	This course introduces boundary surveying, land partitioning, and calculations of areas. Topics include advanced traverses and adjustments, preparation of survey documents, and other related topics. Upon completion, students should be able to research, survey, and map a boundary.			
	SRV 220	Surveying Law	2	2	3
	Prerequisites: SRV 110 Corequisites: None	This course introduces the law as related to the practice of surveying. Topics include surveyors' responsibilities, deed descriptions, title searches, eminent domain, easements, weight of evidence, riparian rights, and other related topics. Upon completion, students should be able to identify and apply the basic legal aspects associated with the practice of land surveying.			
	SRV 230	Subdivision Planning	1	6	3
	Prerequisites: SRV 111, SRV 210, and CIV 211 Corequisites: None	This course covers the planning aspects of residential subdivisions from analysis of owner and municipal requirements to plat layout and design. Topics include municipal codes, lot sizing, roads, incidental drainage, esthetic considerations, and other related topics. Upon completion, students should be able to prepare a set of subdivision plans.			
	SRV 240	Topographic/Site Surveying	2	6	4
	Prerequisites: SRV 110 Corequisites: SRV 210	This course covers topographic, site, and construction surveying. Topics include topographic mapping, earthwork, site planning, construction staking, and other related topics. Upon completion, students should be able to prepare topographic maps and site plans and locate and stake out construction projects.			

SRV 250 Advanced Surveying **2 6 4**

Prerequisites: SRV 111

Corequisites: None

This course covers advanced topics in surveying. Topics include photogrammetry, astronomical observations, coordinate systems, error theory, GPS, GIS, Public Land System, and other related topics. Upon completion, students should be able to apply advanced techniques to the solution of complex surveying problems.

Course

SRV 260 Field and Office Practices **1 3 2**

Prerequisites: Completion of three semesters of the Surveying Technology program

Corequisites: None

This course covers surveying project management, estimating, and responsibilities of surveying personnel. Topics include record-keeping, starting and operating a surveying business, contracts, regulations, taxes, personnel management, and professional ethics. Upon completion, students should be able to understand the requirements of operating a professional land surveying business.

Descriptions

Surgical Technology

SUR 110 Introduction to Surgical Technology **3 0 0 3**

Prerequisites: Enrollment in the Surgical Technology program

Corequisites: BIO 163 and SUR 111

This course provides a comprehensive study of the operative environment, professional roles, moral/legal/ethical responsibilities, and medical communications used in surgical technology. Topics include professional behaviors, medical terminology, interdepartmental/peer/relationships, operating room environment/safety, pharmacology, anesthesia, incision sites, physiology of wound healing and biomedical sciences. Upon completion, students should be able to apply theoretical knowledge of the course topics to the operative environment.

SUR 111 Periop Patient Care **5 6 0 7**

Prerequisites: Enrollment in the Surgical Technology program

Corequisites: BIO 163 and SUR 110

This course provides theoretical knowledge for the application of essential operative skills during the perioperative phase. Topics include surgical asepsis, sterilization/disinfection, and perioperative patient care. Upon completion, students should be able to demonstrate the principles and practices of aseptic technique, sterile attire, basic case preparation, and other relevant skills.

SUR 122 Surgical Procedures I **5 3 0 6**

Prerequisites: SUR 110 and SUR 111

Corequisites: SUR 123 or STP 101

This course provides an introduction to selected basic and intermediate surgical specialties that students are exposed to the first clinical rotation. Emphasis is placed on related surgical anatomy, pathology, and procedures that enhance theoretical knowledge of patient care, instrumentation, supplies and equipment. Upon completion, students should be able to correlate, integrate, and apply theoretical knowledge of the course topics to the clinical operative environment.

SUR 123 SUR Clinical Practice I **0 0 21 7**

Prerequisites: BIO 163, or BIO 168 and BIO 169, SUR 110 and SUR 111

Corequisites: BIO 175 and SUR 122

This course provides clinical experience with a variety of perioperative assignments to build upon skills learned in SUR 111. Emphasis is placed on the scrub and circulating roles of the surgical technologist including aseptic technique and basic case preparation for selected surgical procedures. Upon completion, students should be able to prepare, assist with, and dismantle basic surgical cases in both the scrub and circulating roles.

	SUR 134	Surgical Procedures II	5	0	0	5
Course	Prerequisites:	SUR 123 or STP 101				
Descriptions	Corequisites:	None				
	This course provides a comprehensive study of intermediate and advanced surgical specialties that students are exposed to in the second clinical rotation. Emphasis is placed on related surgical anatomy, pathology, and procedures that enhance theoretical knowledge of patient care, instrumentation, supplies, and equipment. Upon completion, students should be able to correlate, integrate, and apply theoretical knowledge of the course topics to the clinical operative environment.					
	SUR 135	SUR Clinical Practice II	0	0	12	4
	Prerequisites:	BIO 175, SUR 122 and SUR 123				
	Corequisites:	SUR 134 and SUR 137				
	This course provides clinical experience with a variety of perioperative assignments to build skills required for complex perioperative patient care. Emphasis is placed on greater technical skills, critical thinking, speed, efficiency, and autonomy in the operative setting. Upon completion, students should be able to function in the role of an entry-level surgical technologist.					
	SUR 137	Prof Success Prep	1	0	0	1
	Prerequisites:	BIO 175, SUR 122 and SUR 123				
	Corequisites:	SUR 134 and SUR 135				
	This course provides job-seeking skills and an overview of theoretical knowledge in preparation for certification. Topics include test-taking strategies, resume preparation, and interviewing techniques. Upon completion, students should be able to prepare a resume, demonstrate appropriate interview techniques, and identify strengths and weaknesses in preparation for certification.					
	Social Work					
	*SWK 110	Introduction to Social Work	3	0	0	3
	Prerequisites:	None				
	Corequisites:	None				
	This course examines the historical development, values, orientation, and professional standards of social work and focuses on the terminology and broader systems of social welfare. Emphasis is placed on the various fields of practice including those agencies whose primary function is financial assistance, corrections, mental health, and protective services. Upon completion, students should be able to demonstrate an understanding of the knowledge, values, and skills of the social work professional. This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.					
	*SWK 113	Working with Diversity	3	0	0	3
	Prerequisites:	None				
	Corequisites:	None				
	This course examines and promotes understanding, sensitivity, awareness, and knowledge of human diversity. Emphasis is placed on professional responsibilities, duties, and skills critical to multicultural human services practice. Upon completion, students should be able to integrate and expand knowledge, skills, and cultural awareness relevant to diverse populations. This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.					
	SWK 115	Community Resources	2	2	0	3
	Prerequisites:	None				
	Corequisites:	None				
	This course introduces community resources essential to social work practice. Emphasis is placed on awareness of and interaction with community service personnel. Upon completion, students should be able to identify resources and assess critical community needs. This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.					

***SWK 214 Social Work Law** **3 0 0 3**

Prerequisites: SWK 110

Corequisites: None

This course introduces the major provisions of social services law, current trends, legislative developments, and court procedures. Emphasis is placed on the interpretation of the laws and court decisions related to various social services populations. Upon completion, students should be able to interpret these laws and their implications for social services practice. This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.

Course

Descriptions

***SWK 220 SWK Issues in Client Services** **3 0 0 3**

Prerequisites: None

Corequisites: None

This course introduces the professional standards, values, and issues in social services. Topics include confidentiality, assessment of personal values, professional responsibilities, competencies, and ethics. Upon completion, students should be able to understand and discuss multiple ethical issues applicable to social work and apply various decision-making models to current issues. This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.

Veterinary Medical Technology

VET 110 Animal Breeds and Husbandry **2 2 0 3**

Prerequisites: Enrollment in the VMT program

Corequisites: None

This course provides a study of the individual breed characteristics and management techniques of the canine, feline, equine, bovine, porcine, ovine, caprine, and laboratory animals. Topics include physiological data, animal health management, and basic care and handling of animals. Upon completion, students should be able to identify breeds of domestic and laboratory animals, list physiological data, and outline basic care, handling, and management techniques.

VET 114 Introduction to Veterinary Medical Tech **1 0 0 1**

Prerequisites: Enrollment in the VMT program

Corequisites: None

This course introduces the standard operating procedures and responsibilities of veterinary technology departments, common zoonotic diseases, safety and ethical issues, and USDA/DEA/OSHA regulations/compliance. Emphasis is placed on standard operating procedures, zoonotic diseases, safety and ethical issues, and the importance of USDA/DEA/OSHA regulations and compliance. Upon completion, students should be able to perform duties assigned in veterinary medical technology, recognize potential zoonotic diseases, and establish safety protocols/regulatory compliance.

VET 120 Veterinary Anatomy and Physiology **3 3 0 4**

Prerequisites: Enrollment in the VMT program

Corequisites: None

This course covers the structure and function of the animal body with emphasis on the similarities and differences among domestic animals. Emphasis is placed on the structure and function of the major physiological systems of domestic, laboratory, and zoo animals. Upon completion, students should be able to identify relevant anatomical structure and describe basic physiological processes for the major body systems.

	VET 121 Veterinary Medical Terminology	3	0	0	3
Course	Prerequisites: Enrollment in the VMT program				
Descriptions	Corequisites: None				
	This course covers the basic medical terminology required for veterinary technicians. Topics include the pronunciation, spelling and definition of word parts and vocabulary terms unique to the anatomy, clinical pathology, and treatment of animals. Upon completion, students should be able to demonstrate knowledge and understanding of basic medical terms as they relate to veterinary medicine. It is highly recommended that this course be taken in the first semester of the Veterinary Technology program.				
	VET 123 Veterinary Parasitology	2	3	0	3
	Prerequisites: VET 120 and VET 121				
	Corequisites: None				
	This course covers the common internal and external parasites of companion animals, livestock, selected zoo animals, and wild animals. Emphasis is placed on laboratory diagnosis of the most common forms of the parasite through fecal, urine, skin, and blood exams. Upon completion, students should be able to identify common parasites and discuss life-cycles, treatment and prevention strategies, and public health aspects of veterinary parasitology.				
	VET 125 Veterinary Diseases I	2	0	0	2
	Prerequisites: VET 120 and VET 121				
	Corequisites: None				
	This course introduces basic immunology, fundamentals of disease processes including inflammation, and common infectious diseases of animals and their prevention through immunization. Topics include fundamental disease processes, principles of medical therapy, immunologic processes, infections and zoonotic diseases of domestic animals, and prevention of disease. Upon completion, students should be able to describe basic disease and immunological processes, recognize infections and zoonotic diseases, and discuss prevention strategies.				
	VET 126 Veterinary Diseases II	1	3	0	2
	Prerequisites: VET 125				
	Corequisites: None				
	This course includes the study of basic disease processes, fundamentals of pathology and other selected topics of veterinary medicine. Topics include histopathology, pathologic changes associated with common diseases of animals, necropsy procedures, specimen handling, and other selected material. Upon completion, students should be able to describe basic pathological changes associated with disease, recognize histopathologic changes, and properly perform collection and submission of necropsy specimens.				
	VET 131 Veterinary Lab Techniques I	2	3	0	3
	Prerequisites: VET 110, VET 114, VET 123 and VET 125				
	Corequisites: VET 133				
	This course includes the fundamental study of hematology, hemostasis, and urinalysis. Emphasis is placed on basic hematology and urinalysis techniques, manual skill development, instrumentation, quality control, and applications to veterinary science. Upon completion, students should be able to perform manual and automated CBCs, hemostatic assays, and complete urinalyses and maintain laboratory equipment and quality control.				
	VET 133 Veterinary Clinical Practice I	2	3	0	3
	Prerequisites: VET 110, VET 114, VET 123 and VET 125				
	Corequisites: VET 120				
	This course introduces basic practices and techniques of the veterinary clinic and biomedical research fields for dogs, cats, and laboratory animals. Topics include physical exam, husbandry, housing, sanitation, restraint and handling, administration of medications, anesthesia and euthanasia techniques, grooming and dentistry. Upon completion, students should be able to properly restrain, medicate, examine, groom, and maintain each of the species studied.				

VET 137 Veterinary Office Practices

1 2 0 2

Prerequisites: Enrollment in the VMT program

Corequisites: None

This course is designed to teach basic administrative techniques, client communication skills, and regulations pertaining to veterinary medicine. Topics include record keeping, telephone techniques, professional liability, office procedures, state and national regulatory laws, human relations, and animal welfare. Upon completion, students should be able to demonstrate effective communication techniques, office procedures, and knowledge of regulatory laws and issues relating to animal welfare.

Course

Descriptions

VET 211 Veterinary Lab Techniques II

2 3 0 3

Prerequisites: VET 131

Corequisites: VET 213

This course covers advanced hematology, serology, immunology, and clinical chemistry. Topics include advanced hematologic, serologic, and immunologic test procedures, manual and automated clinical chemistry procedures, laboratory safety, and quality control. Upon completion, students should be able to collect, prepare, and analyze serum and plasma samples and outline quality control and safety procedures.

VET 212 Veterinary Lab Techniques III

2 3 0 3

Prerequisites: VET 211

Corequisites: VET 214

This course introduces the basic principles of microbiology, histology and cytology. Emphasis is placed on collection of microbiological samples for culture and sensitivity and collection and preparation of samples for histological and cytological examination. Upon completion, students should be able to perform microbiological culture and sensitivity and evaluate cytology and histology specimens.

VET 213 Veterinary Clinical Practice II

1 9 0 4

Prerequisites: VET 133

Corequisites: None

This course covers basic radiography, anesthesia techniques, dentistry, sample collection and handling, surgical assistance and instrumentation, sterile techniques, and patient record keeping. Topics include basic radiology, injectable and gas anesthesia, dentistry, instrument identification and care, sterile surgical technique, specimen collection and processing, and maintenance of patient records. Upon completion, students should be able to take and process radiographs, administer and monitor anesthesia, assist in surgical procedures, collect specimens, and maintain surgical records.

VET 214 Veterinary Clinical Practice III

1 9 0 4

Prerequisites: VET 213

Corequisites: None

The course covers advanced anesthetic techniques, special radiographic techniques, advanced dentistry, sample collection and processing, bandaging, and emergency and critical care procedures. Topics include induction and maintenance of anesthesia, radiographic contrast studies, advanced dentistry, external coaptation, intensive care procedures, and advanced sample collection techniques. Upon completion, students should be able to demonstrate proficiency in sample collection, radiology, anesthesia, critical care and emergency procedures, and dentistry.

VET 215 Veterinary Pharmacology

3 0 0 3

Prerequisites: CHM 130 and CHEM 130A, VET 125

Corequisites: VET 213

This course introduces drugs and other substances utilized in veterinary medicine. Emphasis is placed on drug classification and methods of action, administration, effects and side effects, storing and handling of drugs and dosage calculations. Upon completion, students should be able to properly calculate and administer medications, recognize adverse reactions, and maintain pharmaceutical inventory and administration records.

	VET 217 Large Animal Clinical Practice	2	3	0	3
Course	Prerequisites: VET 110, VET 120 and VET 125				
Descriptions	Corequisites: VET 213 and VET 214				
	This course covers the topics relevant to the medical and surgical techniques for the common domestic large animal species. Topics include physical exam, restraint, sample collection, bandaging, emergency treatment, surgical and obstetrical procedures and instruments, herd health, and lameness topics. Upon completion, students should be able to safely perform restraint, examination, and sample collection; assist surgical, obstetrical, and emergency procedures; and discuss herd health.				
	VET 237 Animal Nutrition	3	0	0	3
	Prerequisites: CHM 130 and CHM 130A				
	Corequisites: None				
	This course covers the principles of nutrition and their application to feeding practices of domestic, farm, and companion animals. Topics include basic nutrients and nutritional needs of individual species, proximate analysis, interpretation of food and feed labels, types of animal foods, and ration formulation. Upon completion, students should be able to select appropriate diets for animals in various stages of health and disease, analyze nutrition labels, and identify foods.				
	Web Technologies				
	WEB 110 Internet/Web Fundamentals	2	2	3	
	Prerequisites: None				
	Corequisites: None				
	This course introduces basic markup language, various navigational tools and services of the Internet. Topics include creating web pages, using Internet protocols, search engines, file compression/decompression, FTP, E-mail, listservers, and other related topics. Upon completion, students should be able to deploy a web-site created with basic markup language, retrieve/decompress files, e-mail, FTP, and utilize other Internet tools.				
	WEB 115 Web Markup and Scripting	2	2	3	
	Prerequisites: CIS 110				
	Corequisites: None				
	This course introduces client-side Internet programming using the current W3C-recommended presentation markup language and supporting elements. Topics include site management and development, markup elements, stylesheets, validation, accessibility, standards, browsers, and basic JavaScripting. Upon completion, students should be able to hand-code web pages with various media elements according to current markup standards and integrate them into websites.				
	WEB 120 Intro Internet Multimedia	2	2	3	
	Prerequisites: WEB 115 or WEB 140				
	Corequisites: None				
	This is the first of two courses covering the creation of Internet Multimedia. Topics include multimedia file types, file type conversion, acquisition of digital audio/video, streaming audio/video and graphics animation plug-in programs and other related topics. Upon completion, students should be able to create Internet multimedia presentations utilizing a variety of methods and applications.				
	WEB 140 Web Development Tools	2	2	3	
	Prerequisites: CIS 110				
	Corequisites: None				
	This course provides an introduction to web development software suites. Topics include the creation of web sites and applets using web development software. Upon completion, students should be able to create entire web sites and supporting applets.				

WEB 182 PHP Programming
 Prerequisites: CIS 115 and WEB 115
 Corequisites: None

2 2 3

This course introduces students to the server-side , HTML-embedded scripting language PHP. Emphasis is placed on programming techniques required to create dynamic web pages using PHP scripting language features. Upon completion, students should be able to design, code, test, debug, and create a dynamic web site using the PHP scripting language.

Course

WEB 186 XML Technology
 Prerequisites: CIS 115 and DBA 110
 Corequisites: None

2 2 3

Descriptions

This course is designed to introduce student to XML and related internet technologies. Topics include extendible style language (XSL), document object model (DOM), extendible style sheet language transformation (XSLT), and simple object access protocol (SOAP). Upon completion, students should be able to create a complex XML document.

WEB 187 Wireless/Internet Prog

2 2 3

Prerequisites: CIS 115

Corequisites: None

This course introduces the Internet and Web development for portable wireless devices with a focus on practical business-related applications. Topics include WAP, WML, XHTML, XML, and wireless internet and mobile business practices and techniques. Upon completion, students should be able to develop and wirelessly enable websites and business applications for use on portable electronic devices. This courses is restricted to the Information Systems Security/Security Hardware curriculum.

WEB 210 Web Design

2 2 3

Prerequisites: WEB 140

Corequisites: None

This course introduces intermediate to advanced web page design techniques. Topics include effective use of graphics, fonts, colors, navigation tools, advanced markup language elements, as well as a study of bad design techniques. Upon completion, students should be able to employ advanced design techniques to create high impact and highly functional web pages.

WEB 215 Adv Markup Scripting

2 2 3

Prerequisites: DBA 120, WEB 115 and WEB 182

Corequisites: None

This course covers advanced programming skills required to design Internet applications. Emphasis is placed on programming techniques required to support network applications. Upon completion, students should be able to design, code, debug, and document network-based programming solutions to various real-world problems using an appropriate programming language.

WEB 230 Implementating Web Serv

2 2 3

Prerequisites: NET 110 or NET 125, NOS 110 and NOS 120

Corequisites: None

This course covers website and web server architecture. Topics include installation, configuration, administration, and security of web servers, services and sites. Upon completion, students should be able to effectively manage the web services deployment lifecycle according to industry standards.

WEB 250 Database Driven Websites

2 2 3

Prerequisites: DBA 110, DBA 120, WEB 140, WEB 182

Corequisites: None

This course introduces dynamic (database-driven) website development. Topics include the use of basic database CRUD statements (create, read, update and delete) incorporated into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards.

	*WEB 289 Internet Technologies Project	1 4 3
Course	Prerequisites: WEB 230 and WEB 250	
Descriptions	Corequisites: None	
	This course provides an opportunity to complete a significant Web technologies project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete an Internet project from the definition phase through implementation.	
	Welding	
	WLD 110 Cutting Processes	1 3 2
	Prerequisites: Admission to Welding Program	
	Corequisites: None	
	This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.	
	WLD 111 Oxy-Fuel Welding	1 3 2
	Prerequisites: None	
	Corequisites: None	
	This course introduces the oxy-fuel welding process. Topics include safety, proper equipment setup, and operation of oxy-fuel welding equipment with emphasis on bead application, profile, and discontinuities. Upon completion, students should be able to oxy-fuel weld fillets and grooves on plate and pipe in various positions.	
	WLD 112 Basic Welding Processes	1 3 2
	Prerequisites: None	
	Corequisites: None	
	This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.	
	WLD 115 SMAW (Stick) Plate	2 9 5
	Prerequisites: None	
	Corequisites: None	
	This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.	
	WLD 116 SMAW (Stick) Plate/Pipe	1 9 4
	Prerequisites: WLD 115	
	Corequisites: None	
	This course is designed to enhance skills with the shielded metal arc (stick) welding process. Emphasis is placed on advancing manipulative skills with SMAW electrodes on varying joint geometry. Upon completion, students should be able to perform groove welds on carbon steel with prescribed electrodes in the flat, horizontal, vertical, and overhead positions.	
	WLD 121 GMAW (MIG) FCAW/Plate	2 6 4
	Prerequisites: None	
	Corequisites: None	
	This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions.	

WLD 122 GMAW (MIG) Plate/Pipe

1 6 3

Prerequisites: WLD 121

Corequisites: None

This course is designed to enhance skills with the gas metal arc (MIG) welding process. Emphasis is placed on advancing skills with the GMAW process making groove welds on carbon steel plate and pipe in various positions. Upon completion, students should be able to perform groove welds with prescribed electrodes on various joint geometry.

Course

Descriptions

WLD 131 GTAW (TIG) Plate

2 6 4

Prerequisites: None

Corequisites: None

This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.

WLD 132 GTAW (TIG) Plate/Pipe

1 6 3

Prerequisites: WLD 131

Corequisites: None

This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry.

WLD 141 Symbols and Specifications

2 2 3

Prerequisites: None

Corequisites: None

This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding.

WLD 143 Welding Metallurgy

1 2 2

Prerequisites: None

Corequisites: None

This course introduces the concepts of welding metallurgy. Emphasis is placed on basic metallurgy, effects of welding on various metals, and metal classification and identification. Upon completion, students should be able to understand basic metallurgy, materials designation, and classification systems used in welding.

WLD 151 Fabrication I

2 6 4

Prerequisites: WLD 110, WLD 115, WLD 116, and WLD 131

Corequisites: None

This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, and the use of fabrication tools and equipment. Upon completion, students should be able to perform layout activities and operate various fabrication and material handling equipment.

WLD 221 GMAW (MIG) Pipe

1 6 3

Prerequisites: WLD 122

Corequisites: None

This course covers the knowledge and skills that apply to welding pipe. Topics include pipe positions, joint geometry, and preparation with emphasis placed on bead application, profile, and discontinuities. Upon completion, students should be able to perform GMAW welds to applicable codes on pipe with prescribed electrodes in various positions.

	WLD 261 Certification Practices	1	3	2
Course	Prerequisites: WLD 115, WLD 121, and WLD 131 Corequisites: None This course covers certification requirements for industrial welding processes. Topics include techniques and certification requirements for pre-qualified joint geometry. Upon completion, students should be able to perform welds on carbon steel plate and/or pipe according to applicable codes.			
Descriptions	WLD 262 Inspection and Testing	2	2	3
	Prerequisites: None Corequisites: None This course introduces destructive and nondestructive testing methods. Emphasis is placed on safety, types and methods of testing, and the use of testing equipment and materials. Upon completion, students should be able to understand and/or perform a variety of destructive and nondestructive testing processes.			



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	A.A.S., Asheville-Buncombe Technical Community College

R. Timothy Hanlon	Instructor, Decorative Painting and Restoration B.A., University of Vermont; Decorative Restoration Certificate, Asheville-Buncombe Technical Community College	
Robin Hayes	Secretary, Adult Basic Skills A.A.S., State University of NY at Farmingdale	
Deborah A. Henderson	Cashier/Registration Clerk B.A., Salem College, Winston-Salem, NC	Administration,
Cheryl J. Holder	Basic Skills Specialist, ABE/GED/AHS B.A., Columbia Union College	Faculty,
Douglas W. Jones, CQE, CSSBB, MBB, RABQSAQMS-A	Coordinator, The Productivity Institute B.S., Iowa State; B.S., University of Utah; M.S.S.M., University of Southern California	and Staff
Christina L. Lang	Program Coordinator, Instructor Health Occupations Diploma, Milwaukee County General School of Nursing	
Kay Manley	Executive Director, Adult Basic Skills/HRD B.A., University of South Florida; M.A., Western Carolina University	
Michael D. McCarthy	Executive Director, Corporate and Economic Development B.A., University of Florida; M.Ed., Kent State University; SPHR	
Kathy Skye Myrick	Executive Director, Occupational and Public Service Training B.S.B.A., Appalachian State University; B.S., Appalachian State University; M.S., Western Carolina University; further graduate study: Duke University	
Kenneth B. O'Connor	Director, Focused Industrial and New and Expanding Industry Training B.A., University of North Carolina at Asheville; M.A., Western Carolina University	
Brinda W. Ramsey	Director, Community Service Programs University of North Carolina at Asheville; Asheville-Buncombe Technical Community College	
Thomas E. Rash	Coordinator, Compensatory Education B.A., University of North Carolina at Chapel Hill; M.A., Clemson University	
Marie J. Smaridge	Assessment Retention Specialist B.A., University of North Carolina at Asheville; M.A., University of North Carolina at Wilmington	
Ramona Stevens	Cashier/Registration Clerk A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina at Asheville	
Mary L. Trigg	Secretary, Adult Basic Skills B.A., Guilford College, Greensboro, NC	
Nancy A. Troxler	Coordinator, Technical/Industrial Training B.A., Queens College, M.S., Western Carolina University	
Shelley Y. White	Coordinator, Human Resources Development A.S., Isothermal Community College, B.S., Appalachian State University, M.S., Western Carolina University	
Robin Wiggins	Facilities Coordinator, Enka Campus A.A.S., Asheville-Buncombe Technical Community College	
Glenda A. Wolfe	Secretary, Community Service Programs Asheville-Biltmore Junior College	
Russ D. Yelton	Director, Small Business Center B.S.B.A., Appalachian State University, M.B.A., Western Carolina University	
Jennifer L. Yowell	Coordinator, English as a Second Language B.A., University of North Carolina at Chapel Hill; M.T.I.D., North Carolina State University	

OFFICE OF STUDENT SERVICES

Dennis King	Vice President, Student Services B.A., Rutgers University; M.A.T., Jacksonville University; Ed.D., University of Florida
Sarah J. Brown	Secretary B.A., University of North Carolina at Asheville
Peggy S. Bulla	Career Counselor B.A., University of North Carolina, Charlotte, N.C., M.A., Western Carolina University, Cullowhee, NC

Lisa F. Bush	Director, Admissions
A.A., Daytona Beach Community College; B.A., Stetson University; M.S., Rensselaer Polytechnic Institute	
Annie Clingenpeel	Coordinator, Disability Services and Counselor
B.A., M.S., East Carolina University	
Administration,	Scott C. Douglas. _____ Registrar
	B.A., University of Tennessee; M.S., M.B.A., Colorado State University
Faculty,	Karen Edwards _____ Assessment Specialist
	B.S., Appalachian State University
and Staff	Susan Grosoff _____ Counselor, Counseling Center
	B.A., University of Buffalo, M.S., California State University, Northridge
Diane Hall	Secretary
	A.A.S., Asheville-Buncombe Technical Community College; PSP (State)
Deborah L. Harmon	Director, Counseling
	B.A., Michigan State University; M.A., Northern Arizona University; Ed. D., North Carolina State University; National Certified Counselor
Michele Hathcock	Director, Recruiting and Student Activities
	B.S., Western Carolina University
Geli Klimek	Director, Transfer Advising Center
	B.A., Stetson University; M.A., University of Phoenix
Eileen A. Klope	Secretary/Receptionist, Counseling Center
	B.S., Ferris State University
Rebecca B. Howell	Academic Advisor/College Transfer Advisor/International Students
	B.S., University of North Carolina at Asheville
Patricia P. Lail	Administrative Assistant
	MDTA Secretarial School; Asheville-Buncombe Technical Community College; PSP (State)
Mona Lancaster	Document Imaging Clerk
	A.A.S., Asheville-Buncombe Technical Community College
Stephen Maag	Academic Advisor
	B.S., Winthrop University; M.A.Ed., Western Carolina University
Jill R. McNabb	Associate Registrar
	B.A., University of California at Los Angeles
Malory F. Presley	Secretary, Transfer Advising Center
	B.A., University of Central Florida
S. Alyson Ramsey	Secretary
	B.S., University of North Carolina at Asheville
Peggy A. Rich	Evening Registration Clerk
	A.A., Asheville-Buncombe Technical Community College
Meredith Richards	Evening Admissions Clerk
	B.A., University of Florida
Linda W. Seals	Secretary, Admissions
	A.A.S., Asheville-Buncombe Technical Community College
Martha Tillman	Secretary, Counseling Center
	A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College; M.B.A., Montreat College

OFFICE OF ADMINISTRATIVE SERVICES

Richard Mauney	Vice President, Administrative Services
B.A., Lenoir Rhine College; M.B.A., Western Carolina University; further study, Memphis State University	
Inez O. Alexander	Computer Center Specialist
A.A.S., Asheville-Buncombe Technical Community College	
Susan A. Arnsperger	Payroll Accountant
A.A.S., Asheville-Buncombe Technical Community College	
Vanette S. Baldwin	Switchboard Operator/Receptionist

Ronald W. Biddix, Sr.	Security Officer	
A.A.S., Asheville-Buncombe Technical Community College		
Amanda F. Born	Secretary/Receptionist , Financial Aid	
B.A., College of Charleston		
Suzanne W. Bryson, C.P.A., C.I.A.	Director, Business Services	
B.B.A. James Madison University		Administration,
Shelby Burnett	Administrative Assistant	
A.A.S., Asheville-Buncombe Technical Community College		
Jenifer A. Burns	Secretary	
B.S., University of North Carolina at Asheville		Faculty,
Calven Davidson	Coordinator, Operation Services	
		and Staff
Paul M. Decoteau	Painter	
studied at University of Maine, Farmington, ME		
Lynn Deyton	Director, Financial Aid	
B.S., M.A.Ed., Western Carolina University		
Joyce Dover Evans	Accounting Clerk/Student Accounts	
Tina Fountain	Coordinator, Equipment/Facilities Inventory	
A.A.S., two degrees, Asheville-Buncombe Technical Community College; B.B.A., Montreat College		
E. Davis Gibson	Director, Security/Safety	
B.P.A., University of Mississippi		
Robin S. Grooms	Coordinator, Student Accounts	
A.A.S., Asheville-Buncombe Technical Community College		
Mary A. Harper	Bookstore Sales and Inventory Associate	
A.A.S., Asheville-Buncombe Technical Community College		
Kara Keller	Associate Director, Security	
A.A.S., Asheville-Buncombe Technical Community College		
Don Kent	Coordinator, Custodial Services	
Linda Mack	Duplicating/Mail Clerk	
Laurie A. Manley	Computer Center Specialist	
A.A.S., Asheville-Buncombe Technical Community College; B.M., Mars Hill College; graduate study: Rice University		
Brian S. McCall, A+	Technical Support Specialist II	
A.A.S. (two degrees), Southwestern Community College; B.S., Western Carolina University		
Lease McIntosh	Lodge Housekeeper	
A.A.S., Asheville-Buncombe Technical Community College		
David C. McKinney	Director, Information Systems Technology	
A.A.S. (two degrees), Asheville-Buncombe Technical Community College		
Angela C. Merrell	Accounting Supervisor	
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina at Asheville		
Benson L. Metcalf	Technical Support Specialist I	
A.A.S., Asheville-Buncombe Technical Community College		
Joyce M. Moncada	Financial Aid Assistant	
A.A.S., Asheville-Buncombe Technical Community College		
Lee R. Pack, Jr.	Coordinator, Maintenance Operations	
Diploma, Asheville-Buncombe Technical Community College; Diploma, Haywood Community College		
Maretta K. Pinson	Bookstore Manager	
A.A.S., Asheville-Buncombe Technical Community College		
Eugene E. Pressley, II, M.C.P., M.C.S.E.	Network Administrator	
A.A.S. (two degrees), Asheville-Buncombe Technical Community College		
Randal K. Rose	Associate Director, Plant Operations	
Technical Diploma, Asheville-Buncombe Technical Community College; N.C. Licensed Heating and Air Conditioning, Refrigeration		

	Jackie M. Searcy	Secretary/Receptionist, Financial Aid
	A.A.S., Asheville-Buncombe Technical Community College (two degrees)	
	Benny R. Smith	Director, Plant Operations
	Crystal C. Smith	Financial Aid Assistant
Administration,	A.A., Anderson College	
	Timothy D. Stafford	Coordinator, Material Services
Faculty,	A.A.S., Forsyth Technical Community College	
and Staff		
	Donna Sampson Taylor	Bookstore Sales Associate
	A.A.S., Asheville-Buncombe Technical Community College	
	John R. Tucker	Technical Support Specialist II
	A.A.S., Aiken Technical College; Certification: Autocad 2000 Technical Competency	
	Donna Turner	Associate Director, Financial Aid
	B.S., Appalachian State University	
	Vaughn Warren	Coordinator, Security/Enka Campus
	A.A.S., Asheville-Buncombe Technical Community Colleges	
	Rebecca R. Watkins	Purchasing Agent
	A.A.S., Asheville-Buncombe Technical Community College	
	Bridgett Wells	Accounting Technician/Cash Receipts
	A.A.S., Asheville-Buncombe Technical Community College	
	Elizabeth K. Williams	Software Support Specialist / Helpdesk
	A.A.S. (two degrees), Asheville-Buncombe Technical Community College	
	Traci Wright	Accounts Payable Clerk
	A.A.S., Asheville-Buncombe Technical Community College; B.B.A., Montreat College	

OFFICE OF COLLEGE RELATIONS

	Anita R. Metcalf	Vice President, College Relations/Executive Director, Foundation
	B.A., University of North Carolina at Greensboro; M.S., Western Carolina University	
	Martha G. Ball	Communications Specialist
	B.A., University of North Carolina at Asheville	
	Copper M. Coggins	Director, Organizational and Professional Development
	B.A., Wellesley College, Wellesley, MA; M.A., Goddard College, Plainfield, VT; M.S., Ph.D., North Carolina State University	
	Mona L. Cornwell	Director, Communications
	B.A., University of North Carolina at Asheville	
	Susan E. Donato	Employment Specialist
	B.S., Kent State University	
	Deborah Ellington	Web Designer
	B.A. University of North Carolina at Chapel Hill	
	Libby B. Hodan	Foundation Development Officer
	B.A., M.Ed., Clemson University	
	Nicole A. Martinez	Secretary, Human Resources
	B.S., Rutgers University	
	Brenda L. McKinney, CEOE	Administrative Assistant
	A.A.S., Asheville-Buncombe Technical Community College, B.S., Mars Hill College; PSP (State, National)	
	Tamma P. Moriarty	Grantwriter/Coordinator
	B.S., Mars Hill College	
	Justin L. Page	Graphic Designer
	B.F.A., Appalachian State University	
	Karla S. Piccirillo	Benefits Specialist
	A.A.S. (two degrees), Asheville-Buncombe Technical Community College; further study: University of Tennessee and University of North Alabama	
	Kaye N. Waugh	Director, Human Resources
	B.S., University of North Carolina, Asheville; M.S., Western Carolina University	

FACULTY

DIVISION OF ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

Ned H. Fowler, E.M.T.-P (1983)	Dean, Allied Health and Public Service Education	Administration, Faculty, and Staff
A.A.S., Asheville-Buncombe Technical Community College; B.S., Western Carolina University; M.A. Ed., Western Carolina University		
Donna J. Alexander, R.N. (2004)	Instructor, Nursing	
B.S.N., Western Carolina University		
J. Tisha Anderson, C.D.A. (1999)	Instructor, Allied Dental Programs	
Diploma, Asheville-Buncombe Technical Community College; Certified Dental Assistant		
Christy C. Andrews, R.N. (1998)	Instructor, Nursing	
B.S.N., Western Carolina University; M.S.N., University of North Carolina at Charlotte		
Denise M. Anthes, R.N. (2004)	Instructor, Nursing	
B.S.N., Trenton State College; M.B.A., Webster University		
Tamara W. Baldwin, C.D.A., R.D.H.(1992)	Instructor, Allied Dental Programs	
A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College		
Scott J. Bissinger (1988)	Director, Law Enforcement Academy	
A.A.S., Asheville-Buncombe Technical Community College; B.S., M.S., University of North Carolina at Charlotte		
Laura L. Brown, R.N., C.P.N., C.A.P.A., C.P.A.N. (2002)	Instructor, Nursing	
Diploma in Nursing, Peter Bent Brigham Hospital School of Nursing; B.S.N., Winston Salem State University		
M. Joan Buchanan R.N. (2004)	Instructor, Nursing	
B.S.N., University of North Carolina at Greensboro		
Chastity L. Case, R.T.(R), R.D.M.S., R.V.T. (2001)	Instructor, Medical Sonography	
A.A.S., Asheville-Buncombe Technical Community College; Certificate, School of Diagnostic Medical Sonography, Grady Memorial Hospital, Atlanta, GA; B.S., Oregon Institute of Technology		
Brenda Causey, R.N. (1976)	Chairperson, Nursing	
Diploma, Memorial Mission Hospital School of Nursing; B.S.N., Western Carolina University; M.S.N., University of North Carolina at Charlotte		
Dianne Cotter (2004)	Chairperson, Veterinary Medical Technology	
A.A.S., Central Carolina Community College; B.B.A., Montreat College		
Robert S. Eldridge, D.D.S. (1997)	Instructor, Allied Dental Programs	
B.S., Carson Newman College; M.A. Ed., Western Carolina University; D.D.S., Emory University School of Dentistry		
Chris C. Fay (2003)	Assistant Director, Law Enforcement Academy	
BLET Certificate, Asheville-Buncombe Technical Community College; B.A., M.A., University of New Mexico		
Megan A. Getty-Odom (2004)	Instructor, Social Service Associate	
B.A., M.S.W., University of South Carolina		
Angela D. Goodwin, R.T.(R) (2004)	Instructor, Radiography	
A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College		
Christine A. Halvorson (2005)	Dental Clinic Coordinator	
A.A.S., St. Phillips College; B.S., Regents College		
Denise M. Hansen, R.N., F.N.P (2004)	Instructor, Nursing	
A.A.S., Miami-Dade Community College; B.S.N., Barry University; M.S.N., Western Carolina University		
Barbara B. Harrison, M.T. (ASCP) S.M. (2003)	Instructor, Medical Laboratory Technology	
B.S., Aurora University; M.S., University of South Carolina		
Jane H. Headland, R.N. (1998)	Instructor, Nursing	
B.S., Grove City College; M.S., Virginia Polytechnic Institute and State University; M.S.N., University of Tennessee		
Thomas C. Heffner	Instructor, Early Childhood Education/Smart Start	
B.S., Juniata College, Huntingdon, PA; M.Ed., University of North Carolina at Charlotte, Charlotte, NC		
Karla A. Hollins (2005)	Instructor, Veterinary Medical Technology	
B.S., Boston University, Boston, Mass., D.V.M., Texas A&M University, College Station, TX		
Dianne B. Hughes (1999)	Instructor, Early Childhood Associate	
B.A., Mars Hill College; M.A. Ed., Western Carolina University		

Administration, Faculty, and Staff	Melissa Hyatt, M.T. (1996)	Chairperson, Medical Laboratory Technology A.A.S., Asheville-Buncombe Technical Community College; B.S., Western Carolina University; M.A. Ed., Western Carolina University
	Jacqueline A. Jones-Nickens, M.S.W. (1995)	Chairperson, Social Service Associate B.S., University of North Carolina at Greensboro; M.S.W., University of North Carolina at Chapel Hill
	Robin B. Keith, R.N., C.N.O.R. (2003)	Chairperson, Surgical Technology LPN Diploma, Guilford Technical Community College; A.D.N., Mount Hood Community College; B.S.N., Western Carolina University
	Pamela N. Kirby (2002)	Instructor, Early Childhood Associate B.S., Radford University; M.A.Ed, Western Carolina University
	Carol W. Little, C.D.A., R.D.H. (2005)	Instructor, Allied Dental Programs Certificate, University of North Carolina at Greensboro; A.A.S. Asheville-Buncombe Technical Community College; B.S. Mars Hill College; M.H.S., Western Carolina University
	Lydia E. Luka, R.N. (2005)	Instructor, Nursing A.D.N., Miami Dade Community College, Miami, FL; B.S.N, Florida International University; M.S.N., Western Carolina University
	Sheryl E. Lussier, R.N.C. (1998)	Instructor, Nursing Diploma, Seton School of Nursing; B.S.N., University of Phoenix
	Jennings H. Minton, C.N.M., M.S. (2004)	Instructor, Nursing B.S., Appalachian State University; B.S.N, UNC-Chapel Hill, M.S., Philadelphia University, C.N.M., Frontier School of Midwifery & Family Nursing
	R. Keith Owens, E.M.T.-P (1999)	Chairperson, Emergency Medical Science A.A.S., Guilford Technical Community College; B.A., John Wesley College, M.A. Ed., American Inter Continental University
	Nicole S. Pekarek, (2004)	Instructor, Phlebotomy B.S., Appalachian State University, M.A.T. Western Carolina University
	Brenda Phillips, R.T. (R) (1992)	Instructor, Medical Imaging A.A.S., Asheville-Buncombe Technical Community College; B.A., Berea College
	Cathy B. Pollock (1993)	Chairperson, Early Childhood B.S., M.S., Western Carolina University
	Debra Reese, R.T. (R) (1991)	Chairperson, Medical Imaging A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College; M.P.H., University of North Carolina at Chapel Hill
	Elizabeth Scarbrough, J.D. (2004)	Instructor, Criminal Justice Technology A.A., Palm Beach Community College; B.A., University of North Carolina at Chapel Hill; J.D., University of Georgia
	Sherry Morrow Shields, R.D.H. (1973)	Instructor, Allied Dental Programs A.A.S., Central Piedmont Community College; B.S., University of North Carolina at Chapel Hill
	Eric D. Sitton (2005)	Instructor, Emergency Medical Science A.A.S. Asheville-Buncombe Technical Community College; B.S., Western Carolina University
	Amanda R. Soule	Instructor, Emergency Medical Science A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina at Asheville
	Shaun Riley Tate, R.D.H. (1978)	Chairperson, Allied Dental Programs B.S., East Tennessee State University; M.A.Ed., Western Carolina University
	Debra C. Whisenant, R.N. (2003)	Instructor, Nursing B.S.N., Western Carolina University

DIVISION OF ARTS AND SCIENCES

Kenet M. Adamson (2002)	Interim Dean, Arts and Sciences and Coordinator, Transfer Advising Center B.S., University of Florida; B.A., Georgia State University; M.A., Western Carolina University
Joseph G. Allawos (2000)	Instructor, Biology B.S., College of Charleston; M.S., University of Tennessee
Jerry L. Ashe (1996)	Instructor, Mathematics A.A., Daytona Beach Community College; B.S., University of Central Florida; M.S., University of Central Florida; further graduate study: University of Central Florida

April D. Birchfield (2003)	Instructor, Social/Behavioral Sciences	
B.A., University of North Carolina at Asheville; M.A., Wake Forest University		
Jennifer Browning (2003)	Instructor, English/Communications	
B.A., University of North Carolina at Asheville; M.A., Georgia State University; further graduate study, Georgia State University		
Helen L. Burrell (2004)	Instructor, Biology	Administration,
B.S., Manchester Metropolitan University; M.S., Appalachian State University		
Jacqueline Caldwell (1999)	Instructor, Mathematics	Faculty,
B.S., North Carolina State University; M.A., Western Carolina University		
Janet H. Caldwell	Instructor, English/Communications	and Staff
B.A., M.S., Murray State University, Murray, KY; M.A., Northwestern University, Evanston, IL;		
Peter Carswell (1992)	Instructor, Social/Behavioral Sciences	
B.A., University of Hawaii; B.S., SUNY at Albany; M.S.C.P., Chaminade University of Honolulu		
Peter J. Carver	Instructor, Drama	
B.A., Stetson University, DeLano, FL; M.A., Texas Woman's University, Denton, TX; M.F.A., University of New Orleans, New Orleans, LA		
Sun Chae (2002)	Instructor, Humanities/Fine Arts	
B.A., New College; M.A., University of Florida		
R. Trent Codd (1999)	Chairperson, Mathematics	
A.A., Miami-Dade Community College; B.S., M.A., University of Miami; B.S.C.S. Graduate Certification, Florida International University; further graduate study, Western Carolina University.		
Karma Crouch (1992)	Instructor, Mathematics	
B.S., Appalachian State University; M.A.Ed., Western Carolina University		
Charles P. Cummings, Ph.D (2001)	Instructor, Social/Behavioral Sciences	
B.A., State University of New York at Buffalo; M.A., Ph.D., Georgia State University		
T. Ren Decatur (1996)	Instructor, English/Communications	
B.A., University of North Carolina at Charlotte; M.A., University of Idaho; further graduate study: University of Vienna (Austria)		
Richard J. DeLuca (2005)	Instructor, Spanish	
B.S., Loyola University, Chicago, IL; M.A., University of Wisconsin, Madison WI., M.P.H., University of Hawaii, Honolulu, HI		
T. Gigi Derballa (1999)	Chairperson, Developmental Studies, Honors, First-Year Seminar	
A.A., Seminole Community College; B.A., M.A., University of Central Florida		
Rock E. Doddridge, Ph.D. (2003)	Instructor, Social/Behavioral Sciences	
B.A., M.A.Ed., University of Florida; M.Div., D.Min, Fuller Theological Seminary; Ph.D., Loyola University of Chicago; M.A.R.E., North Park Theological Seminary; further graduate study, Western Carolina University		
Thelbert W. Dowdy (1999)	Instructor, Social/Behavioral Sciences	
B.A., Western Carolina University; M.A., Appalachian State University		
Matthew A. Fender (1990)	Chairperson, Chemistry/Physics	
A.A.S., Asheville-Buncombe Technical Community College; B.S., M.S., Western Carolina University; further graduate study: Western Carolina University		
Sandi Goodridge (1986)	Instructor, English/Communications	
B.A., M.A.Ed., University of South Carolina; further graduate study: Western Carolina University		
Randee B. Goodstadt (1993)	Chairperson, Social/Behavioral Sciences	
B.A., Kent State; M.A., Harvard University; further graduate study: Harvard University		
John Graham (1991)	Instructor, Chemistry/Physics	
B.S., M.S.T., University of Florida		
W. Michael Gray (1981)	Chairperson, Biology	
B.A., M.S., Appalachian State University; further graduate study: Western Carolina University		
Elizabeth F. Hester (1994)	Instructor, Developmental Studies	
B.A., Salem College; M.A., Appalachian State University		
David Holcombe (1992)	Instructor, English/Communications	
B.A., Mars Hill College; M.A., Indiana State University; further graduate study: Western Carolina University		
Lee "Rusty" B. Holmes, Jr.	Instructor, English/Communications	
B.A., University of North Carolina at Chapel Hill; M.A., University of Oklahoma; Ed.S., University of West Florida; further study: Florida State University		

Administration, Faculty, and Staff	William Hooper (1992)	Instructor, Chemistry/Physics
	A.S., Isothermal Community College; B.S., M.S., University of North Carolina at Chapel Hill; further graduate study: Western Carolina University	
	Aidan M. Hoyal (2004)	Instructor, Humanities/Fine Arts
	B.A., M.A., M.S., University of Tennessee	
	Scott Jackson (2003)	Instructor, Biology
	B.A., University of North Carolina; M.S., University of Oregon; further study, Southern Oregon University and Highlands Biological Station	
	C. Lisa Johnson (1989)	Instructor, English/Communications
	B.A., M.A., Western Carolina University; further graduate study: Indiana University of Pennsylvania	
	David M. Kareken (2005)	Instructor, Humanities/Fine Arts
	B.A., Minneapolis College of Art and Design, Minneapolis, MN; M.A., Western Carolina University, Cullowhee, NC; M.F.A., California College of Arts and Crafts, San Francisco, CA	
	Sharon Killian (1992)	Coordinator, Learning Center
	B.A., University of North Carolina at Greensboro; Developmental Education Certificate, North Carolina State University	
	Ronald P. Layne (2002)	Instructor, Developmental Studies
	A.S., Asheville-Buncombe Technical Community College; B.A., University of North Carolina at Asheville; M.A., Western Carolina University	
	Debra A. Maddox (2005)	Instructor, Communications
	B.A., University of Northern Iowa; M.A., University of Nebraska – Omaha; further graduate study, University of Houston	
	Toby L. Mapes, Ph.D. (2002)	Chairperson, Biotechnology
	B.S., North Dakota State University; M.S., Oklahoma State University; Ph.D., University of Maryland - College Park	
	Valerie R. Martin (2001)	Instructor, Mathematics
	A.A., Santa Fe Community College; B.A., Mercer University; M.S., Western Carolina University	
	Holly C. McCurry (1999)	Chairperson, Instructor, Health & Physical Education/Wellness Coordinator
	B.S., M.A. Ed., Western Carolina University	
	Kelly Q. McEnany (1999)	Instructor, Social/Behavioral Sciences
	B.A., University of Wisconsin at Madison; M.A.Ed., Western Carolina University	
	Margaret Sue H. Olesiuk (1998)	Instructor, Social/Behavioral Sciences Developmental Studies
	B.A., M.A.T., University of North Carolina at Chapel Hill	
	Russell F. Palmeri	Instructor, Biology
	B.S. St. Procopius College, Lisle, IL; Ph.D., University of California, Berkley, CA; M.D.,Georgetown University, Washington, DC	
	M. Susan Paterson (1992)	Instructor, Developmental Studies
	B.A., University of North Carolina at Chapel Hill; M.A.Ed., Western Carolina University	
	Glenn C. Ratcliff, Ph.D. (2001)	Instructor, Chemistry/Physics
	B.S., University of North Carolina at Asheville; M.S., Ph.D., University of North Carolina at Chapel Hill	
	Sherry L. Ratzlaff (2004)	Instructor, Biology
	A.S., Virginia Western Community College; B.S., Radford University; M.S., Oklahoma State University	
	Kathleen Ross (1996)	Instructor, Developmental Studies
	B.A., Michigan State University; M.A.Ed., Western Carolina University	
	Kenneth N. Rudolph (1998)	Instructor, Social/Behavioral Sciences
	B.S., North Carolina State University; M.S., University of Utah	
	T. David Smith (1999)	Chairperson, Humanities/Fine Arts
	B.A., California State University-Fresno; M.A., University of Florida	
	Carol W. Stanford (2003)	Instructor, Health & Physical Education/Intramurals Director
	B.S., M.A.Ed., Western Carolina University	
	Charles Lee Swendsen, Ph.D. (2003)	Instructor, Biology
	B.S., Morningside College; M.S., Ph.D., University of Iowa	
	Christine Tibbets (1999)	Chairperson, English/Communications
	B.A., Agnes Scott College; M.Ed., Emory University; further graduate study: Western Carolina University	

Sharon Trammel (1999)	Instructor, Humanities/Fine Arts	
B.A., University of North Carolina-Asheville; M.F.A., University of North Carolina-Greensboro; Renaissance Art Study, Florence, Italy		
Paula W. Trilling (2001)	Instructor, Biology	
A.S., Asheville-Buncombe Technical Community College; B.A., University of North Carolina-Asheville; M.A.Ed., Western Carolina University		
Heather K. Vaughn (2000)	Instructor, English/Communications	Administration,
B.A., Elon College; M.A., University of Nebraska - Lincoln		
Valerie K. Watts (2000)	Instructor, Humanities/Fine Arts	Faculty,
A.A., Bucks Community College; B.A., Rider College; M.A., University of Georgia; further study: Universidad de Madrid, Madrid, Spain		
George Robert Webb, Jr. (2004)	Instructor, Mathematics	
B.A., University of North Carolina at Asheville; M.A.Ed., Western Carolina University		
Laurel H. Young (2001)	Instructor, Biology	
B.S., University of Tennessee, M.S., Western Carolina University		
Leesa Young (1995)	Instructor, Social/Behavioral Sciences	
B.A., North Carolina State University; M.H.R., University of Oklahoma		

DIVISION OF BUSINESS AND HOSPITALITY EDUCATION

Philip R. Leftwich (1996)	Interim Dean, Business and Hospitality Education
B.S.B.A., Western Carolina University; M.B.A., University of North Carolina at Charlotte; Ed.D., North Carolina State University	
Jonathan H. Bricker (2000)	Instructor, Business Administration
B.S., University of Oregon; M.A., University of Tennessee	
Donnah M. Cole, R.H.I.A. (2003)	Instructor, Administrative/Medical Systems Technologies
B.S., Western Carolina University	
Charles R. DeVries (2005)	Instructor, Hospitality Education
A.O.S., Culinary Institute of America, Hyde Park, N.Y.; American Culinary Federation Certified Executive Pastry Chef	
Vincent J. Donatelli (2001)	Instructor, Hospitality Education
A.O.S., Certificate, Culinary Institute of America	
Kathleen Doole (1995)	Instructor, Business Computer Technologies
A.A.S., Blue Ridge Community College; B.A., William Paterson College of New Jersey; M.A.Ed., Western Carolina University; further graduate study, North Carolina State University	
Jean R. Finley (2004)	Instructor, Business Computer Technologies
A.A.S., McDowell Technical Community College; B.A., Gardner Webb University; M.A.Ed., Western Carolina University	
John H. Humphrey, Jr., C.C.P. (1987)	Instructor, Business Computer Technologies
B.S., North Carolina State University; M.B.A., University of North Carolina at Chapel Hill; Ed.D., East Tennessee State University; further graduate study: North Carolina State University	
Carolyn B. Hutchinson, C.P.A., C.I.A. (2000)	Instructor, Business Administration
B.S., University of North Carolina at Asheville; M.B.A., Clemson University	
Jacqueline A. Larsen (2002)	Instructor, Business Computer Technologies
B.A., M.B.A., Cleveland State University	
Lewis R. Lightner, Jr. (2000)	Chairperson, Networking Technologies
A.A.S., Asheville-Buncombe Technical Community College	
Steven L. Marcus (2001)	Instructor, Networking Technologies
A.A.S., Haywood Community College; B.S., University of North Carolina at Asheville	
Michael J. O'Kane (2001)	Instructor, Business Computer Technologies
B.A., Sheffield Polytechnic; M.S., State University of New York at Binghamton	
Carol C. Paxton (1999)	Instructor, Business Computer Technologies
A.A.S., Asheville-Buncombe Technical Community College; B.S., M.B.A., M.A.Ed., Western Carolina University; further study: East Tennessee State University	
Robbie P. Piel (2005)	Instructor, Hospitality Education
A.A.S., B.S., M.B.A., Johnson & Wales University	

- Administration, Faculty, and Staff**
- Robert H. Potts, G.R.I. (2001)** Coordinator, Real Estate Programs
A.A.S., Southwestern Community College; B.S.B.A., Western Carolina University; further study: Asheville-Buncombe Technical Community College
- Andrew T. Pratt (2003)** Instructor, Hospitality Education
A.A.S., University of Hawaii; A.O.S., New England Culinary Institute
- Kelly C. Randolph, C.P.A. (1998)** Instructor, Business Administration
B.S.B.A., M.S., Appalachian State University
- Walter A. Rapetski, Jr. (1998)** Instructor, Hospitality Education
A.A.S., B.S., M.S., Rochester Institute of Technology
- Marlene Roden (1999)** Instructor, Business Computer Technologies
B.S., graduate study, Western Carolina University; M.A., Appalachian State University
- Jonathan S. Ross (2004)** Instructor, Business Computer Technologies
B.M., James Madison University; M.M., Binghamton University
- Marilyn K. Schmid (1989)** Instructor, Administrative/Medical Systems Technologies
B.S., M.S.T.E., University of Akron; further graduate study: University of New Orleans, Western Carolina University
- Gary A. Schwartz (1984)** Instructor, Hospitality Education
B.A., University of Michigan; J.D., Harvard Law; graduate study: University of Cincinnati
- Misty L. Shuler, R.H.I.A. (1998)** Chairperson, Administrative/Medical Systems Technologies
B.S., Western Carolina University
- Pamela J. Silvers (1996)** Chairperson, Business Computer Technologies
B.S., University of North Carolina at Asheville; M.A.Ed., Western Carolina University
- Sheila Tillman (1990)** Chairperson, Hospitality Education
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of Rhode Island; M.A.Ed., Western Carolina University
- Kathy S. Toler (1983)** Instructor, Business Administration
B.A., M.A.T., University of South Carolina; further graduate study: Western Carolina University
- Charles K. Wallin** Instructor, Business Computer Technology
B.F.A., Hope College, Holland, MI; M.S., University of St. Thomas, St. Paul, MN
- William L. Wolfe (2001)** Instructor, Networking Technologies
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina - Asheville
- Rhonda P. Wood (1993)** Instructor, Administrative/Medical Systems Technologies
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina at Asheville; M.A.Ed., Western Carolina University; further graduate study: Western Carolina University

DIVISION OF ENGINEERING AND APPLIED TECHNOLOGY

- Vernon D. Daugherty, Jr. (2005)** Dean, Engineering and Applied Technology
B.S., Western Carolina University; M.S., North Carolina A&T State University
- Samuel L. Barnes (1988)** Instructor, Machining Technology
Diploma, Technical Diploma, A.A.S., Asheville-Buncombe Technical Community College; B.S., Western Carolina University; Master Tool & Die Maker
- Larry S. Boyd (1986)** Chairperson, Machining and Welding
A.A.S., Asheville-Buncombe Technical Community College; B.S.M.E.T., Western Carolina University, University of North Carolina at Asheville
- Kenneth F. Czarnomski (2003)** Chairperson, Construction Management Technology
B.S., B.A., Lawrence Technological University, R.A., N.C.A.R.B.
- Lynn V. Ehrke (2003)** Instructor, Civil Engineering/CAD
B.S., M.S., Ph.D., Virginia Polytechnic Institute; M.B.A., University of Pittsburgh
- Charles P. Farmer (2003)** Instructor, Welding Technology
A.A.S., Diploma, Asheville-Buncombe Technical Community College; B.S., Mars Hill College
- M. Kevin Fletcher (2003)** Instructor, Automotive Service Technology
A.A.S., Asheville-Buncombe Technical Community College; ASE, Master Automotive Technician; ASE Certified, Engines, Heavy Trucks, Electrical, Diesel
- Sharon S. Graham (2005)** Interim Chairperson, Mechanical Engineering Technology
B.S., University of North Carolina, Asheville; MS., North Carolina State University

David M. Hamlett	Instructor, Computer-Aided Design	
A.S., Asheville-Buncombe Technical Community College		
James B. Houston (1999)	Instructor, Electronics	
A.A.S., Asheville-Buncombe Technical Community College; A.A.S. Community College of The Air Force; B.A., University of North Carolina-Chapel Hill		
Sherian D. Howard (1985)	Chairperson, CAD Technology	Administration,
A.A.S., Asheville-Buncombe Technical Community College; B.S.M.E.T., Western Carolina University, University of North Carolina at Asheville; M.S., Western Carolina University		
Nicholas F. Lanning(2005)	Instructor, Automotive Technologies	Faculty,
A.A.S., Asheville-Buncombe Technical Community College		and Staff
J. Christopher Martin (2004)	Instructor, Computer Engineering Technology	
A.A.S. (two degrees), Asheville-Buncombe Technical Community College		
Frank Miceli (1992)	Chairperson, Electronics Engineering Technology	
A.A.S., State University of New York at Farmingdale; B.S.E.E., Ohio State University; graduate study: Polytechnic Institute of New York, M.S., Western Carolina University		
B. Heath Moody (2005)	Instructor, Carpentry and Construction Management	
B.S., M.S., Appalachian State University		
Brian O'Connor (1999)	Instructor, Civil Engineering/Surveying Technology	
B.S. (two degrees), North Carolina State University; Professional Engineer Certification; Professional Land Surveyor Certification		
S.T. (Tom) Sharar II (1995)	Instructor, Electronics	
A.A.S., Asheville-Buncombe Technical Community College; B.S., Pennsylvania State University; further study: Western Carolina University		
James A. Sullivan (2005)	Interim Chairperson, Civil Engineering/Surveying Technology	
A.A., Santa Fe Community College, Gainesville, FL; B.S., University of FL, Gainesville, FL; M.S.N. Western Carolina University		
David W. Walker (1993)	Chairperson, Transportation Technologies	
Diplomas, A.A.S., Asheville-Buncombe Technical Community College; Caterpillar Service Training School, Master A.S.E. Certified		
William W. Wells (1985)	Chairperson, Air Conditioning	
Technical diploma, Asheville-Buncombe Technical Community College; B.A., University of North Carolina at Asheville, graduate study; Western Carolina University; N.C. Licensed Heating, Air Conditioning, Refrigeration, and Electrical Contractor		

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