Computer Science

Course Syllabus: **COSC 1336 (3-3-1) – Programming Fundamentals I**
Credit Fall 2020
Synonym 06305 – 017

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Course Description: Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy. This course requires the same math skills necessary for College Algebra. Students should either have taken or be currently enrolled in College Algebra or a course that requires College Algebra.

Prerequisite: B Course Type: T.

Course Rationale: This is an entry level programming course designed to teach students the basic concepts of computer programming. The course will include designing, coding, debugging, testing, and documenting programs using a high level programming language. The course is intended to prepare students for a programming-oriented academic path. This course in include in several degree plans including:

- Associate of Applied Science – Computer Programming
- Associate of Applied Science – Web Programming
- Associate of Applied Science – Game and Visualization Programming
- Associate of Applied Science – Information Technology Application
- Associate of Applied Science – Software Testing
- Associate of Science – Computer Science

Course Objectives / Learning Outcomes:

1. Demonstrate problem solving skills by developing and implementing algorithms to solve problems.

2. Derive problem specifications from problem statements.
3. Develop algorithms using modular design principles to meet stated specifications.
4. Create code to provide a solution to problem statements ranging from simple to complex.
5. Test and debug programs and program modules to meet specifications and standards.
6. Create programs that contain clear and concise program documentation.
7. Implement programs that use data types and demonstrate an understanding of numbering systems.
8. Incorporate both basic and advanced control structures appropriately into algorithms.
9. Demonstrate an understanding of structure design by implementing programs with functions, including parameter passing and value returning.
10. Implement programs using classes, including strings and files.
11. Implement algorithms using one-dimensional and indexed data structures.
12. Demonstrate an understanding of array searching and sorting algorithms by desk-checking and/or modifying algorithm implementations.
13. Design and implement simple classes.

SCANS (Secretary's Commission on Achieving Necessary Skills):
Refer to http://www.austincc.edu/cit/courses/scans.pdf for a complete definition and explanation of SCANS. The following list summarizes the SCANS competencies addressed in this particular course:

RESOURCES 1.1 Manages Time	**INTERPERSONAL** 2.1 Participates as a member of a team 2.6 Works with Cultural Diversity	**INFORMATION** 3.1 Acquires and Evaluates Information 3.2 Organizes and Maintains Information 3.3 Uses Computers to Process Information	**SYSTEMS** 4.1 Understands Systems 4.2 Monitor and Corrects Performance 4.3 Improve and Designs Systems
TECHNOLOGY 5.1 Selects Technology 5.2 Applies Technology to Task 5.3 Maintains and Troubleshoots Technology	**BASIC SKILLS** 6.1 Reading 6.2 Writing 6.3 Arithmetic 6.4 Mathematics 6.5 Listening	**THINKING SKILLS** 7.2 Decision Making 7.3 Problem Solving 7.4 Mental Visualization 7.5 Knowing How to Learn 7.6 Reasoning	**PERSONAL SKILLS** 8.1 Responsibility 8.2 Self-Esteem 8.3 Sociability 8.4 Self-Management 8.5 Integrity/Honesty

Approved Course Texts/Readings:
Starting out with Python, Fourth Edition, Tony Gaddis, Addison Wesley, 2018
ISBN-13: 978-013-454-366-6

Instructional Methodology: This delivery method uses an online course management system, Blackboard or equivalent. Course materials are located on Blackboard or equivalent, and include but are not limited to PowerPoints, practice tests, schedules, grade book, etc.
The CIS open labs are available for students for work outside of scheduled lab time.

Grade Policy:
Grade will be assigned based both on concepts and practical application. Exams, quizzes, and lab projects will be a part of the grade. An overall grade will be assigned on the following grading scale:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
0% - 59%	F

Course Requirements

Each student's grade for this course consists of 3 exams (60%), 10 Review Questions (10%), and 10 labs (25%) and Orientation (5%).

EXAM 1	20%
EXAM 2	20%
EXAM 3	20%
10 Review Questions	10%
10 Labs	25%
Orientation	5%

ALL homework and Lab assignments are due no later than midnight Friday of the week assigned. I will accept late homework/lab until 24 hours after the original due date with a 20% penalty. No homework/lab assignments will be accepted after the late period. Scheduling of computer time outside of regular lab time is the students' responsibility. Availability of computers is NOT an excuse for being late with any assignment.

Each Exam consists of both a multiple-choice part and a lab exam. Both parts of the exam **MUST** be completed at the same time (you **MAY NOT** complete part 1 and return later or another day to complete part 2) There are NO makeup exams given in this course. **ALL EXAMS WILL BE TAKEN AT HOME USING PROCTORU**.

Course/Class Policies:

Attendance/Class Participation
Regular and punctual class and laboratory attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.

Withdrawal Policy
It is the responsibility of each student to ensure that his or her name is removed from the roll should he or she decides to withdraw from the class. The instructor does, however, reserve the right to drop a student should he or she feel it is necessary. If a student decides to withdraw, he or she should also verify that the withdrawal is submitted before the Final Withdrawal Date. The last date to withdraw for this semester is **November 21, 2020**. The student is also strongly encouraged to retain their copy of the withdrawal form for their records.

Students who enroll for the third or subsequent time in a course taken since Fall, 2002, may be charged a higher tuition rate, for that course. State law permits students to withdraw from no more than six courses during their entire undergraduate career at Texas public colleges or universities. With certain exceptions, all course withdrawals automatically count towards this limit. Details regarding this policy can be found in the ACC college catalog.

Incompletes
A student may receive a temporary grade of "I" (Incomplete) at the end of the semester only if ALL of the following conditions are satisfied:

1. The student is unable to complete the course during the semester due to circumstances beyond their control.
2. The student must have earned at least half of the grade points needed for a "C" by the end of the semester.
3. The request for the grade must be made in person at the instructor's office and necessary documents completed.
4. To remove an "I", the student must complete the course by two weeks before the end of the following semester. Failure to do so will result in the grade automatically reverting to an "F".

Statement on Scholastic Dishonesty
A student attending ACC assumes responsibility for conduct compatible with the mission of the college as an educational institution. Students have the responsibility to submit coursework that is the result of their own thought, research, or self-expression. Students must follow all instructions given by faculty or designated college representatives when taking examinations, placement assessments, tests, quizzes, and evaluations. Actions constituting scholastic dishonesty include, but are not limited to, plagiarism, cheating, fabrication, collusion, and falsifying documents. Penalties for scholastic dishonesty will depend upon the nature of the violation and may range from lowering a grade on one assignment to an "F" in the course and/or expulsion from the college.

See the Student Standards of Conduct and Disciplinary Process.

For this course, the penalty for scholastic dishonesty is a grade of 'F' for the course.

Student Rights and Responsibilities
Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility to accord the same rights to others in the college community and not to interfere with or disrupt the educational process. Opportunity for students to examine and question pertinent data and assumptions of a given discipline, guided by the evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an equally demanding concept of responsibility on the part of the student. As willing partners in learning, students must comply with college rules and procedures.

Statement on Students with Disabilities Each ACC campus offers support services for students with documented disabilities. Students with disabilities who need classroom, academic or other accommodations must request them through the office of Student Accessibility Services (SAS). Students are encouraged to request accommodations when they register for courses or at least three weeks before the start of the semester, otherwise the provision of accommodations may be delayed. Students who have received approval for accommodations from SAS for this course must provide the instructor with the 'Notice of Approved Accommodations' from SAS before accommodations will be provided. Arrangements for academic accommodations can only be made after the instructor receives the 'Notice of Approved Accommodations' from the student. Students with approved accommodations are encouraged to submit the 'Notice of Approved Accommodations' to the instructor at the beginning of the semester because a reasonable amount of time may be needed to prepare and arrange for the accommodations.

Safety Statement Austin Community College is committed to providing a safe and healthy environment for study and work. You are expected to learn and comply with ACC environmental, health and safety procedures and agree to follow ACC safety policies. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom.

Please note, you are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be immediately dismissed from the day's activity, may be withdrawn from the class, and/or barred from attending future activities.

Freedom of Expression Policy
It is expected that faculty and students will respect the views of others when expressed in classroom discussions.

Tutoring
Free tutoring is provided for this course both on line and face-to-face. For online schedules and details please refer to http:://www.austincc.edu/cit .

Student Files – Privacy
Their instructor for educational and academic reasons may view the information that a student stores in his/her student volume in the Computer Studies Labs.

Communication

The ACC online Blackboard system http://acconline.austincc.edu and the ACCmail accounts will be used as the official communication system during this semester. Lecture notes, handouts, changes to course schedule or assignments and your grades will be posted on Blackboard and all email communication will be via the ACCmail accounts. All students are expected to check both Blackboard and their ACCmail accounts on a regular basis. For information on how to log onto Blackboard and ACCmail please visit the following sites: http://irt.austincc.edu/blackboard/StudentSupport.php and http://www.austincc.edu/google/.

Blackboard: http://acconline.austincc.edu
Use your ACCeID and password for Blackboard.

ACCmail: For information on how to activate and manage your ACC mail please refer to http://www.austincc.edu/google/.

Concealed Handgun Policy
ACC faculty may notify students in their classes or learning environment about the Texas Campus Carry law taking effect at Austin Community College (and other Texas community colleges) on August 1, 2017. The following is recommended syllabus language, approved by legal counsel and the college. For courses including ACC-sponsored field activities, language is still being drafted.

The Austin Community College District concealed handgun policy ensures compliance with Section 411.2031 of the Texas Government Code (also known as the Campus Carry Law), while maintaining ACC's commitment to provide a safe environment for its students, faculty, staff, and visitors.

Beginning August 1, 2017, individuals who are licensed to carry (LTC) may do so on campus premises except in locations and at activities prohibited by state or federal law, or the college's concealed handgun policy.

It is the responsibility of license holders to conceal their handguns at all times. Persons who see a handgun on campus are asked to contact the ACC Police Department by dialing 222 from a campus phone or 512-223-7999.

Refer to the concealed handgun policy online.

Facts

- All public Texas colleges and universities must abide by the law.
- Private institutions may opt out of implementing the law.
- The concealed campus carry law does not allow open carry on campus.
- A person must have a License to Carry a Handgun (LTC).
- A person must be at least 21 to obtain a LTC, unless he/she is active duty military or a police officer.
- Faculty and staff do not have authority to ban handguns from classrooms.
- Campus carry laws exist in eight states (Texas, Colorado, Utah, Idaho, Mississippi, Kansas, Oregon, and Wisconsin).
- Licensed gun owners have been allowed to carry concealed handguns on public campuses (but not in buildings) for 20 years.
- While Texas is currently in a legislative session, there are no indications lawmakers will change the law.

Programming Fundamentals I
Course Schedule
Section 06305

Late lab assignments are accepted for 24hours, with a grade penalty of 20%

Competency	Date	Topics	Reading	Assignment	Due Date
Course Orientation	08/24	Course Orientation		Orientation	08/28
Competency 1	08/30	Intro to Computers and Programming	Chapter 1 PPT Chap 1	Review Questions 1 Lab 1	09/04
Competency 2	09/06	Input, Processing, and Output	Chapter 2 PPT Chap 2	Review Questions 2 Lab 2	09/11
Competency 3	09/13	Decision Structures and Boolean Logic	Chapter 3 PPT Chap 3	Review Questions 3 Lab 3	09/18
	09/20			**EXAM 1 Chapters 1-3**	09/25
Competency 4	09/27	Repetition Structures	Chapter 4 PPT Chap 4	Review Questions 4 Lab 4	10/02
Competency 5 Part 1	10/04	Simple Functions	Chapter 5 PPT Chap 5	Review Questions 5 Part 1 Lab 5 Part 1	10/09
Competency 5 Part 2	10/11	Value-Returning Functions and	Chapter 5 PPT Chap 5	Review Questions 5 Part 2 Lab 5 Part 2	10/16
Competency 6	10/18	Files and Exceptions	Chapter 6 PPT Chap 6	Review Questions 6 Lab 6	
	10/25	Files and Exceptions	Chapter 6 PPT Chap 6	Review Questions 6 Lab 6	10/30
	11/01			**Exam 2 Chapters 4-6**	11/06
Competency 7	11/08	Lists and Tuples	Chapter 7 PPT Chap 7	Review Questions 7 Lab 7	11/13
Competency 8	11/15	More about Strings	Chapter 8 PPT Chap 8	Review Questions 8 Lab 8	11/20
Competency 9	11/22	Classes and Object-Oriented Programming	Chapter 10 PPT Chap 10		
Competency 9	11/29	Classes and Object-Oriented Programming (continued)	Chapter 10	Review Questions 9 Lab 9	12/04
	12/06			**Final Exam**	12/11