



WACO, TEXAS

PROGRAMMING FUNDAMENTALS III
COSC 2336
COURSE SYLLABUS

REVISED: 09-10

PROGRAMMING FUNDAMENTALS III

COSC 2336

Course Description:

Presents further application of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, has tables, trees, and graphs), and algorithmic analysis. Semester Hours 3.

Prerequisites and/or Corequisites:

Prerequisite: COSC 1337

Required Text & Material:

- A. C++ Programming by D.S. Malik, Course Technology
- B. 1 – 1 GB USB Flash drive

Course Objectives and/or Competencies:

- A. Course Objectives: Upon successful completion of this course, the student should be able to explain and the various data structures in building computer programs using C++. Student employ data structures to solve practical problems.
- B. Course Competencies: Students will be able to:
 - 1. Define and explain data structure terminology and concepts to include algorithm analysis and design.
 - 2. Use an ANSI C developmental environment to enter, compile, link, run and debug C++ programs.
 - 3. Identify and use various programming data types and structures to include user defined simple data types, namespaces, and enumerated constants.
 - 4. Understand and use arrays and vectors, both single and multi-directional arrays.
 - 5. Understand and use advanced object oriented design principles to include classes and data abstraction, inheritance, and overloading

6. Understand and use recursion.
7. Understand and utilize various sorting and search techniques.
8. Understand the use of pointers and dynamic memory allocation.
9. Understand and utilize Advanced Data structures to include linked lists, stack and queues, binary and general trees, graphs and networks.
10. Understand and use Standard Template Libraries.

C. Evaluation:

1. Written objective/or subjective exams
2. Programming assignments
3. In class quizzes

MCC Attendance Policy:

Regular and punctual attendance is expected of all students, and each instructor will maintain a complete record of attendance for the entire length of each course, including online and hybrid courses. Students will be counted absent from class meetings missed, beginning with the first official day of classes. Students, whether present or absent, are responsible for all material presented or assigned for a course and will be held accountable for such materials in the determination of course grades. In the case of online and hybrid courses, attendance will be determined in terms of participation, as described in the course syllabus.

Absence from 25 percent of scheduled lecture and/or laboratory meetings will be taken as evidence that a student does not intend to complete the course, and the student will be withdrawn from the course with a grade of W. The instructor may reinstate the student if satisfied that the student will resume regular attendance and will complete the course. If the student's 25 percent absences are reached after the official drop date, the instructor may assign a W, if the student is passing and requests to be withdrawn. However, if a student who is not passing reaches the 25 percent point after the official drop date, the student will receive an F. In extenuating circumstances, the instructor may assign a W to a student who is not passing.

Each absence will count toward attendance requirements in each course.

Students will be permitted to make up class work and assignments missed due to absences caused by (1) authorized participation in official College functions, (2) personal illness, (3) an illness or a death in the immediate family, or (4) the observance of a religious holy day. Also, the

instructor has the prerogative of determining whether a student may make up work missed due to absences for other reasons. It is the student's responsibility to inform the instructor of the reason for an absence and to do so in a timely fashion.

Student Absences on Religious Holy Days

McLennan Community College shall excuse a student from attending classes or other required activities including examinations for the observance of a religious holy day, including travel for that purpose. Students are required to file a written request with each instructor for an excused absence. A student whose absence is excused for this observance may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. Religious holy day means a holy day observed by a religion whose places of worship are exempt from property taxation under the Texas Tax Code. McLennan Community College may not excuse absences for religious holy days which may interfere with patient care.

Note: Students interested in seeing the class attendance policy in its entirety should check the Highlander Guide or the MCC policy manual.

ADA Statement:

In accordance with the requirements of the Americans with Disabilities Act (ADA), and the regulations published by the United States Department of Justice 28 C.F.R. 35.107(a), MCC's designated ADA co-coordinators, Mr. Gene Gooch - Vice President, Finance and Administration and Dr. Santos Martinez – Vice President, Student Services shall be responsible for coordinating the College's efforts to comply with and carry out its responsibilities under ADA. Students with disabilities requiring physical, classroom, or testing accommodations should contact Mr. Marcus Sweatt, Disabilities Specialist, at 299-8122 or msweatt@mclennan.edu.

COSC 2336-PROGRAMMING FUNDAMENTALS III

Course Competencies	Workplace Competencies															Foundation Skills																						
	Resources				Interpersonal					Information				Systems			Technology			Basic Skills					Thinking Skills					Personal Qualities								
	A	B	C	D	A	B	C	D	E	F	A	B	C	D	A	B	C	A	B	C	A	B	C	D	E	A	B	C	D	E	F	A	B	C	D	E		
Define and explain data structure terminology and concepts to include algorithm analysis and design.											X	X	X																									
Use an ANSI C developmental environment to enter, compile, link, run and debug C++ programs											X	X	X	X				X	X																			
Identify and use various programming data types and structures to include user defined simple data types, namespaces, and enumerated constants.											X	X	X																									
Understand and use arrays and vectors, both single and multi-directional arrays.											X	X	X																									

