Fundamentals of Programming C/C++
COURSE SYLLABUS (CSCI 515): Fall 2016

INSTRUCTOR:
Hamid Azzo, Ph.D., Adjunct Instructor, Department of Computer Science, Texas A&M University – Commerce
Office Hours: Before and after class on Monday and by appointment only
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CLASS MEETINGS:
M 4:30p-7:10 pm, Location: JOUR129, Meets 08/29/2016 through 12/16/2016
Lab hours: T, W, Th 10:00 – Noon Jour 102

COURSE INFORMATION

DESCRIPTION:
This is an advanced programming course using a high level programming language, C and C++. Specific objectives are to introduce the development of algorithms as a disciplined approach to problem solving; to present programming practices in design, coding, debugging, testing and documentation of computer programs; to provide the student with the fundamental knowledge necessary for further study in the field of computational sciences.

REQUIREMENTS AND OBJECTIVES:
Students should be familiar with basic C/C++ coding prior to this class.

STUDENT LEARNING OUTCOMES (to be used in the assessment of this course)
• To understand the internal representation of the various data types.
• To review the language syntax and learn new syntax you have not previously used in programming applications.
• To correctly solve programming problems and learn how to develop algorithms.
• To examine the internal representation of two and three dimension arrays in C/C++.
• To understand dynamic memory allocation, parameter passing, the use of pointers.

MANDATORY TEXTBOOK:
• C++ How to Program (7th Edition), by Paul J. Deitel, Harvey M. Deitel , ISBN-13: 978 0136117261

Week	Content
1	Moving from C to C++
2	C++ and Object oriented programming. The concept of a class. Data abstraction and Encapsulation
3	Constructor, Destructor , Copy Constructor
4	Dynamic Memory Allocation
4	Reference Variables

6	The *this* pointer
7	Friendship, Inline functions
8,9	Function and Operator overloading, Exam
10	Inheritance
11	Abstract Base class, Virtual Inheritance, Pure virtual function
12	Polymorphism, How to apply Polymorphism
13	Casting for any type to any type
14,15	Input/Output formatting in C++ File I/O in C++

EXAMS & GRADING

Your grade for the course will be based on the following percentages:
First Test   30%
Class Attendance & Labs /Assignments & Quizzes   30%
Final Test   40%

The first test and final might be in any form, a program, such as project presentation, a regular test, or a paper. The instructor will make a decision after a cooperative discussion with the students.
You should do your own work on exams/projects and for computer assignments. Copying another student's work is not acceptable. Any indication of cheating and/or plagiarism on an exam/assignment/project will be an automatic 0 (zero) for the exam/assignment/project for all students involved. Yet, based on cheating and plagiarism activity in any section of class, instructor holds the right to give F grade to the identified student(s). Regarding codes in assignments / projects, you may be required to explain the code you submitted. In case of discursive explanation, the instructor holds the right to lower your grade. You are given many programming assignments during semester. The student submitting other's source code will take -1 for the this specific assignment. A student having more than three -1 cannot gain any point for the Lab/Assignments section of class evaluation. It means that you will automatically lose 30% of your total grade.

Letter grades will be assigned according to the following scale:
A - at least 90% of the total points
B - at least 80% of the total points
C - at least 70% of the total points
D - at least 60% of the total points
F - less than 60% of the total points

ATTENDANCE POLICY:

Attendance is mandatory. Students must be present at all class lectures and are responsible for all material covered in class and assigned in readings. No student is allowed to enter classroom after class started at 9:30am.

COURSE REQUIREMENT DEADLINES:

Credit will be given for ONLY those exams, programs, and/or projects turned in no later than the deadline as announced by the instructor of this class, unless prior arrangement has been made with the instructor. Late programs/ projects/assignments can or cannot gain partial credit. Credit for late programs/projects/assignments will be announced with the description of it.

Assignments and projects will be posted in university's eCollege communication system. Detailed information will be provided by the instructor. Students also should turn in their assignment through eCollege portal. Each student is responsible for the content/instructions of email communications.

ACADEMIC ETHICS:

"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See Student's Guide Handbook, Policies and Procedures, Conduct). Absolutely no usage of laptops and cellular devices (texting and talking) in class. Talking and other activities that distract/disturb others in the class would not be tolerated. Instructor holds the right to ask you leave the classroom any time based on any of disturbing attitude. Each student should sign the sign-sheet if asked by instructor. Late student may not be allowed to participate the lecture.

ACCOMMODATION POLICY FOR STUDENTS WITH DISABILITIES:

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: Rebecca.Tuerk@tamuc.edu

Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

NONDISCRIMINATION NOTICE

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

CAMPUS CONCEALED CARRY STATEMENT

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

DISCLAIMER:

The above schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances.