COSC 1437 01W, 1LW Programming Fundamentals II

COURSE SYLLABUS: SPRING 2024

INSTRUCTOR INFORMATION

Instructor: Kathiravan Natarajan
Office Location: JOUR 209
Office Hours: The course instructor will communicate via the course page
Office Phone: N/A
Office Fax: N/A
University Email Address: Kathiravan.Natarajan@tamuc.edu
Preferred Form of Communication**:** Slack workspace will be shared on the course page and Email
Communication Response Time: 1 day to 3 days

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required
Introduction to C++ Programming and Data Structures, 5th edition
Author: Y Daniel Liang
Edition: 5TH
Published Date: 2022
ISBN: 9780137454181
Publisher: PEARSON

STARTING OUT WITH PYTHON
Author: TONY GADDIS
Edition: 5TH
Published Date: 2021
ISBN: 9780136912330
Publisher: PEARSON

Course contents will be shared on the course web page. A textbook is beneficial but not mandatory.

The *syllabus/schedule are subject to change.*

Software Required

It will be communicated on the course page.

Optional Texts or Materials

Course materials should suffice in achieving the educational goals of this course.

Course Description

Student Learning Outcomes (Should be measurable; observable; use action verbs)

1. Explore various data types and fundamental data structures such as arrays and lists.
2. Understand data structures that consist of diverse elements.
3. Develop expertise in utilizing control structures to modify the sequential flow of program statements.
4. Master the application of library functions and the creation of user-defined functions.
5. Proficiently grasp function parameter passing, understanding its translation to low-level representation and its involvement with primary storage.
6. Acquire knowledge of object-oriented programming, and comprehend the integration of data and operations on the data into an object.
7. Gain a deep understanding of multidimensional arrays or nested lists.
8. Comprehend searching and sorting techniques, discerning the differences between these methods in terms of computational resources.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

No prerequisites needed

Instructional Methods

In-person lectures in the assigned classroom. The instructor will share the course materials on the course web page as well.

Student Responsibilities or Tips for Success in the Course

- Keep up-to-date with the weekly quizzes
- Practice command line commands discussed in the classroom
- Complete the homework on time and
- Reach out to instruction for any questions and clarifications

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GRADING

Final grades in this course will be based on the following scale:

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

Total points corresponding to the final letter grades
A = 451- 500 Points
B = 401- 450 Points
C = 351- 400 Points
D = 301- 350 Points
F = 300 & > Points

Weights of the assessments in the calculation of the final letter grade.
Example:

Weekly Quizzes	15%
Hands-on Project	20%
Assignment	15%
Two Midterm Exams	30%
Final Exam	20%
TOTAL	100%

Assessments

Assessments will be in-person, including the two midterm exams, the final exam, and the project.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool
https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:
https://www.britannica.com/topic/netiquette

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedures 13.99.99.R0.01
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf

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Graduate Student Academic Dishonesty Form

http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Students with Disabilities-- ADA Statement

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
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@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

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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.

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit **www.tamuc.edu/counsel**

AI use policy [Draft 2, May 25, 2023]

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors ' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty

Department or Accrediting Agency Required Content

COURSE OUTLINE / CALENDAR

Week	CONTENT
W1 (01/10)	C++ and Python Programming Intro with installations
W2 (01/15)	Elementary Programming, Selections, Mathematical functions, Characters and Strings in C++
W3 (01/22)	Decision Structures, Repetition Structures in C++ and Python
W4 (01/29)	Loops
W5 (02/05)	Functions
W6 (02/12)	Single and multidimensional arrays in C++ and Python
W7 (02/19)	Midterm Test 1
W8 (02/26)	Object Oriented Programming I
W9 (03/04)	Object Oriented Programming II (Additional: Exception handling)
W10 (03/11)	Spring Break – Campus Closed
W11 (03/18)	C++ (Linked Lists, Queues, Priority Queue), Python (Tuples, Lists, Sets, Dictionaries)
W12 (03/25)	Midterm Test 2
W13 (04/01)	Sorting algorithms
W14 (04/08)	Searching algorithms
W15 (04/15)	Enterprise Project Demo+ with some frontend
W16 (04/22)	Final review and project presentation with review
W17 (04/29)	Final Exam

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