C0SC 1436 01W and 0LW Introduction to Computer Science and Programming

COURSE SYLLABUS: Summer I 2024

INSTRUCTOR INFORMATION

Instructor: Kathiravan Natarajan
Office Location: JOUR 209
Office Hours: The course instructor will communicate via the course page
Office Phone: 903-886-5409
Office Fax: 903-886-5404
University Email Address: Kathiravan.Natarajan@tamuc.edu
Preferred Form of Communication**:** For all emails, make sure the email the subject line reads: "COSC 1436.01W~~"
Communication Response Time: 1 day to 3 days

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Lecture: Online web-based through D2L

Class Textbook:
- Computer Science Illuminated by Nell Dale and John Lewis 7th edition ISBN 9781284155617 or E-book ISBN 9781284214161

Textbook Recommended for Python Programming (not required)
- Python Crash Course, 2nd Edition: A Hands-On, Project-Based Introduction to Programming by Eric Matthes
  ISBN-10: 1593279280 ISBN-13: 978-1593279288
- Practice of Computing Using Python, The, Student Value Edition,3rd Edition, by William F. Punch, Richard Enbody
  ISBN-13: 978-0134380315
  ISBN-10: 0134380312
- Python for Everyone, 2nd Edition by Cay S. Horstmann, Rance D. Necaise
  ISBN-13: 978-1119056553

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ISBN-10: 1119056551
- Think Python: How to Think Like a Computer Scientist by Allen B. Downey, Jeffrey Elkner ,Chris Meyers Available at http://www.greenteapress.com/thinkpython/thinkpython.html
ISBN-13: 978-0971677500
ISBN-10: 0971677506

Software Required
Python compiler (Instructor will send the Visual Studio installation video)

Course Description

This is a lecture and laboratory course offered to introduce basic concepts of computer science and programming. Topics include information and data representation, hardware, software development methodology, algorithm design, abstract data types, programming languages, operating systems, applications, communications, algorithms, and mechanics of running, testing, and debugging programs. The course also provides an introduction to programming using Python. Prerequisite: Students planning to enroll in this course should have mastered computer essentials including interaction with a graphical user interface, text editor, and Web browser. If you prefer to use your computer rather than university laboratory facilities, it is expected that you can download, install, and configure software. No experience in computer programming is expected or required.

Student Learning Outcomes

This course is similar to an exercise class. You learn new concepts and techniques, and then, exercise these new-found skills. At the end of the class,

1) Show how computer hardware represents information.
2) Describe the computer circuitry that harnesses the electrical flow.
3) Explain how computing components may be combined to build computer systems.
4) Apply general problem-solving strategies to the development of computer algorithms.
5) Write programs in machine, assembly, and high-level languages to express and implement algorithms to solve problems.
6) Identify and explain the application of abstract data types such as stacks, queues, lists, trees, and graphs.
7) Apply the object-oriented methodology to computer problem-solving.
8) Explain the role of an operating system in managing and interacting with computer system components including main and secondary memory.
9) Utilize information system software to organize, manipulate, and secure data.
10)Describe how computer networks communicate, share resources and facilitate Web processing.

The syllabus/schedule are subject to change.

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Minimal Technical Skills Needed

No prerequisites needed

Instructional Methods

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Online videos will be posted in D2L. Slides, supplementary materials, and assignments will be released online via D2L. Please upload your assignments to the appropriate folders on myLeo(D2L)

Weekly Zoom meetings to clarify students' questions on the course materials and provide feedback on the lab activities.

https://tamuc.zoom.us/j/4255508595
Meeting ID: 425 550 8595

Thursdays 4 PM to 6 PM

Student Responsibilities or Tips for Success in the Course

1. Check myLeo at least twice a week.
2. Read the text materials before and after every lecture, and use the slides as your guideline.
3. Start your homework assignments early.
4. Do your work. If you have difficulties with an assignment, ask the instructor. Do not copy
other people's work.
5. Contact the instructor when you are confused.
6. Seek help from lab tutors in Jour 101 or 200 when you need it.

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GRADING

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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

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

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1. One final exam: 50%
2. Average of quizzes: 25%
4. Lab participation: 25%

Assessments
Quizzes and the final exam will be posted in D2L and the format will be multiple choice questions and T/F format. Lab activity will involve coding. For the online course, students should make an effort to attend and listen to the recorded lectures. Students are required to keep up with class materials and announcement
made during live lectures or via emails, including the changes to due dates or assignments. Attendance will be evaluated based on the submission of assignments and labs.

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

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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

Interaction with Instructor Statement
To communicate with me about this course, you can use the email address on this syllabus. Please include the course number at the beginning of the subject field for every email message. During the week, you can generally expect a response to your emails within 1 business day. If you do not receive my response in 2 business days, please send a second email to me. You can also call me at my office or stop by my office during office hours. You can also schedule an appointment by email. My office location, phone number, and office hours are subject to change and amendment

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

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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

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

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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 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**

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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 ʾguidelines. 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

Timeline	Topics covered	Reference Chapters	End of Week
06/05	Welcome, computing systems overview, numbering systems,	Ch. 1, 2, 6, 8, 9	Lab 1

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	programming environments, the first Python program		
06/12	Data representation, Control Structures I, Strings and Graphics	Ch. 3	Quiz 1, Lab 2
06/19	Control Structures II, Functions, Recursion	Ch. 7	Quiz 2, Lab 3
06/26	More layers(i.e. logic gates and circuits, operating systems)	Ch. 4-6, 10, 11	Quiz 3, Lab 4
07/03	Final Exam		

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