COSC 1315 – Programming Fundamentals for Non-CS Majors

Syllabus

Catalog Description:

Introduction to the fundamental concepts of procedural programming. Topics covered include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging. This course is for non-Computer Science Majors.

Text Books:
Required:

Sedgewick, Robert & Wayne, Kevin, *Introduction to Programming in Java*, 2nd Edition ISBN# 9780672337840

Class Times:
COSC1315.001   Lecture: MWF 10:10AM – 11:05AM   COB207

Grading Policy:
Homework/Programs 100%

Homework/Project online submissions will be due via Canvas by 11:59PM Monday nights unless otherwise stated.

Late Submissions and Tests:
Assignments/Labs/Projects/Presentations will not be accepted after the due date.

Academic Dishonesty: You are expected to do your own work. You may assist each other with general concepts, but direct assistance with a particular assignment or any attempts to gain an unfair academic advantage will not be tolerated. Cheating is considered a serious academic offense both by the department and the University. It may result in a failing grade from this course for all parties involved. The instructor reserves the right to ask you to explain any assignment that you turn in to judge if the work is actually yours. AI generated work will not be accepted.

The University of Texas at Tyler
Soules College of Business

Computer Science Department

Contact Information:

Danny Morris
Office: COB315
Phone/Text: 903-721-5284
E-mail: danielmorris@uttyler.edu
Office Hours: MW 1:30PM –2:30PM and by appointment

Topic	Hours
Introduction to C Programming Language and Programming Environment	3
Structured program development in C	3
Data Types and Instance Variables	3
Software development methodology	3
Decision structures	3
Repetition Structures	6
Arrays and Strings	6
Functions	3
Introduction to pointers/references	3
Characters and Strings	3
Formatted Input/output	3
File Processing	3

Course Objectives:

1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs.
2. Modify and expand short programs that use standard conditional and iterative control structures and functions.
3. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
4. Choose appropriate conditional and iteration constructs for a given programming task.
5. Apply the techniques of structured (functional) decomposition to break a program into smaller pieces.
6. Describe the mechanics of parameter passing.
7. Discuss the importance of algorithms in the problem-solving process.
8. Identify the necessary properties of good algorithms.
9. Create algorithms for solving simple problems.
10. Use pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems.
11. Discuss the representation and use of primitive data types and built-in data structures.
12. Explain the reasons for using different formats to represent numerical data.
13. Explain the organization of the classical von Neumann machine and its major functional units.
14. Explain the objectives and functions of modern operating systems.
15. Discuss the evolution of early networks and the Internet.
16. Describe the phases of program translation from source code to executable code and the files produced by these phases.
17. Identify and describe the properties of a variable such as its associated address, value, scope, persistence, and size.
18. Explain how abstraction mechanisms support the creation of reusable software components.
19. Demonstrate the difference between call-by-value and call-by-reference parameter passing.
20. Discuss the properties of good software design.
21. Explain the software life cycle and its phases including the deliverables that are produced.

Additional Policies:

Students Rights and Responsibilities
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html

Grade Replacement/Forgiveness
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

State-Mandated Course Drop Policy
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date).
Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

Disability Services
If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit Disability Services located in the University Center, Room 3150. The telephone number is (903) 566-7079. Additional information may also be obtained at the following UT Tyler Web address: http://www.uttyler.edu/disabilityservices.

Student Absence due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation:
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.