Fall 9-1-2021

CSCI 151.00: Interdisciplinary Computer Science I

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CSCI 151: Interdisciplinary Computer Science I

Instructor information

Instructor: Trish Duce
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Office: Social Science 412
Office hours: M 12:00-12:50pm , W 1:00-1:50pm or by appointment

Course description:

Learning to program is the first step in understanding the nature of computer science's undeniable impact on the modern world. This class will teach the basic skills for computational problem solving that are applicable in many modern computer environments.

Learning Outcomes:

1. Proficient use of basic elements: variables, assignment statements, built-in data types, flow of control, arrays, and input/output.

2. Apply the concept of modular programming (functions and modules): divide a program into components that can be independently debugged, maintained, and reused.

3. Problem solve using recursion.

4. Apply knowledge of basic principles of object oriented programming: use, create and design data types.

5. Develop software to optimize performance.

6. Implement algorithms (search, sort) and data structures to organize and process data effectively.

7. Develop and use test clients to determine the correctness of a program.

Required Materials and Resources:

- You will need to have a laptop with the following minimum requirements:
    - Windows, macOS or Linux
    - 4GB of RAM (16GB preferred)
    - 64 GB of HDD space
    - 2.0 GHz processorxt)
- Introduction to Programming in Python – An Interdisciplinary Approach by Sedgewick, Wayne, Dondero
    - ISBN-13: 978-0-13-407643-0
    - ISBN-10: 0-13-407643-5

- We will use the programming language Python for this course. You can download it for free at https://www.python.org/. We will also use programs, data and modules from the booksite: http://introcs.cs.princeton.edu/python.

Labs: Labs will be on Thursdays from 9:30am - 10:20am in Social Science 344 OR Fridays from 11am - 11:50pm in Social Science 344.

Course guidelines and policies:

Student Conduct Code

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at Student Conduct Code.

Disability modifications

Students with disabilities will receive reasonable modifications in this course. Your responsibilities are to request them from me with sufficient advance notice, and to be prepared to provide verification of disability and its impact from Disability Services for Students. Please speak with me after class or during my office hours to discuss the details. For more information, visit the Office for Disability Equity website at http://www.umt.edu/disability.

Assignment expectations

All assignments, quizzes and activities have deadlines specified in the module. **NO LATE WORK WILL BE ACCEPTED.**

Grading Criteria

Assessment	Description	Percentage
Assignments	Each module, students will complete one or two assignments that demonstrates their understanding of the module's learning outcomes.	60%
Exams	There will be two exams worth 20% each.	40%
Total:		100%

Grading Scale

Grade	Points	How this applies to assignmnts
A, A-	90-100	**Exceeds Standard:** The student has gone above and beyond the assignment requirements and has also done an excellent job mentioning and applying concepts found in the course materials to the assignment.
B+, B, B-	80-89	**Meets Standard:** The student has met the assignment requirements and has made some attempt to apply concepts found in the course materials to the assignment.
C+, C, C-	70-79	**Approaching Standard:** The student has met some of the assignment requirements and has made some attempt to apply concepts found in the course materials to the assignment.
D+, D, D-	60-69	**Needs Work:** The student has failed to meet many of the assignment requirements and has not applied the concepts found in the course materials to the assignment.
F	<59	**Incomplete:** The student has failed to meet any of the assignment requirements and has significant errors in submitted work.

Pass / No Pass (P/NP)

The Computer Science Department has determined that a passing grade is a 70% or greater, which is a C- or better.