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CSCI 151.03: Interdisciplinary Computer Science I

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CSCI 151 Interdisciplinary CS 1

Rubric: CSCI

Term: Spring 2022

Number: 151

Lecture: TTh 11 AM – 12:20 PM

Section: 03

Lab:

CRN: 34269

Instructor Information

Name: Victor Valgenti

Office: MC 322

Phone: 406 243 7913

Email: victor.valgenti@umontana.edu

Office Hours (or by appointment):

Day	Hours
Monday	Noon – 1 PM
Tuesday	12:30 PM – 1 PM
Wednesday	Noon – 1 PM
Thursday	12:30 PM – 1 PM
Friday	

Course Description

This course will introduce students to fundamental computer science concepts including functions, libraries and APIs, recursion, data types, optimization, searching and sorting, all while using a high level structured programming language.

Course Outcomes

Upon successful completion of this class, students will be able to:

- Use/define functions: arguments, scope, side effects, return values
- Create a client that uses libraries, APIs and Implementations
- Problem solve using recursion, mathematical induction and dynamic programming
- Create and use novel data types: classes, access modifiers, instance variables, constructors, instance methods, mutability
- Develop software to optimize performance: scientific method, log-log plots, mathematical notation, order of growth classifications
- Implement search and sort: binary search, insertion sort, merge sort, analysis of performance

Required Materials:

- 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 processor
- 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

Labs: The lab is attached to the class. Lecture will take part for the first 50 minutes of each class with lab the last 30 minutes of class.

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.umd.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 assignments
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.

Knowledge Units Covered

Topics Covered:

[illegible]