Course Information

Site:	Moodle	Printed by:	Tanya Little
Course:	Interdisc. Computer Sci I (Sect: 00, 72948, Fall 2023)	Date:	Thursday, August 31, 2023, 7:49 PM
Book:	Course Information		

Description

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INSTRUCTOR INFORMATION

- **Instructor:** Trish Duce
- **Email**: ducepa@mso.umt.edu
- **Phone**: (406) 370-9432
- **Office:** SS 412
- **Office hours**: Monday 1:00pm - 2:00pm, Tuesday 12:30pm – 1:30pm, Wednesday 12:00pm-1:00pm or by appointment

Learning Assistants

- **LA:** Tennisen Hiller
- **Email:** tennisen.hiller@umontana.edu
- **LA:** Nate Heim
- **Email:** nate.heim@umontana.edu

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LEARNING OUTCOMES

Students will be able to:

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.

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REQUIRED MATERIALS & RESOURCES

Resource	Description
Hardware	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 Such a machine costs $190 - click here to see an example.
Textbook	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
Software	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. **Module 1** has instructions for downloading and installing what is needed for the course.

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COURSE SCHEDULE

Module/Dates	Content	Assignments
1. Week 1 & 2	Setup, Built-in Data Types	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignments 1 and 2 in Section 3 4. Complete Section 4 activites All activities, quizzes and assignments are to be completed by the end of Week 1 no lather than 11:55pm on Sunday.
2. Week 3	Conditionals, Loops, Arrays	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignments 3 and 4 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 2 no lather than 11:55pm on Sunday.
3. Week 4	Input and Output	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignments 5 and 6 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 3 no lather than 11:55pm on Sunday.
4. Week 5	Input and Output (Draw)	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 7 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 4 no lather than 11:55pm on Sunday.
5. Week 6	Defining Functions	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 8 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 5 no lather than 11:55pm on Sunday.

Module/Dates	Content	Assignments
6. Week 7	Modules and Clients	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 9 in Section 3
7. Week 8	Review, Midterm Exam	1. Review 2. Midterm Exam 3. Presentations for Assignment #9
8. Week 9	Recursion	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 10 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 8 no lather than 11:55pm on Sunday.
9. Week 10	Using Data Types	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 11 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 8 no lather than 11:55pm on Sunday.
10. Week 11	Creating Data Types	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 12 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 8 no lather than 11:55pm on Sunday.
11. Week 12 & 13	Designing Data Types	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 13 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 8 no lather than 11:55pm on Sunday.
12. Week 14	Performance	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 14 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 12 no lather than 11:55pm on Sunday.
13. Week 15	Searching and Sorting	1. Complete Section 1 activities 2. Complete Section 2 activities 3. Complete Assignment 15 in Section 3 All activities, quizzes and assignments are to be completed by the end of Week 13 no lather than 11:55pm on Sunday.
16. Finals Week	Final Exam	Final Exam 8am - 10am, Wednesday, December 13

*Please note: these dates are subject to change with appropriate notice.

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GRADING INFORMATION

Grading Criteria

Assessment	Description	Percentage
Quizzes	Students must be present in class to get credit for quizzes. Lowest quiz grade will be dropped.	15%
Assignments	Each module, students will complete one or two assignments that demonstrates their understanding of the module's learning outcomes.	45%
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.

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COURSE POLICIES

Assignment Due Dates/Times

All assignments, quizzes and activities have deadlines specified in the module.

Assignments turned in that are unrelated to what was covered during the week will receive a zero.

Late Work

All work assigned has deadlines. **NO LATE WORK WILL BE ACCEPTED.**

Attendance

Attendance for lectures is expected. If you miss multiple lectures, it will be assumed you are no longer taking the class. The **University of Montana's Academic Policies and Procedures** state:

> **Students are expected to attend all class meetings** and complete all assignments for courses in which they are enrolled. Instructors are encouraged to notify advisors or the appropriate administrators regarding students with excessive unexcused absences. **Instructors may excuse brief and occasional absences** for reasons of illness, injury, family emergency, religious observance, cultural or ceremonial events, or participation in a University sponsored activity. (University sponsored activities include for example, field trips, ASUM service, music or drama performances, and intercollegiate athletics.) Instructors shall excuse absences for reasons of military service or mandatory public service.

Academic Honesty

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 http://www.umt.edu/student-affairs/community-standards/default.php.

At anytime, I may ask students to explain work submitted.

Course Accommodations Statement (ODE)

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.

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Select the link to download the course syllabus (MS Word).