**CSCI 151 – Interdisciplinary Computer Science I**

**Autumn Semester 2025**

**General Course Information**

**Course Information**

* **School Name**: University of Montana
* **Course Number**: CSCI 151
* **Course Title**: Interdisciplinary Computer Science I
* **Number of Credits**: 3
* **Prerequisite(s)**: CSCI 150 or CSCI 100
* **Section Number**: 00

**Instructor Information**

* **Instructor**: Addison Boyer
* **Email**: addison.boyer@mso.umt.edu
* **Office Location**: Social Science 410
* **Office Hours**: Monday and Wednesday 11:00 a.m. – 12:00 p.m., or by appointment
* **Teaching Assistant(s)**: N/A

**Class Times & Location**

* **Lecture**: Monday, Wednesday, Friday 10:00 a.m. – 10:50 a.m. (Social Science 254)
* **Virtual Classroom**: Microsoft Teams
* **Attendance**: Regular attendance is strongly encouraged for in-person sessions.

**Course Description & Objectives**

This course introduces students to the foundations of programming and computational problem solving, providing the first step toward understanding the impact of computer science in the modern world. Through theoretical and practical learning, students will explore core concepts of programming, including variables, data types, control flow, modular design, recursion, and object-oriented programming. The course is based on ***Introduction to Programming in Python: An Interdisciplinary Approach* (1st Edition)**, and students will engage in hands-on labs and assignments to apply these concepts in real-world scenarios. Topics include problem decomposition, designing reusable modules, implementing algorithms, optimizing performance, and developing testable software.

**Student Learning Outcomes**

*Upon successful completion of this class, students should be proficient with the following:*

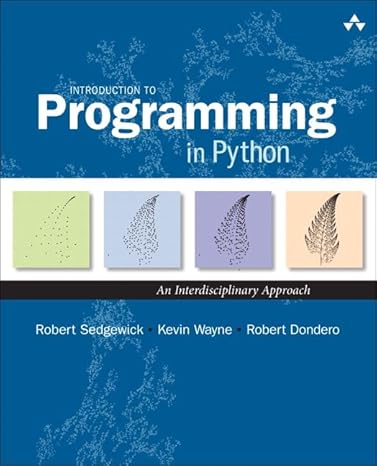
* Using basic programming elements: variables, assignment statements, built-in data types, arrays, and input/output.
* Applying modular programming principles (functions and modules) to build reusable, maintainable code.
* Implementing recursive problem-solving techniques.
* Understanding and applying the principles of object-oriented programming to design and use data types.
* Developing software with an emphasis on performance optimization.
* Applying algorithms (search, sort) and data structures to organize and process data effectively.
* Creating and using test clients to validate program correctness.

**Course Format**

* The course will include **lectures** based on the textbook and external resources.
* Active participation in **discussions** is encouraged to facilitate knowledge sharing.
* **Hands-on labs and assignments** will be provided to reinforce concepts.
* Two **midterm exams** will evaluate students' grasp of the theoretical concepts.
* **Quizzes** will be given throughout the semester to evaluate students’ comprehension of the assigned readings.
* Students should complete readings **before class** and come prepared to discuss.

**Materials**

**Textbook:** *Introduction to Programming in Python: An Interdisciplinary Approach* by Robert Sedgewick, Kevin Wayne, and Robert Dondero (Available in the bookstore).



We will also use programs, data, and modules from the booksite: <http://introcs.cs.princeton.edu/python>

**GitHub (Source Control):**

<https://github.com/addiboyer24/CSCI151_InterdisciplinaryComputerScienceI>  
(I will upload lecture materials, code examples, and assignment documents here).

**Lucid Chart (Diagramming Tool):** <https://lucid.app/>

**Microsoft Teams (Meeting Software):** [Download Link](https://www.microsoft.com/en-us/microsoft-teams/download-app)  
(Lectures will be recorded and available for download here).

**PyCharm Community Edition (IDE for Python Development):** <https://www.jetbrains.com/pycharm/download>  
(There are supported versions of this IDE for Windows, macOS, and Linux).

**Python 3.x (Programming Language):** <https://www.python.org/downloads/>

**Course Schedule**

**Important Dates:**

A screen shot of a calendar

AI-generated content may be incorrect.

**Course Schedule (Tentative and Subject to Change\*):**

|  |  |  |
| --- | --- | --- |
| Week/Dates | Topics | Assessments |
| 1 – 2 | Setup, Built-in Data Types. |  |
| 3 | Conditionals, Loops, Arrays. |  |
| 4 | Input and Output. |  |
| 5 | Input and Output (Draw). |  |
| 6 – 7 | Defining Functions. | Midterm Exam 1 *(****Friday October 3rd, 2025****).* |
| 8 | Recursion. |  |
| 9 | Using Data Types. |  |
| 10 | Creating Data Types. |  |
| 11 – 12 | Designing Data Types. |  |
| 13 | Performance. | Midterm Exam 2 *(****Monday November 24th, 2025****)*. |
| 14 – 15 | Sorting and Searching. |  |
| 16 | Final Exam. | Final Exam *(****Monday December 8th, 2025 @ 8:00 a.m. – 10:00 a.m.****).* |

**Grading Information**

Your grade for the course will be determined by the following elements (please mark your calendars for dates in Midterm Exams and Final Exam sections respectively.  I will not offer make up exams (*except under very special circumstances*).

|  |  |
| --- | --- |
| Category | Percentage Weight |
| Labs & Assignments | 40 |
| Midterm Exams (2) | 25 |
| Final Exam | 20 |
| Quizzes | 15 |

**Grading Scale**

|  |  |
| --- | --- |
| Letter Grade | Percentage Range |
| A | 93 – 100 |
| A- | 90 – 93 |
| B+ | 87 – 90 |
| B | 83 – 87 |
| B- | 80 – 83 |
| C+ | 77 – 80 |
| C | 73 – 77 |
| C- | 70 – 73 |
| D+ | 67 – 70 |
| D | 63 – 67 |
| D- | 60 – 63 |
| F | 0 – 60 |

**Course Expectations & Policies**

**Attendance Policy**

Attendance to lectures is highly encouraged (but not required).  *Quizzes, midterms, and final exams will be administered in class, and attendance will be required on those days (****please mark your calendars****).*

**Late Submissions**

**Always** - a 10-minute grace period. Don't forget to turn things in.

**First late assignment** - 10 percentage point deduction.

**Second late assignment** - 30 percentage point deduction.

**Third or more late assignments** - a grade of 0 percent will be assigned.

**How late can late be?** - assignments can be turned in late until the next assignment is due. After that, they will not be accepted and a grade of 0 assigned.

*Exceptions to this policy will be rare.*

**Course Workload**

Students are expected to spend 6–9 hours per week outside of class on coursework and project work.

**Communication**

Participation in class is highly encouraged.  I will often call upon students in the class to answer questions related to the assigned readings (so please come to class prepared to discuss the content covered in the reading for that week).  If you need additional help, please come to office hours after class (see times above) or schedule a meeting with me through Microsoft teams or email.

**Academic Misconduct**

The [Student Conduct Code](https://www.umt.edu/campus-life/community-standards/um_student_code_of_conduct.pdf) at the University of Montana embodies and promotes honesty, integrity, accountability, rights, and responsibilities associated with constructive citizenship in our academic community. This Code describes expected standards of behavior for all students, including academic conduct and general conduct, and it outlines students' rights, responsibilities, and the campus processes for adjudicating alleged violations.

**ODE Accommodations**

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equity (ODE). If you anticipate or experience barriers based on disability, please contact the ODE at 406-243-2243 or [ode@umontana.edu](mailto:dss@umontana.edu), or visit [Office of Disability Equity website.](http://www.umt.edu/disability) for more information. Retroactive accommodation requests will not be honored, so please, do not delay. As your instructor, I will work with you and the ODE to implement an effective accommodation, and you are welcome to contact me privately if you wish.

**Information for Students**

**Land Acknowledgement**

The University of Montana acknowledges that we are in the aboriginal territories of the Salish and Kalispel people. Today, we honor the path they have always shown us in caring for this place for the generations to come.

**Inclusion Policies**

We are committed to an inclusive and respectful learning environment for all students.