CS 149: Introduction to Programming
James Madison University, Spring 2019 Semester, 3 Credits

Home Page:  http://w3.cs.jmu.edu/mayfiecs/cs149

Class Times:
Section 5: M/W/F, 1:25 PM – 2:15 PM

Location:
ISAT/CS 143 (Linux Lab)

Your Instructor
Dr. Chris Mayfield
mayfiecs@jmu.edu

Office: ISAT/CS 208
Phone: 540-568-3314

Office Hours:
M/W/F, 2:20 PM – 4:00 PM
(no appointment necessary)

Goals and Objectives

Official course description:  Fundamental problem-solving techniques using a modern programming language. Topics include variables, input/output, decisions, loops, functions, arrays, and objects. Students learn about algorithm development, testing strategies, and software tools.

By the end of this course, you should be able to:

- Explain fundamental programming concepts (e.g, variables, methods, decisions, loops, arrays, objects) using appropriate terminology.

- Describe basic elements of high-level programming languages, including expressions, statements, functions, modules, and libraries.

- Read and interpret software specifications and write source code from them.

- Use automated software tools and processes to test your programs thoroughly.

- Distinguish appropriate collaboration from cheating on assignments and exams.

- Evaluate your own work for compliance with requirements and style guidelines.

- Develop correct and efficient algorithms to solve problems using computation.
**Methods of Instruction**

Spoiler alert! If you’re hoping for lectures day after day, you’ve signed up for the wrong class. Research has shown that active learning methods are more effective than passively taking notes. This course uses two instructional strategies: *Process Oriented Guided Inquiry Learning* (for group work) and *Flipped Classroom* (for interactive labs). Here is what a typical week looks like:

![Weekly Schedule Diagram]

We will begin each week with a team activity to help you understand core concepts and develop process skills. In preparation for Wednesday, you will read one chapter from the textbook and complete a short online quiz. I will use the quiz results to customize instruction and clarify any misunderstandings about the course material. The other two days will apply concepts hands-on and allow you to practice programming when it’s easy to ask questions. I will also provide videos and other lessons online to reinforce concepts and help you prepare for the exams.

**Please note:**

- Each block in the diagram is about one hour. In a three-hour course, you should expect six hours of homework per week (as shown). How you manage your schedule is up to you, but try to spend some time each day on this course.

- Homework assignments (HW) take several hours to complete, but they could take longer if you get stuck. Don’t wait until the end of the week to get started. Ask any student who has taken this class what that’s like.

- There are benefits to following the above schedule: (1) you will never have homework on weekends, (2) you will be able to ask meaningful questions in class, (3) you will avoid waiting in long lines to get help, (4) you will always turn in work on time.

- I will NOT provide assistance from Friday at 4:00 PM to Monday at 8:00 AM. If you choose to complete assignments at the last minute or after the deadline, you are on your own. I will respond to any emails sent over the weekend on Monday.

- Teaching assistants (TAs) are generally available in the labs from 5:00 PM to 11:00 PM on Monday through Thursday and 1:00 PM to 11:00 PM on Sunday. Do not rely on them to fix your code every time—you will be on your own during the exams.
Required Textbook


http://greenteapress.com/wp/think-java-2e/

This course aligns with my free and open-source textbook. The pdf is available online, or you may purchase an inexpensive hard copy. If you don’t like the book, I won’t be offended. You are certainly welcome to use additional resources, including other textbooks.

Online Interaction

Please bookmark the following websites:

- .../cs149/schedule.html The detailed schedule page on the course website will provide links to activities, labs, readings, videos, and assignments.
- https://canvas.jmu.edu/ We will use Canvas for submitting quizzes, posting solutions, and communicating grades.
- https://piazza.com/ If you have questions about course content or assignments, post them on Piazza rather than email the instructor directly.
- https://autolab.cs.jmu.edu/ Autolab is the automated submission system that we will use for homework exercises and exams.

If you need to schedule an appointment or have a personal inquiry, please don’t hesitate to contact me by email.

Methods of Evaluation

Participation

Weekly activities and quizzes will include a graded component. They are generally due at 11:00 PM on the day they are assigned. You are encouraged to work with other students on these types of assignments during class time. I will drop your three lowest scores in this area to allow for unforeseen circumstances. Extra points may be awarded for insightful questions, answers, and comments made in class and online.

Homework

There will be weekly programming exercises over the course of the semester. You are welcome to discuss the exercises with other students, but the source code you submit must be entirely your own work. Programs will be graded on correctness, documentation, and overall code quality. These assignments will be due on Sundays at 11:00 PM (when the TA hours end).
Midterms/Final

We will have two midterms in class and a comprehensive exam during finals week. Each exam will be two hours: one for written problems, and one for programming. If you must be absent during an exam for a legitimate reason, you must contact me at least one week beforehand to make special arrangements. Failure to make prior arrangements for a missed exam will result in a zero grade.

Grading Criteria

Your course grade will be based on:

- 30% Final Exam
- 25% Midterm #2
- 20% Midterm #1
- 15% Homework
- 10% Participation

Letter grades will be assigned on the scale A=90–100, B=80–89, C=70–79, D=60–69, F=0–59, with potential minor adjustments after considering the overall performance of the class and actual distribution of numeric scores. I will use “+” and “−” grades at my discretion. I do not assign WP or WF grades except in extreme circumstances.

Students who do not earn 60% of the points on the final exam will receive a letter grade no higher than C for the course. You must earn a B– or higher grade to continue on to CS 159.

University Policies

Academic Honesty

If you violate the University’s Honor Code (http://www.jmu.edu/honorcode/code.shtml), you will receive a reduced or failing grade in the course, other penalties may be imposed, and the violation will be reported to the Honor Council. Automated tools may be used on any assignment, at any time, to detect inappropriate collaboration and to determine the originality of submissions.

Adding/Dropping

You are responsible for enrolling in courses and verifying your schedule on MyMadison. The deadline for adding a semester course is Thursday, 01/24/2019 (signatures required after Tuesday, 01/15/2019). The last day to withdraw from a course with a W grade is Friday, 03/15/2019.

Disability Services

If you have a documented disability and need accommodations in this course, please register with the Office of Disability Services (http://www.jmu.edu/ods, Student Success Center, Room 1202, 540-568-6705). They will provide you with an Access Plan Letter to verify your need for services and make recommendations for the course. I will be happy to discuss your access plan with you.
Excused Absences

Students who are unable to attend class due to JMU sponsored activities (such as sports, band, academic competition, field trips, etc) or personal religious observances may request reasonable accommodations. Please notify me during the first week of class regarding potential absences so that we can determine alternative methods for you to complete the required work.

Late Work Policy

Late work will not be accepted for unexcused absences. There will be no make-up opportunities and no extra credit assignments. In extreme, documented circumstances (e.g., hospitalization), the instructor will make reasonable accommodations after consulting with the student.

University Closings

For severe weather and other unexpected circumstances, watch for announcements relating to make-up work. See http://www.jmu.edu/JMUpolicy/1309.shtml for JMU’s cancellation policy. Although the schedule may adapt to canceled classes, assignment deadlines generally do not change.