CS 355: Syllabus -- Fall 2025

Dr. Andy Ramlatchan

1. Course Description

1.1 When and Where

**Lectures:** Mondays, Wednesdays & Fridays, 10:00-10:50AM, DRGS 1117.

**Website:** Canvas and https://www.cs.odu.edu/~zeil/cs355/live/Directory/outline/

1.2 Objectives

As a CS major, you have spent a lot of time writing programs in one or more programming languages. This course caters to those who are curious about those languages. Informally speaking, this course will explore the questions “What?”, “Why?”, & “How?”.

- *What* are the alternative ways that different programming languages resolve an issue?
- *Why* did language X choose the alternative that it did?
- *How* do languages implement those choices “under the hood”?

We will explore the fundamental paradigms of imperative, functional, logical, and object-oriented programming. We will look at lexical and syntactic analysis, type systems, flow control, modularity, and parallel programming.

Most importantly: The point of this course is **not** for you to learn how to program in a variety of programming languages.

The point is for you to learn enough about how programming languages *work* so that you can easily teach yourself new languages and make intelligent decisions about which languages are worth using.

2. Basic Information

2.1 Office Hours

MWF 9-10, or by appointment (strongly encouraged)

DRGS 1103F

2.2 Text

The *required* textbook for this course are is

- *Programming Languages: Principles and Paradigms*, Maurizio Gabbriele & Simone Martini, 2nd edition, 2023, Springer Nature, ISBN 978-3-031-34143-4 (hard-copy), 978-3-031-34144-1 (eBook)

2.3 Course Prerequisites

- A C or better in CS 251 or CS 250 or CS 253 (Programming in Java, C++, or Python)
- CS 252 (Introduction to Unix for Programmers)

2.4 Computer Accounts

Students will need two network accounts to participate in this class:

- An ODU ITS (Midas) account. This is the account associated with your @odu.edu email. It will allow you to log into the course's Canvas site when taking quizzes and exams.

All ODU students automatically receive this account, though you may need to activate yours, particularly if you are new to ODU.

- An account on the CS Dept. network. This will be used for access to the CS dept computing resources, and for accessing and submitting assignments.

You may have a CS account already if you were registered for a CS class last semester. If not, the account setup and password can be initiated at http://www.cs.odu.edu/ by clicking on "Account Creation" under "Online Services".

A few notes about this:

  - Typically, new accounts can be created no earlier than 1-2 weeks before the start of classes.
  - There are time lags in the way that information flows around the University and within the CS network.
    - Typically you will need to have been enrolled in a CS course for 24-48 hours before you can create an account.
    - Once your account is activated, you may need to wait another 24 hours before your account information becomes available to the course website and you are able to access the course's assignment pages.

Students on campus will have access to the CS Dept's PC labs. All students can access the CS Dept's Linux servers and the Virtual Computer Portal from off campus or from other computer labs on campus.

2.5 Software Requirements

2.5.1 Required

- Web browser: Most up-to-date web browsers should suffice for this course. Chrome and Firefox are recommended. Internet Explorer and Safari are discouraged.

Your browser will need to run Javascript, particularly when taking self-assessments, quizzes and exams, which are hosted on the ODU Canvas system.

- ssh, sftp: Any program should do. The CS252 website has some recommendations.
- Java 21 JDKLinks to an external site., used for algorithm demos.

All students in this course are responsible for setting up an acceptable programming environment in advance of the first assignment. Options for doing this are explained in the first week's module.

- Exams will be conducted using SmarterProctoring, which allows the student a choice of live or online proctoring. If a student opts for online proctoring, a Windows or MacOS PC is required and the students will need to install proctoring software on it.

3. Course Policies

3.1 Due Dates

Most assignments are marked with an explicit due date, and are due at the end of that day (11:59:59PM, ET). Where no due date is indicated, the assignment or test is due at the end of the final day listed for the module.

You will find these dates on the outline page and on the course Announcements page on Canvas.

Assignments will be accepted 1 day late at a 10% penalty, 2 days late at a 20% penalty. They will not be accepted later than that.

Except as outlined above, exceptions to due dates will be made only in situations of unusual and unforeseeable circumstances beyond the student's control.

“I’ve fallen behind and can’t catch up”, “I’m having a busier semester than I expected”, or “I registered for too many classes this semester” are not grounds for an extension.

3.2 Academic Honesty

Everything turned in for grading in this course must be your own work.

The instructor reserves the right to question a student orally or in writing and to use his evaluation of the student’s understanding of the assignment and of the submitted solution as evidence of cheating. Violations will be reported to the Office of Student Conduct & Academic Integrity for consideration for possible punitive action.

Students who contribute to violations by sharing their code/designs with others may be subject to the same penalties.

Students are expected to use standard Unix protection mechanisms (chmod) to keep their assignments from being read by their classmates. Failure to do so will result in grade penalties, at the very least.

This policy is not intended to prevent students from providing legitimate assistance to one another. Students are encouraged to seek/provide one another aid in learning to use the operating system, in issues pertaining to the programming language, or to general issues relating to the course subject matter.

Students should avoid, however, explicit discussion of approaches to solving a particular programming assignment, and under no circumstances should students show one another their code for an ongoing assignment, nor discuss such code in detail.

**Use of Online Resources**

You may **not** post details of course assignments, projects, or tests at online Forums, Bulletin Boards, Homework sites, etc., soliciting help.

You may use information that you have not solicited but have located, subject to the following restrictions:

- Just as when writing a paper, if you use someone else’s ideas, you must cite your sources appropriately. Within code, such citations appear in comments.

3.3 Grading

Assignments (10): 50%

Midterm Exam: 20%

Final Exam: 30%

4. Educational Accessibility

Old Dominion University is committed to ensuring equal access to all qualified students with disabilities in accordance with the Americans with Disabilities Act (ADA). The Office of Educational Accessibility (OEA) is the campus office that works with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you experience a disability which will impact your ability to access any aspect of the course, present me with an accommodation letter from OEA so that we can work together to ensure that appropriate accommodations are available to you.
- If you feel that you will experience barriers to your ability to learn and/or complete examinations in the course but do not have an accommodation letter, consider scheduling an appointment with OEA to determine if academic accommodations are necessary.

The Office of Educational Accessibility is located at 1021 Student Success Center, and their phone number is (757)683-4655. Additional information is available at the OEA website.