Welcome to CS111!

Wellesley in Tech campaign:

https://wellesleyintech.squarespace.com

Introduction to CS111

Part 1: Logistics

CS111 Computer Programming

Department of Computer Science
Wellesley College

Am I in the right class?

- CS111: Computer Programming and Problem Solving introduces the fundamentals of programming and problem solving techniques using Python. It is for students who have not taken a full introductory programming course before. It is also the first required course in a CS major or minor. CS111X (a labless section) is for students with some prior programming experience.

- CS112: Introduction to Computing for the Sciences similar content to 111 but applied to concepts at the intersection of chemistry and physics.

- CS121: Intro to Game Design teaches some programming in C# along with game design and criticism.

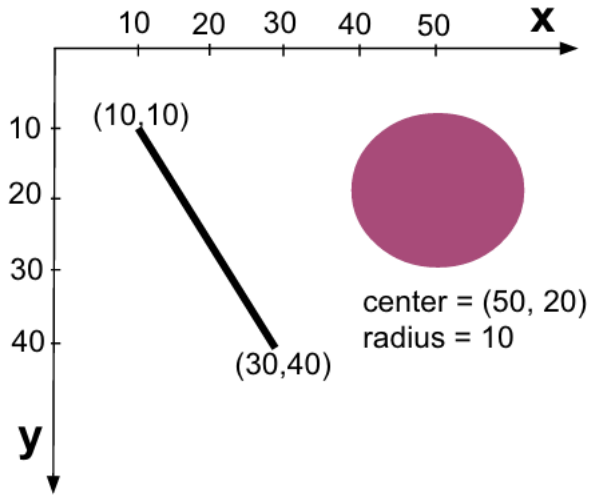
- More advanced concepts are taught in CS230: Data Structures (2nd required course in CS major/minor) and CS204: Introduction to Front End Web Development (elective). If you've already taken an introductory programming course, talk to a 230 and/or CS204 instructor to see if these courses are right for you.

Prerequisites

- **No previous exposure** to programming or computer science expected
- No advanced mathematics expected (esp. no calculus)
- Need comfort with some basic math concepts (a subset of the **QR** component of the QR&DL):

From geometry:

- The two-dimensional coordinate system (x,y coordinates) and angles in degrees.
- Drawing geometric shapes on a plane based on coordinates, e.g, lines, circles, polygons.



From algebra:

- Mathematical operations (addition, subtraction, multiplication, division, exponent) with variables. Examples: `10*x + 25; sqrt(a2+ b2);age = currentYear - birthYear`
- Translating English sentences into expressions with operators and values. Example: Approximate minutes you spent eating in a week: (15 + 30 + 40) * 7

Lectures and Labs

- Two 75-minute lectures per week introduce and discuss material.

- A weekly 110-minute lab* provides hands-on experience with ideas presented in lecture. Students in CS 111X do not have a lab.

- This semester, there are two lecture sections and six lab sections, taught by six instructors total (Professors Gadiraju, Turbak, Melnick, and Mawhorter)

  [see next slide]

- Please note that each instructor has individual course policies, which you can see on our course website: https://cs111.wellesley.edu/info/section-info

*This does not satisfy the Wellesley laboratory requirement.

Instructors

Professor Vinitha Gadiraju

Professor Peter Mawhorter

Professor Sara Melnick

Professor Lyn Turbak

Everything you need: CS 111 Website

https://cs111.wellesley.edu

Materials for the course

- All course materials may be found online at:

  http://cs111.wellesley.edu

- Textbook - you don't have to buy one. We will rely on our slides and Python notebooks from class plus resources available on our website, particularly Allen Downey's Think Python online book. (https://greenteapress.com/thinkpython2/html/index.html)

Expectations on Slides and Lecture Notebooks

- Lecture slides are posted on the website in advance. **We expect you to read the slides before coming to class**. Bring questions from your reading to ask in class.
- Most lectures have Python notebooks containing interactive examples and exercises, some of which may be covered in lecture. The examples in these **lecture notebooks** are **ungraded**, which contrasts with the **graded exercise notebooks** that are part of your coursework (see the next slide).
- During class time, we will discuss concepts that are challenging and do some examples on the whiteboard.
- We typically do not cover all slides and notebook material in class, and **it is your responsibility to review uncovered material after class**.
- Together, slides and lecture notebooks are our notes for the course.
- At the end of each slide deck, there are usually questions which help you test your knowledge.
- We post solutions to lecture notebook problems on the website.

CS 111 Coursework

- **Part 1: Exercises.** Every week there will be "drill" exercises on dedicated exercise notebooks that can be submitted automatically to show your understanding of the material. These are typically due on Mondays at 11pm.

- **Part 2: Projects.** A project is a collection of tasks that are more complex than drill exercises. You may work individually or with another student (pair programming). In many weeks you are required to do only one task and you choose which one. In some weeks you might be required to complete more than one task. We encourage you to do more than the minimal number of tasks in order to learn more. Projects are usually due on Tuesdays at 11pm.

CS 111 Coursework (continued)

- **Part 3: Quizzes.** These will take place in lab (on Wed or Thurs). On Wed and Thu evenings (7-9:30pm in H105) we also have "evening quiz sessions" for retakes. You have 15 minutes to take the quiz, and can use paper notes but cannot use the computer to search for answers or execute code. Students can retake the quiz for a better grade within one week of the first try. Retakes happen on the evening sessions only.

  Quizzes are intended to give you opportunities for self-assessment and self-regulation, both very important skills for becoming a life-long learner.

- **Part 4: Exams.** There are two 75-minute in-class midterms (see Calendar). There is also **an in-person, scheduled final exam** to take place during end-of-semester exam period. Date to be announced later in the semester. These exams are open notes, but without access to a computer or other electronic devices.

Coursework at a glance

Spring 2025 Schedule

Key: **Today** *Info* Lecture Lab Project Out Project Due Quiz Evening Quiz Session Exercises Exercises Due Connections Due Exam

If a deadline conflicts with a religious holiday you observe (that's not listed), please contact your instructor to discuss accommodations.

Jump to: **today** | **Lectures** | **Labs** | **Projects**

MON	TUE	WED	THU	FRI
24	25	26	27	28
Exercises 5 due (sequences and loops)	Lec 10: Sequences & Loops 2	Lab 6: More loops	Lab 6: More loops	Lec 11: Lists and Memory Diagrams
Exercises 6 out (lists and memory diagrams)	project05 due 11pm	Quiz 5 (Sequences and loops)	Quiz 5 (Sequences and loops)	Connection topic
	project06 out (lists and more loops)	Quiz 4 retake (Conditionals & While loops)	Quiz 4 retake (Conditionals & While loops)	

Extension and Attendance Policies

- Each instructor/lecture section has individual extension, attendance, and participation policies.
- Your instructor will discuss their policy on the first day of class. You can also view their policy on the course website: https://cs111.wellesley.edu/info/section-info

Quiz Policies

- For every quiz, there are **three** versions:
  - (week 1) A **study guide** is effectively an *ungraded* pre-take version of a quiz. It includes problems on material that has been introduced in lecture/lab, but typically before students have completed a project on this material.
  - (week 2) The **regular** quiz is the first *graded* version of the quiz, typically given after students have completed a project on the material tested by the quiz.
  - (week 3) The **retake** quiz is the second *graded* version of the quiz. It allows students to improve their score (up to 100%) on any learning goal.

Quiz study guides are linked at the bottom of the corresponding lecture pages.

Grading Policy

This course is **mandatory credit/non-credit**.

Your course grade will be based on the following components:

- Exercises
- Project Coding
- Quizzes
- Midterms and Final exam
- Attendance/Participation

In order to earn credit for this class, the criteria below must be met:

- Your average of the three exams in this course (two midterms and the fixed final) must be greater than or equal to 65
- Your average in each of the other categories -- namely, quizzes, exercises, and projects -- must be greater than or equal to 75 in each category
- You comply with your lecture section's attendance and participation policy.

If you meet **all** of the above criteria, you will earn credit for this class. If there is some criterion that you do not meet, you will not earn credit for this class.

Honor Code Policy for **Quizzes & Exams**

- All quizzes and exams **MUST** be your own work. Any form of collaboration with others is **a violation of the Honor Code**.
- On all quizzes and exams, no computers or other electronic devices (including mobile phones) are allowed. Any such use of computers or electronic devices is **a violation of the Honor Code.**
- Quizzes and exams are **open notes**, so written materials (the ones we have provided or your own notes) **are** allowed for reference.

Collaboration Policy on Projects & Exercises

- You may collaborate with all your peers who are taking CS111 this semester on **exercises and projects**. This means working together, side by side either in person or virtually, inside or outside the class.
- You can collaborate with only 1 other person on projects. You may collaborate with more than 1 person on exercises.
- When you are partnering with another student, you can submit the same code if you were both present while writing all code. However, you cannot submit the code that the partner(s) wrote without you being present. **This is a violation of the honor code.**
- Whenever you collaborate with other students in the class (even briefly, such as asking a question), always **acknowledge this collaboration** in writing (you'll learn how in lab).
- No collaboration with students from prior semesters or other CS knowledgeable people (e.g. family members, friends, etc.) is permitted. Notes and materials from these individuals are not allowed either.
- When collaborating, keep in mind that each lecture section has a different extension policy.

AI-Powered Tools Policy

Using AI-powered tools (see below) is considered equivalent to consulting a student who took CS 111 in prior semesters or any other CS knowledgeable person. Given that such consultations are prohibited, the use of AI-powered tools for learning and completing any type of assignment is also prohibited, unless explicitly allowed on a specific task.

AI-powered tools

- **Generative AI tools** - these are tools such as ChatGPT or DALL-E2. They are capable of generating text or images on demand.
- **AI-assistants embedded in IDEs** - an IDE is an Integrated Development Environment that is used for programming, e.g. Thonny.

Read our full AI-powered tools policy on our website to learn more.

CS 230 Recommendation

The CS111 instructor team will give a recommendation of whether a CS111 student is prepared to take CS230 immediately after CS111, or if the student would benefit from taking another CS class prior to enrolling in CS230.

In order to get a positive recommendation to take CS230 immediately after CS111, all of the following criteria must be met:

- Either your exam average or quiz average must be >= 85 **and** both your exam average and quiz average must be >= 75. Your exam average is the average of the three exam scores (from the two midterm exams and the final exam).
- Your average in each of the other categories (exercises and projects) must be >= 85 in each category.
- You comply with your section's attendance and participation policy

If all the above criteria are not met, the CS111 student will not be recommended to take CS230 directly after CS111. Instead, you must take another course, such as 200 or CS230P, if you wish to make progress in CS.

Need help or support?

- Regular **drop-in hours with tutors** support questions on project tasks or concepts (see the website calendar), in person or over Zoom
- Regular **drop-in hours or scheduled appointments with instructors** support questions on projects, concepts, logistics, or anything else (see the website calendar), in person or over Zoom
- A Sakai Q&A forum (you'll be added to this)
- Create study groups with your **classmates**, abiding by the honor code (working together is fine, but do not copy the work of others, more in the next slide)
- **Individual tutoring** through the PLTC