Fall 2025 Syllabus

Changes for Fall 2025

Relative to Spring 2025 we've made a few minor changes to CS 124 for the Fall 2025 semester:

- Added information about AI tools and potential costs to students
- We've reduced the number of quiz attempts from 3 per quiz to 2 per quiz, allowing only one retake per quiz
- We've reduced the number of quiz drops to 2 from 3, in light of the new quiz retake policy
- The quiz grade component has been increased from 60% to 70% and the MP component reduced from 30% to 20%
- Added a tentative grading scale and note about why we don't give A+ grades

Overview

This course is an introduction to the concepts and craft of computer science. It will teach you to both *think* and *act* like a computer scientist. It will change how you approach problems and provide you with powerful tools that you can use to change the world for the better—whether you write code in the future or not.

Computer science is both an applied anc
to program in this course, to allow you t
frustrating at first. Computers are irritat
ability to formulate clear and correct prc

But programming is a skill. You will get better with practice. And you will get lots of practice! Computers are the most powerful tools that we have at our disposal to solve almost any problem. Learning how to get them to do your bidding is extremely empowering. You will quickly come to understand the hacker's lament: you can do anything, but you can't do everything[1].

Learning to program also trains you to think—to formulate correct and complete problem-solving plans and express them clearly. To solve a programming problem you must first read and understand the written description. Next, you must formulate a plan to solve the problem, which frequently requires correctly handling unusual situations. Next, you must write your plan down in a precise way that the computer can understand. At that point we'll evaluate your submission to ensure that it fully solves the problem. If it doesn't—which it probably won't on the first few tries—you'll need to understand the problem and adjust your plan accordingly.

Reading comprehension. Planning. Precise expression. Accepting, understanding, and fixing mistakes. These are intellectual abilities that you will develop through programming. But they are *not* limited to programming, and you will find them useful regardless of how you end up solving problems in the future.

While programming is important and enjoyable, computer science has deep conceptual concerns at its core. You'll learn to design solutions to problems so that computers can carry them out efficiently. We call these algorithms. Designing computer algorithms requires clarity and precision that will improve your ability to solve any problem. And then you get to build your solutions and deploy them to billions of people across the world. **No other field has this potent mixture of left-brain analytics, right-brain creativity, and global impact.**

Description and Prerequisites

From the course catalog:

- Description: Basic concepts in comp
  solving computational problems. In
  science majors and others with a de

- Prerequisites: Three years of high school mathematics or Math 112.

Required Materials

There is no required textbook for CS 124. All daily lessons are posted on this website.

You will need a personal machine capable of running Android Studio to complete the longer multi-part Android programming project assigned in the second half of the semester. For most students, a personal laptop or desktop computer is sufficient. If you do not have access to a personal computing device meeting these requirements, please see our laptop loaner program information for details about university programs that provide free laptop loans for the semester. If you are really stuck, please contact the instructor to discuss your options. We want every student to be prepared to succeed in CS 124!

For Fall 2025, students will probably also need to purchase access to an agentic AI programming companion for use during the MP: either Claude Code, Junie, or something similar. We are exploring options and will do our best to keep the cost down.

As approximate price points, one month of Claude Code Pro costs $20. One month of Junie is similarly priced, between $10 and $20. Students may need to purchase at most two months of access to these tools. (Unfortunately, fall break falls between the start and the end of the machine project, extending the project period by one week.)

While there are cheaper and free options, we want CS 124 students to be exposed to the best available AI technologies—so-called *frontier models*. At present the best AI coding tools are both much, much better than inferior approaches—like copying and pasting to ChatGPT—but also cost money. Please see our statement on AI for more details. We believe that you will benefit greatly from this small investment in exposure to the future of programming.

Learning Objectives

CS 124 works on both conceptual and sk
and we teach you how to *do*.

Conceptual Objectives

When you finish this course, you will be able to:

Outcome	Assessment
Develop algorithms to effectively solve problems using computers—including both iterative and recursive algorithms—and *reason about their computational and storage requirements*.	Class participation and quizzes.
Describe how computers represent, structure, and manipulate data—including numbers, strings, and multimedia data including images and audio.	70% correctly identified marks outcome achieved.
Explain the importance of core Java or Kotlin software development concepts—including object orientation, object types, encapsulation, and inheritance.	
Understand runtime and design tradeoffs between different algorithms, data structures, and data structure implementations.	

Programming Objectives

When you finish this course, you will be able to:

Outcome	Assessment
Design and implement small and medium-sized Java or Kotlin programs that perform straightforward operations on simple data types, using iterative, object-oriented, and recursive approaches as appropriate.	Machine project and daily homework.
Learn to use modern Java or Kotlin software development tools—including an inte and debugging environment (Android version control (Git), test-driven develc convention tool (`checkstyle` or `ktl` (Gradle), and pair programming techni	

Outcome	Assessment
Utilize standard Java or Kotlin features and libraries—including objects and simple built-in data structures.	
Debug and test Java or Kotlin programs.	
Use programming to solve problems in other domains.	

Preparation

CS 124 assumes no knowledge of computer science or prior programming experience. However, the course is a fair amount of work. Those looking for a gentler introduction may consider taking CS 101, CS 105, or CS 107.

Some students in CS 124 have no experience with computer science. Others have been programming for years. But our goal is for everyone to succeed! In Fall 2024, the grade gap between students with and without prior experience was only 2%, and 82% of students earned an A grade! Regardless of whether you've programmed before, you can succeed in CS 124.

If you're new to computer science...

Welcome to the most exciting field on Earth! We're extremely happy to have you. We know that it can be hard to get started, but trust us—you'll get better with practice. Programming is a skill. The more you do, the better you get. If you're willing to put in the time and energy, we're here to help you succeed. And you will.

When you're starting something new, it's normal to occasionally feel frustrated or intimidated by those around you. We we
things at least once in a while. So we kn
matter how it may seem, there are a lot
beginners too. And if you're working har
then it just means that you're learning m

Also keep in mind that computer scientists can get extremely excited about what they know. Our field is awesome, and we're all learning new things all of the time. Unfortunately, sometimes that can come off as boasting or bragging. Don't let it get you down. We want you to share in the excitement, and will do our best to make sure that happens.

If you kind of already know what you are doing...

There's so much more to learn! No matter how much background in computer science you have, there are always new areas to explore, new languages to learn (like Kotlin!), and new problems to solve. Even if you don't find every aspect of CS 124 challenging, we hope that it can continue to move you forward on your journey in computer science. Keep in mind that continuing to develop as a programmer requires practice. If the MP checkpoints don't take you that long, then you aren't getting the practice that you need to keep improving. You might want to join the honors section, get involved with the ACM (Illinois Chapter of the Association for Computing Machinery), or just make sure that you have some side projects to keep you busy.

And please feel free to help other students in the class that might not know as much as you. One of the best things about computer science is the community of generous and patient people willing to help beginners get started.

If you *really* know what you are doing...

Perhaps you should sign up for the CS 124 Proficiency Exam and bypass CS 124 entirely?

General Education Information

CS 124 meets the University of Illinois General Education Requirements in the Quantitative Reasoning 1 category.

FAQ

Here are answers to some commonly-as

I want to register for a lab, but it' you help me?

No, sorry. **We have absolutely no control over registration.** You'll need to talk to an academic adviser.

I added the course late. What do I do?

We have special instructions for you here.

Design

Moved here.

People

Hi, I'm Geoff! I teach CS 124.

You can call me "Geoff", or "Professor Challen" if "Geoff" makes you uncomfortable. Please don't call me "Challen"—I prefer "Geoff". You can learn more about me from my profile or through my personal website. I'll also be hanging around during in-person tutoring on Tuesdays at CIF, so feel free to come by if you'd like to chat.

CS 124 is a large course, and so most of your interaction will be with my fantastic team of course tutors. You can learn more about them through our tutor directory, since many have profiles or introduction videos posted.

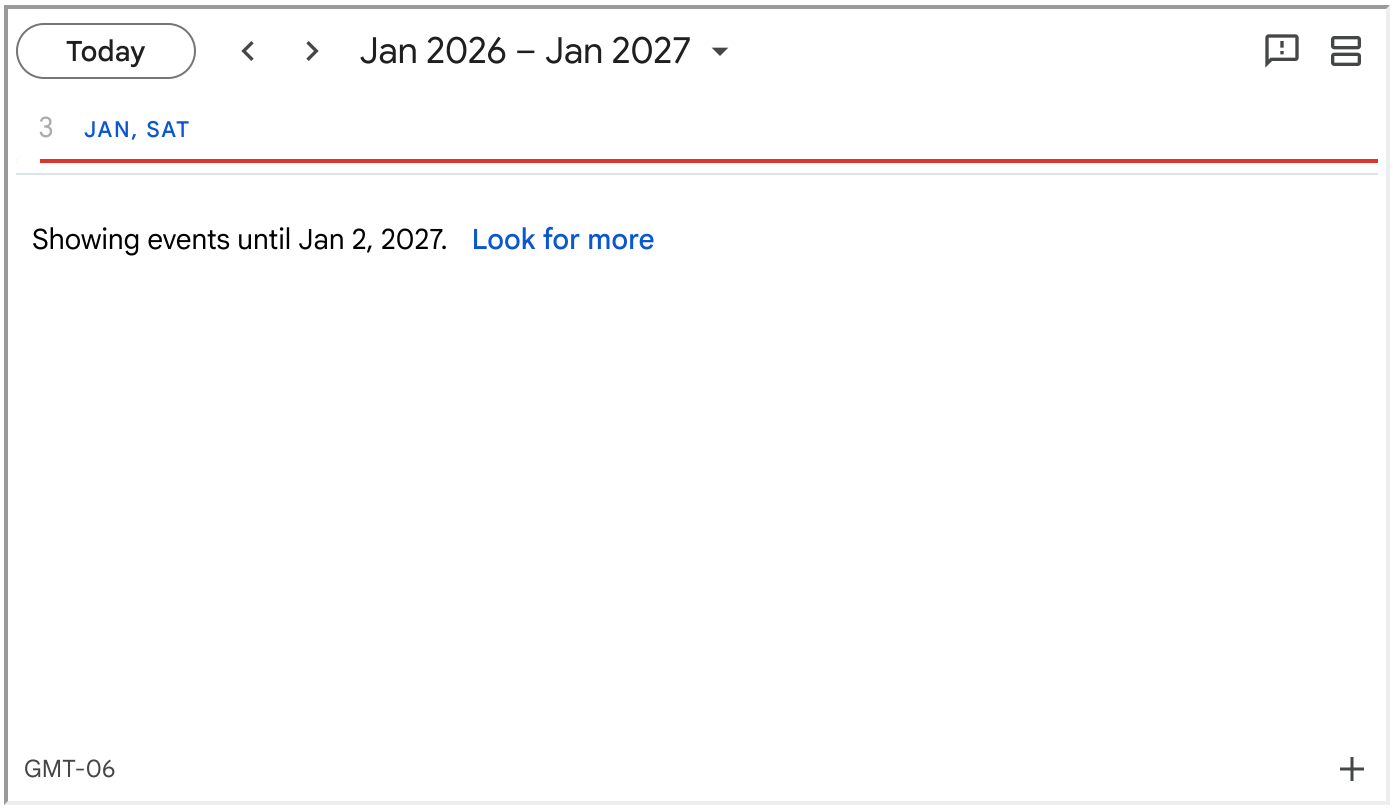
Activities

CS 124 consists of daily lessons and tutoring. You'll do some work on CS 124 every day, and a lot of work on CS 124 on some days.

Daily lessons are designed by Geoffrey Challen, who has primary responsibility for course content and administration. You'l
Colleen Lewis, who co-taught CS 124 i
walkthroughs and videos. Undergraduat
and in-person tutoring at all hours of th

Calendar

We suggest that you add our course calendar to your calendaring program. All course programming, deadlines, and other activities will be posted on this calendar.



We have a description of all posted activities maintained on this page.

Lessons

Programming is a skill. And the best way to learn to program and to get started with computer science is to do a little bit *every* day.

CS 124 course content is delivered through a series of daily *lessons*. Each lesson introduces new material through a combination of text, video, and interactive walkthroughs. Throughout each lesson are practice problems, and at the end of each lesson are one or two homework problems to complete to demonstrate your understanding of the lesson's content. You should set aside time each day to review each lesson and complete its homework

Quizzes

Each 50-minute quiz emphasizes the ma
everything covered up to that point is fa
multiple-choice questions covering cour
questions and debugging challenges. The programming questions will be similar—

but not identical—to the previous homework problems. Keeping up with the lessons will prepare you for each quiz.

CS 124 quizzes will be given on Mondays and Tuesdays throughout the semester. Quizzes are taken in the Illinois CBTF, and scheduled using the CBTF scheduling website. You self-enroll in our PrairieTest course using this link. Make sure you log in using your Illinois NetID and password.

If you miss your CBTF reservation in a given week, we will not arrange for you to have another opportunity *during that same week*. You are responsible for signing up to take them and showing up at your assigned time. However, you may have an opportunity to retake some of the same quizzes again next week: see the quiz retake policy. Quizzes that you miss or do not attempt will be subject to the quiz drop policy.

Tutoring Site

All course tutors participate in providing individual assistance through our tutoring site. Tutoring hours will be posted on the calendar.

Communication

CS 124 is a large class. This makes it important for us to communicate with each other in effective ways.

We have set up a comprehensive and well-organized course website and forum to help you find what you need to know. Our goal is to avoid email and other 1-to-1 forms of communication that don't scale well to large numbers of students.

There are two primary sources of information for CS 124:

1. This website
2. The course forum

Most policy questions are answered in th
search the forum—maybe another stu
already answered it. If you still can't find
forum.

What You Are Responsible For

You are responsible for email sent to your `@illinois.edu` email address. We will *occasionally* use a course email list to send important announcements, particularly at the beginning of the semester.

You are responsible for messages posted in the announcements forum category. These announcements are important and we will frequently post in this category in lieu of using email. You can configure our course forum to send emails each time a topic is created in a specific category. We would suggest that you do that—or plan on visiting the forum each and every day. In fact, both are good ideas.

Contacting the Course Tutors

Please do not email course tutors with general course questions.

You may think that someone spending five minutes responding to your email is not a huge problem. But five-minute responses to 500 students consumes *40 hours*. Help us help everyone, and post your question on the forum.

You should absolutely never directly message a course tutor. All tutors are instructed to not respond to direct messages. If you persist in attempting to contact them, disciplinary action may result.

This is not because we don't like you. It's simply because there are a lot of you, a much smaller number of us, and *many* of your questions are shared by other students. If you email us, we can answer your question to one person: you. (And right behind your email is another asking the same question.) If you post on the forum, we can answer your question onc
your question has already been answere
for you.

Here is a general guide about how to coı

- *I need help installing (insert name c
- *I'm confused about (insert name of concept here)...:* post on the forum.

- *I need help with (insert any CS 124-related item here)...:* post on the forum.
- *I can't find (insert name of CS 124-related resource here)...:* post on the forum.

You can probably see the pattern emerging here.

In contrast, here are some cases where you *can* and *should* contact Geoff:

- *I think that my friend is cheating in CS 124*: contact Geoff.
- *I'm really sick and getting behind in the class*: contact Geoff.
- *I'm feeling really overwhelmed and need someone to talk to*: contact Geoff, or an academic advisor, or a friend, or a counselor, or access mental health resources on campus.

In these cases please reach out to an instructor, either directly via email or using a private message on the course forum.

Collaboration

Learning computer science requires hard work and practice. CS 124 has specific policies about when and how you may collaborate with other students. These policies are designed to support your learning. If you subvert them, you are not getting the practice that you need to improve.

Unless specifically permitted, all work submitted for CS 124 must be your own. We describe exceptions that apply to homework problems and to portions of the machine project below.

Cheating in CS 124 may result in a grade
or dismissal from the University of Illinoi
that want to learn computer science. We
that don't want to learn.

Specifically, the following activities const
according to the relevant departmental and university policies.

You may not:

1. Turn in work that was completed by anyone other than yourself.
2. Copy or paste code that you did not write from any source.
3. Misrepresent your work as the work of another student.
4. Examine another classmates solution, reproduce it, and submit it as your own work.
5. Share information about the content of quizzes or other private course assessments with other students.
6. Publish your coursework anywhere where other students can find them.
7. Email or share your code with anyone in the class now or in future semesters.
8. Work on the MP without your partner if you have chosen to work with a human partner.

This includes publishing your MP publicly on GitHub. Employers are typically uninterested in seeing your solutions to assignments that have also been completed by hundreds of other students. If you want to impress them, fill your online portfolio with independent creative work. We'll help you get started with Android development this semester, which will allow you to pursue independent projects after completing CS 124. You may also want to look into completing a project as part of the CS 124 honors section: CS 199 124.

We *will* run cheating detection software on all submitted student work. These programs are extremely accurate, and any evidence of cheating that they uncover will initiate academic integrity violation proceedings. **In Fall 2024 we filed 37 FAIR violations almost all of which resulted a letter grade reduction.** We are serious about this, and ask you to be serious about learning.

A Rule of Thumb

A general rule of thumb is that exchangi
problems is *not* cheating, but exchangin
solutions with other students as long as
view your source code. If you are speaki
language that's fine. If you are exchangi

Penalties

If you are caught cheating in CS 124 you will *definitely* receive a FAIR violation. Depending on the severity of the situation, you may also have any of the following penalties applied:

- A letter grade reduction in the class.
- An F in the course.

Homework Collaboration

You may find it helpful to collaborate on the homework with others. This is permitted in CS 124, subject to the rules outlined below.

The goal is to support each other's learning and practice talking about the problems and computer science together. However, there are lots of ways to work together that could lead to you both learning less than if you had worked independently. And please keep in mind that you will need to complete the weekly quiz on your own, and the homework problems are a critical way to prepare for the quizzes.

If you are interested in collaborating on the homework problems, you may do so freely. We encourage you to find good collaborators. A good collaborator is someone who works at a similar pace and who you feel comfortable exchanging questions with. When you complete the problem, you should both feel confident that you understand the problem you worked on together, and could tackle it on your own. Since you will need to on the next quiz!

You *may* examine code written by your collaborators—either in person or virtually. However, you *may not* electronically directly transfer or receive source code. Our homework problems prevent you from c
approach won't be helpful. All collaborat
expect to see small differences even fror

One final thing to keep in mind is that th
help! You'll find helpful tutors on our tut
night. In many ways, our tutors are better prepared to collaborate with you on your

homework than other students. They have completed the problems, but are still not experienced enough to quickly notice every mistake. And, most importantly, they are trained to help you in ways that enable your learning, not just quickly lead to you to a solution. Unlike another student trying to complete the same problem, their only stake in the outcome is your learning!

MP Collaboration

We will teach you how to effectively utilize AI coding agents and expect to use them to complete the machine project.

We are still deciding whether to allow students to work with a human partner this semester. We will post more information on collaboration options once we have made this decision.

Regardless of how you choose to work on the project, your submissions will be checked for plagiarism in the same way, and you are always expected to adhere to CS 124 collaboration policies.

Grading

Your grade in CS 124 is determined by your work on the daily homework (10%), weekly quizzes (70%), and longer multi-part Android programming project (20%).

There may also be opportunities to earn extra credit during the semester. Stay tuned!

Grade Components

Your total score in CS 124 is broken dow

Component	%	Assessme
Quizzes	70%	14
Machine Project (MP)	20%	~4

Component	%	Assessments
Homework	10%	~70

These weights are designed to reflect both the amount of time that students spend on each part of the class and the differences between the proctored and unproctored environments. You will spend most of your time completing the MP and homework problems. That is where you will get the practice that turns you into a computer scientist and hacker. The quizzes give us a chance to evaluate your abilities in a controlled setting.

Details about each grade component are included below.

Estimating Your Letter Grade

Letter grades in CS 124 are assigned based on how well *you* do, not on your performance relative to other students. **We have an unlimited number of A grades!** If everyone learns the material, everyone will make an A. Our goal as tutors is to help everyone succeed.

Inevitably the difficulty of various parts of the course varies from semester to semester. We do not release the final grading scale until the end of the semester. Please do not ask us to estimate your grade.

Instead, focus on learning the material to the best of your ability. Programming in particular is a skill—the more you do, the better you get. Focus on doing as much as you need to become proficient, rather than the amount required to make a particular grade.

Approximate Grading Scale

During previous semesters, we have used the following grading scale:

- >= 93.0: A
- >= 90.0: A-
- >= 87.0: B+
- >= 83.0: B
- >= 80.0: B-
- >= 77.0: C+

- >= 73.0: C
- >= 70.0: C-
- >= 60.0: D
- < 60.0: F

We reserve the right to make adjustments before assigning final grades, depending on how the semester goes. That said, it is *extremely unlikely* that we will move the grade cutoffs upward[(2)]!

Note that CS 124 does not give D+ or D- grades.

Grade cutoffs are firm and we do not round your final score. The boundaries need to be somewhere, and there's always someone right below (and above) them wherever we place them. And regardless of what people tell you—yes, it can hurt to ask for an undeserved grade "bump" or some form of grade-motivated special treatment, since you're asking the instructor to do something unethical and unfair, and that will negatively affect their opinion of you. If you don't get a response to a grade bump email, that may be why.

We also do not give A+ grades. Once you have an A grade in CS 124, you are well-prepared for later CS courses. We do not want to create additional stress or stoke perfectionist tendencies for students who are already doing very well in the course. If you have an A grade, we have plenty of ideas of things you can do that are *much more* worthwhile than grinding harder for an A+: touch grass, get more sleep, talk to people, read a book, run around outside, get in touch with grandparents or other relatives, meditate, perform random acts of kindness. Already doing those things and *really* want more computer science? Start or continue working on an independent project! Any of these activities will help you make the best of your one wild and precious life. (Getting an A+ in CS 124 will not.)

Note that CS 124's policy on A+ grades is similar reasons.

Midterm Grades

Per university policy, we are required t
semester students enrolled on campus fo
for counseling purposes and are not recorded on your permanent record.

Midterm grades will be calculated using the same grade components as your final grade (homework and quizzes). Note that the machine project has not yet started at the midterm point, so it is not included in the midterm grade calculation. We will use a simplified grading scale:

- >= 90.0: A
- >= 80.0: B
- >= 70.0: C
- >= 60.0: D
- < 60.0: F

If you receive a midterm grade, remember that this is only for counseling purposes. Your final grade will be calculated using the full grading scale and will reflect your performance across the entire semester, including the machine project. Midterm grades are simply a snapshot of your current standing to help you and your academic advisors assess how you're progressing in the course.

Posting Grades

CS 124 maintains its own gradebook on the course website. We do not post grades on other websites or platforms.

Homework (10%)

Learning to program takes regular consistent practice. When you are getting started, you'll tire quickly from this engaging right-left brain activity. So it's better to do a bit each day than large amounts in one sitting.

Each CS 124 lesson contains a small prog
Some contain debugging challenges as v
debugging challenge will help ensure th
quiz. Quiz programming problems will b
the homework during the previous week

Late Submission Policy

It is extremely important that you keep up with the daily homework. If you fail to complete the homework regularly, you will struggle on the weekly quizzes, which draw heavily from concepts reinforced by the previous week's homework.

However, we also want you to *complete* the homework, even if you don't get to it right on time. To balance these competing objectives, we are allowing you to complete *eight* homework problems late for full credit. Late homework must still be completed, and must be completed within a certain time after the original due date: usually five days. After that point you will not earn credit—there is no partial credit given for submissions after that point. This will be clearly marked on each homework on the grading page. One consequence of this change is that, to earn full credit on the homework, you *must* complete all homework problems!

Quizzes (70%)

70% of your grade is for performance on 14 weekly timed quizzes. All quizzes will be given in the Illinois Computer-Based Testing Facility (CBTF) and scheduled via their scheduling tool.

CS 124 quizzes consist of a mixture of multiple-choice questions, programming questions, and debugging challenges. All questions are automatically graded. Unlike other "top" CS programs, we evaluate your programming not on paper but in a much more sane setting: using a keyboard, and with automated computer-generated feedback to help you identify and correct your mistakes. You know—the way you'll actually write code in the real world.

No course tutors are involved in grading CS 124 quizzes, so please do not appeal your grade to the tutors. If you themselves, please share your concerns scores using our online grading page.

Format

Quiz questions are a mix of multiple-cho small programming problems, and debugging challenges. Programming problems

may be drawn from previous homework or appear later as homework.

Most multiple-choice questions allow unlimited attempts, albeit for a decreasing number of points. We do want you to eventually find out what the right answer is, even if you didn't know it at first.

You have *unlimited* attempts at the programming problems and debugging challenges without losing credit. At this stage, we **want** you to practice—and we won't penalize you for doing so. However, obviously you do not have an unlimited amount of *time* to complete the quiz.

The multiple-choice questions should be easy if you have following along with the daily lessons. **You may find the programming questions and debugging challenges more challenging.** Programming under time pressure can be difficult and stressful. You don't have unlimited time or access to resources such as the tutors or the internet. However, we believe that there are small programming and debugging tasks that you should be able to complete as the semester goes on *without* needing to look up things online or ask for help.

Quiz Preparation

Quizzes focus on material covered since the previous quiz, but all material covered to that point in semester is fair game. **The best way to prepare for a quiz is to complete the previous lessons.** Read the lesson, watch the videos and walkthroughs, and interact with the examples, attempt the practice problems—and then complete the homework problem and debugging challenges. If you engage with the course content on a daily basis, you will not need to cram material right before the quiz.

Drops and Missed Quizzes

Do not contact the tutors regarding n
quiz scores when computing the quiz co

If you miss a CBTF reservation, you will r
reschedule. However, the ability to resch
guaranteed. We will not extend quiz win
quizzes.

Quiz Retakes

Our focus is making sure you learn everything we need to teach you by the end of the semester. Staying on schedule is critical to success in CS 124, since if you get too far behind, you won't make it to the finish line within the fifteen weeks we have together.

However, we also know that not every student learns the material at the same pace, and we also want you to be able to learn from your mistakes on the quizzes. To support this, in Fall 2025 we're allowing you to return once to each quiz during subsequent CBTF reservations, to complete questions you missed and demonstrate your understanding of previous material.

Here's an example of how this will work during the first few weeks of the semester:

- Week 0: Quiz 0 is new
- Week 1: Quiz 1 is new, you may return to Quiz 0
- Week 2: Quiz 2 is new, you may return to Quiz 1
- Week 3: Quiz 3 is new, you may return to Quiz 2

This pattern will continue for the rest of the term. In each quiz section you'll have a new quiz to complete based on the material you learned recently. You'll also be able to return to the quiz you took previously, to correct your answers and improve your score. But you can't return to *any* previous quiz: In the example above, once we reach Week 3, Quiz 1 is no longer available.

Each week you'll have 50 minutes to complete all questions from available quizzes that you haven't yet correctly answered. In the example above, during Week 2 all of the new Quiz 2 questions will be available to answer, as well as any questions you didn't answer or answered incorrectly from Quiz 1. **You do not need to repeat questions once you answer them corr** questions correctly during Week 2, the fi improve your score and that quiz won't b

The goal of this policy is to allow you to l you to review material that you didn't un best if you do your best to prepare for ea

get and stay two weeks behind, this will not work out well, and you will lose the opportunity to improve your previous work.

Also keep in mind that you have at most one 50-minute CBTF reservation per week, during which you must complete the new quiz and correct answers from the previous quiz. We are also not planning to make significant changes to quiz length this semester. CS 124 quizzes are designed to be completed comfortably within your 50-minute CBTF reservation. However, trying to finish two quizzes during that same amount of time will definitely create more time pressure. Please keep this in mind.

Quizzes may change from week to week—meaning that Quiz 1 may include different questions in Week 2 versus Week 1, or the questions may have different correct and incorrect answers. This is to prevent you from trying to memorize the content in hopes of doing better during the retake.

How many points are available for previous quiz questions will vary. We anticipate that, for the multiple-choice questions, we'll use something similar to the following approach.

- The first time you see a multiple-choice question, you'll have one attempt for full credit
- During the next retake, you'll have a single second attempt for full credit

Finally, you must make and attend your CBTF reservations in order to retake previous quizzes. For example, if you miss your CBTF slot in Week 2 above, you have missed your first chance on Quiz 2 and your second and final on Quiz 1. You should plan on taking a CS 124 quiz every week—the CBTF has flexible scheduling to enable you to accomplish this. You only receive one retake opportunity on a quiz if you attend your CBTF quiz during the following week.

Catch-Up Quiz Grading

Because we are now offering multiple at
longer apply the catch-up quiz grading p

Reporting Quiz Problen

If you believe that you have spotted a problem with a quiz question, please report the problem to Geoff. **Do not post your questions publicly.**

At that point we will do one of the following:

- **If the question has a bug**, we will fix it and ensure that all students receive full credit—even those that took the quiz before the bug was identified.
- **If the question has a minor typo** that we don't think affects its ability to be correctly answered, we will fix it and distribute that change.
- **If the question is fine** we will not do anything.

However, please keep in mind that your perception of the question's correct answer may be wrong. That's the whole idea behind having the quizzes in the first place!

CBTF Policies

We use the Grainger College of Engineering's Computer-Based Testing Facility for our quizzes. The policies of the CBTF are the policies of this course, and academic integrity infractions related to the CBTF are infractions in this course. If you have accommodations identified by the Disability Resources and Educational Services (DRES) for quizzes, please submit your Letter of Accommodations (LOA) through the CBTF website as soon as possible. It can take up to five days for your LOA to be processed, and if you make a reservation before your LOA has been processed, your reservation will not include your testing accommodations and you will be required to reschedule. This must be done each semester you use the CBTF.

If you have any issue during an exam, inform the proctor immediately. Work with the proctor to resolve the issue at the time before logging off. If you do not inform a proctor of a problem during the test then you forfeit all rights to addressing the problem you experienced during your exam.

Take the 10-minute CBTF Orientation a
first exam.

Final Exam

CS 124 does not have a final exam. We
final week of class, but we do not give ar
time.

Machine Project (MP) (20%)

Programming is a skill. The more you do, the better you become. The CS 124 *machine project* (MP) is one of the ways that you will learn the powerful skill of computer programming—today's modern superpower.

The MP is worth 20% of your grade. Working on it will deepen your understanding of the material covered in lecture, and improve your performance on the quizzes.

Not Machine *Problems*: A Machine *Project*

Many other programming courses give a series of unconnected programming assignments. In prior semesters CS 124 did this as well and referred to each as a machine *problem*.

However, in 2019 we replaced the multiple unconnected assignments with a single *machine project*: an Android application that you will complete in parts over the second half of the semester. We hope that this format will encourage you to fix up and improve the parts of the project that you completed previously, while also allowing you to complete a more substantial project.

It is rare in software development to start something from scratch, work on it for only a few weeks, and then never touch it again. Completing a single longer project will better prepare you for future programming tasks—both in industry and side projects that you may do on your own. What is more normal is to work on more interesting and larger pieces of code for months or even years—starting with something simple and then gradually adding features and complexity, just as you will do this semester. You are forced to live with your mistakes and decisions, but also end up creating something much m

How to Complete the M

To help you conquer the large machine p
that will happen roughly once every two
checkpoint is designed to take a significant amount of time. You should arrange

your schedule so that you can devote a significant amount of time on them. *Do not start the night before.* Not only will it be unlikely that you will complete that component of the MP, but you will also be unlikely to be able to get help when you get stuck.

Learning to program is like learning other skills—how to play an instrument, throw a tight spiral, cook the perfect omelet, or learn another *human* language. You have to do it *every day*. You can't expect to complete a marathon or perform at Carnegie Hall if you start practicing the night before.

As soon as each checkpoint is released, sit down and spend a few hours on it. And then do that the next day, and the day after that. If you start early and work often, you will have no problem completing the checkpoint before the deadline. If it turns out to be easy for you, you'll be done early and can relax and help other students. If it turns out to be more difficult, you'll know early on and be able to budget your time accordingly to complete it on time. **Nothing correlates more strongly with success on the MP checkpoints than starting early.**

Staggered Deadline Policy

To allow us to support your work on the MP more effectively, we break the class into two teams, and stagger their deadlines by 24 hours.

The CS 124 project is completed over a series of checkpoints, each with its own deadline. However, you'll notice that each checkpoint has *two* deadlines—one for the Orange (or Blue) Team, and the second one day later for the Blue (or Orange) Team. You'll be assigned to one deadline team at random, and if you choose to collaborate, collaborators will be assigned to the same deadline team when thev form a group.

Why we do this is simple: It allows the tu deadlines. Despite the fact that the *best* early and follow our schedule, some of y support. Splitting the class in half allows

everyone, and has been shown to significantly reduce wait times near checkpoint deadlines.

Isn't this unfair? After all, for each checkpoint, one team's deadline will be earlier. This is a valid concern. We will provide each team with the test suites needed to start each checkpoint at their deadline for the previous checkpoint, to provide both teams with an equivalent amount of time between receiving the tests and the due date.

This is also not the first time that we have used the split deadline model. In the past, performance of both teams was indistinguishable, indicating that neither had an advantage. We will review the performance on the MP of both teams again at the end of this semester and correct any large disparities if needed.

At the end of the day, staggered deadlines help everyone do better on the project by flattening load spikes on the tutoring site, tutoring center, and forum. As always, the goal of all tutors is for everyone to succeed at the project. This helps us support you in that shared goal.

Late Submission Policy

It is extremely important that you keep up with the MP. CS 124 moves quickly, and if you get behind early you will quickly find yourself lost and unable to complete the later assignments.

As a result, the late submission policy is designed to reward students that do a fair amount of work *before* the deadline. Here are the details of the policy:

- We award points on most MP checkpoints for starting on time and reaching a certain milestone well before the checkpoint is due
- You can submit each MP checkpoint as many times as you want until 11:59:59 PM on Wednesday 12/10/2025.
- Late submissions can earn back 50% submission. So if you submit code t will receive a 90/100 if you submit a deadline. If you submit code that ea the best you can do is a 50/100 with a perfect submission anytime after the deadline.

- Late submissions will not recover any starting-on-time points. So if there were 10 starting-on-time points that you did not earn, and your best score before the deadline was a 60/100, the best you can do is a 75/100: half of the 30 points you missed that were not for starting on time.
- *You will always receive the best score earned by any submission.*

Extra Credit

There may be opportunities to earn extra credit this semester. We *do not* give extra credit for things that we think that you absolutely should be doing to succeed in the class. We might provide extra credit for providing some data that helps improve the class, or bearing with us while we try something experimental and new, or for helping other students.

We'll definitely let you know about any extra credit opportunities as they arise.

Accommodations

We are more than happy to make arrangements to help accommodate students with disabilities. **Please assist us by informing us of your situation as soon as possible.** The earlier in the semester you can let us know what kind of help you need, the better prepared we can be to provide it effectively.

Please upload your Letter of Accommodation using this form, to ensure we have it on file. To access this form, you will first need to visit the Illinois Cloud Dashboard and enable Google Apps Integration. To receive testing accommodations on weekly quizzes, you will also need to provide your letter to the CBTF, using their form.

In many cases your letter of accommodation will *require* that you request accommodations before or on the releva
not consider late requests. Part of our jo
keeping you on track throughout the ser
rolls around, it is far too late to begin asl
completing missed assignments.

Other Policies

Below we summarize some other general course-related policies.

Extensions

CS 124 is a fast-moving and demanding course. You signed up to learn computer science and programming for 15 weeks, and we do our best to give you your money's worth.

One of the consequences of this is that it is hard to catch up if you have a significant illness or other problem mid-semester. We will give extensions on the MP and other assignments to accommodate unforeseen short-term circumstances. But if you are struggling with a larger issue, you should consider withdrawing and enrolling again next semester.

To receive an extension you should approach Geoff *before* the relevant deadline. Except in exceptional cases—hospitalization, verifiable kidnapping by aliens—we will *not* grant requests for extensions or other accommodations after the relevant deadline has passed.

Diversity Statement

We want our course to be welcoming and inclusive.

If there is anything that we can do to make you more comfortable in CS 124, please let us know. Here's the official Illinois text that has helpful info:

> The University of Illinois is committed to equal opportunity for all persons, regardless of race, ethnicity, religion, sex, gender identity or expression, creed, age, ancestry, national origin, handicap, sexual orientation, political affiliation, marital status, developmer
> record. We value diversity in all of its
> we think, and what we do. We cultiva
> culture where everyone can pursue tl
> an intellectually stimulating and resp
> create an inclusive campus culture wl
> respected and individuals feel valued.

Mental Health Statement

Mental health is both important and an important challenge in computer science.

We will discuss how to stay sane in computer science at various points throughout the semester. But overall, if there is anything that we can do to support your mental health during the semester, please let us know. Here's the official Illinois text that has helpful info:

> Diminished mental health, including significant stress, mood changes, excessive worry, substance or alcohol abuse, or problems with eating and/or sleeping can interfere with optimal academic performance, social development, and emotional wellbeing. The University of Illinois offers a variety of confidential services including individual and group counseling, crisis intervention, psychiatric services, and specialized screenings at no additional cost. If you or someone you know experiences any of the above mental health concerns, it is strongly encouraged to contact or visit any of the University's resources provided below. Getting help is a smart and courageous thing to do—for yourself and for those who care about you.

- Counseling Center: 217-333-3704, 610 East John Street Champaign, IL 61820
- McKinley Health Center: 217-333-2700, 1109 South Lincoln Avenue, Urbana, Illinois 61801

Classroom Climate

Our course goals can only be accomplished in a setting of mutual respect.

Our tutors are committed to creating a c
students, regardless of their identities—
religious beliefs. We all have unconsciou
examine our judgments, words and actic
everyone fairly. We hope you will do the same. If you feel comfortable, please let us

know if there is anything we can do to make sure everyone is encouraged to succeed in this class.

Here's the official Illinois text that has helpful info:

> The intent is to raise student and instructor awareness of the ongoing threat of bias and racism and of the need to take personal responsibility in creating an inclusive learning environment. The Grainger College of Engineering is committed to the creation of an anti-racist, inclusive community that welcomes diversity along a number of dimensions, including, but not limited to, race, ethnicity and national origins, gender and gender identity, sexuality, disability status, class, age, or religious beliefs. The College recognizes that we are learning together in the midst of the Black Lives Matter movement, that Black, Hispanic, and Indigenous voices and contributions have largely either been excluded from, or not recognized in, science and engineering, and that both overt racism and micro-aggressions threaten the well-being of our students and our university community. The effectiveness of this course is dependent upon each of us to create a safe and encouraging learning environment that allows for the open exchange of ideas while also ensuring equitable opportunities and respect for all of us. Everyone is expected to help establish and maintain an environment where students, staff, and faculty can contribute without fear of personal ridicule, or intolerant or offensive language. If you witness or experience racism, discrimination, micro-aggressions, or other offensive behavior, you are encouraged to bring this to the attention of the course director if you feel comfortable. You can also report these behaviors to the Bias Assessment and Response Team (BART). Based on your report, BART members will follow up and reach out to students to make sure they have the support they need to be healthy and safe. If the reported behavior also violates university policy, staff in the Office for Student Conflict Resolution may resp action.

Wellbeing and Distress

We care about you first and f student.

Your wellbeing should be your top priority and much more important than this class. We consider wellbeing as being able to continually meet your needs for sleep, food, exercise, socializing, relaxing, and emotional support. We want to destigmatize distress, but not normalize distress. It is unfortunately common to experience distress in school and I want you to know that you're not alone if you're experiencing some form of distress. When this happens, reaching out is essential! If we normalize this distress, we might incorrectly assume that we shouldn't reach out.

Here's the official Illinois text that has helpful info:

> As members of the Illinois community, we each have a responsibility to express care and concern for one another. If you come across a classmate whose behavior concerns you, whether in regards to their well-being or yours, we encourage you to refer this behavior to the Student Assistance Center (1-217-333-0050) or online. Based upon your report, staff in the Student Assistance Center reaches out to students to make sure they have the support they need to be healthy and safe. Further, as a Community of Care, we want to support you in your overall wellness. We know that students sometimes face challenges that can impact academic performance (examples include mental health concerns, food insecurity, homelessness, personal emergencies). Should you find that you are managing such a challenge and that it is interfering with your coursework, you are encouraged to contact the Student Assistance Center (SAC) in the Office of the Dean of Students for support and referrals to campus and/or community resources. The SAC has a Dean on Duty available to see students who walk in, call, or email the office during business hours. For mental health emergencies, you can call 911 or contact the Counseling Center.
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> Diminished mental health, including s
> excessive worry, substance/alcohol al
> sleeping can interfere with optimal ac
> development, and emotional wellbeir
> variety of confidential services includ
> crisis intervention, psychiatric service
> additional cost. If you or someone you know experiences any of the above

> mental health concerns, it is strongly encouraged to contact or visit any of the University's resources provided below. Getting help is a smart and courageous thing to do—for yourself and for those who care about you.

- Counseling Center: 217-333-3704, 610 East John Street Champaign, IL 61820
- McKinley Health Center: 217-333-2700, 1109 South Lincoln Avenue, Urbana, Illinois 61801

Confidential Resources

If we learn about a situation in which a student is in danger of harming themselves or others, or has been seriously harmed, I may be legally required to notify the Title IX Coordinator.

If students want to speak with someone confidentially, these resources are available on and off campus. Speaking with a confidential resource does not preclude students from making a formal report to the Title IX Coordinator. Confidential resources can walk students through all of their reporting options. They can also provide students with information and assistance in accessing academic, medical, and other support services they may need.

Here's the official Illinois text that has helpful info:

> The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accomm[illegible] disciplinary process, and law enforcer University employees who, as counse professionals, do not have this report confidentiality, can be found here. reporting is available here.

Religious Observances

For people of many religions, school conflicts with their religious holidays.

Even when religious holidays don't fall on a class day, you might typically take time off from work to celebrate.

The CS 124 late homework policy is how we accommodate religious observations that affect your ability to complete the homework. If you need to take a quiz early or a day late, or need an extension on the machine project, please let us know. We can work together to make a plan that works for you.

Here's the official Illinois text that has helpful info:

> Illinois law requires the University to reasonably accommodate its students' religious beliefs, observances, and practices in regard to admissions, class attendance, and the scheduling of examinations and work requirements. You should examine this syllabus at the beginning of the semester for potential conflicts between course deadlines and any of your religious observances. If a conflict exists, you should notify your instructor of the conflict and follow the procedure outlined here to request appropriate accommodations. This should be done in the first two weeks of classes.