LEC 00

CSE 122

Welcome!

Questions during Class?

Raise hand or send here

sli.do #cse122

BEFORE WE START

Talk to your neighbors:

Introduce yourself to your neighbor!

What is your name? Major? What did you do over winter break?

Music: [122 26wi Lecture Tunes ☃️]

Instructor: Adrian Salguero

TAs:

Ava
Blake R
Blake P
Cady
Caleb
Cole
Colin
Connor

Dalton
Dani
David
Diya
Hanna
Ivy
Mahima
Medha

Neal
Neha
Nicolae
Nicole
Rio
Rohan
Saachi
Shreya

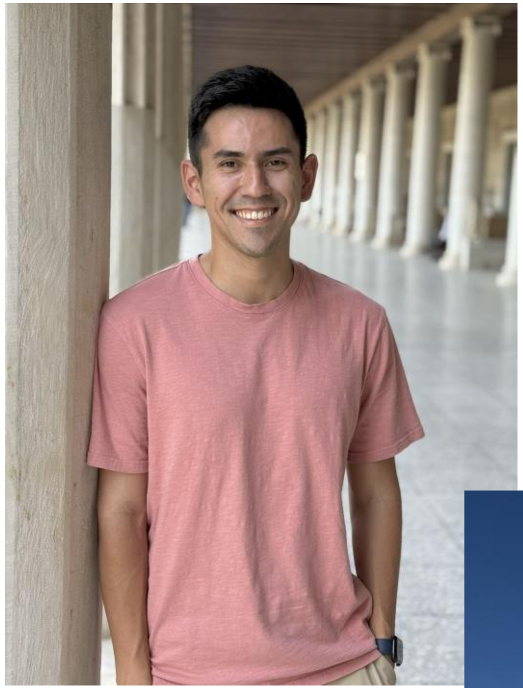
Shreyank
Sthiti
Sushma
Suyash
TJ
Wesley
Yang

Lecture Outline

- **Introductions** ◀
- About this Course
  - Course Components & Tools
  - Grading
  - Policies
  - Making the Most of this Class
- Intro/Review Java

Course Staff

- Instructor: Adrian Salguero
- Call me: Adrian or Professor Adrian
- Teaching Assistants: 31 Fantastic TAs!
  - Available in section, office hours, and discussion board
  - Invaluable source of information & help in this course
- We're excited to get to know you!
  - Our goal is to help you succeed ☺



Students

- Currently 450 students registered for the course!
- Strength in numbers
  - With 450 students, if you’re confused about something, we guarantee someone else is too! Ask questions in Slido or in class 🗣
  - Students come from all different backgrounds, majors, & interests in future career goals.
- Focus on us trying to help you build community
  - Meet others in the class to form study groups or have people you can work with.

CSE 12x Behavioral Expectations

- Be professional towards:
  - Fellow Students
  - TAs
  - Instructor
- Ask questions, help others, be a good 12X citizen!
- Treat everyone as you wish to be treated.
- You are in college—you have college-level responsibilities.

What is this Class?

CSE 121 – Computer Programming I or **Other Programming Experience**

- Print statements
- Data types (int, String, boolean)
- Methods / Functions
  - Parameters
  - Returns
- Control structures
  - Loops
  - Conditionals
- Arrays & 2D arrays
- **Computational Thinking** (language agnostic)

CSE 122 – Computer Programming II

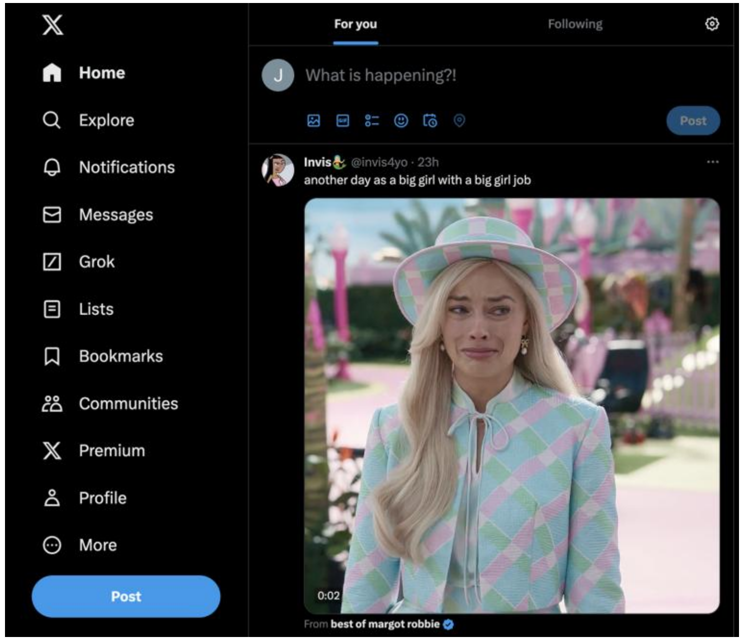
- Decomposing large problems into smaller, manageable subproblems
- File I/O
- Using data structures
  - List
  - Stacks / Queues
  - Sets
  - Maps
- Object Oriented Programming
  - Interfaces

Prerequisite Knowledge

- Students entering CSE 122 are coming from many of different backgrounds
  - UW: CSE 121 or other intro programming course
  - Community College: Intro Programming Course
  - High School Programming Course (e.g., UWHS, AP CS, IB CS, etc.)
  - Self-taught or other previous experience
- Importantly: CSE 122 is in Java, but we **do not expect prior experience in Java!** Do expect knowing the list of CSE 121 topics in some language.
  - Students who do not have experience in Java will be focusing on practicing the programming skills you know in a new language!
  - You will find the Java Tutorial and Creative Project 0 very helpful!
- If you want to know if this class is the right fit for you, take the Allen School Self-Placement Test

Why 122? (1/2)

1. Build a strong foundation of data structures that will let you tackle the biggest problems in computing



Invis @invis4yo · 23h
another day as a big girl with a big girl job

From best of margot robbie

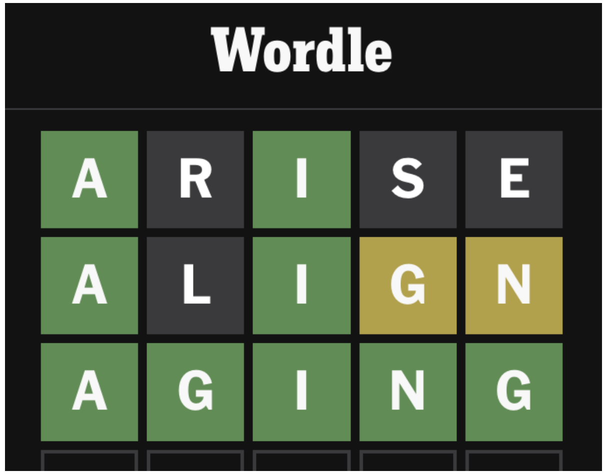
122 Data Structures

Public Playlist

23wi 121 Finals Grading

belba • 43 songs, 2 hr 42 min

#	Title	Album	Date added	
1	i want war (BUT I NEED PEA... E Kali Uchis	TO FEEL ALIVE EP	Mar 16, 2023	2:39
▶	Basics TWICE	BETWEEN 1&2	Mar 15, 2023	2:57
3	ANTIFRAGILE LE SSERAFIM	ANTIFRAGILE	Mar 15, 2023	3:04
4	Devil's Advocate The Neighbourhood	Chip Chrome & The Mono-T...	Mar 15, 2023	3:06
5	Ditto NewJeans	Ditto	Mar 15, 2023	3:06
6	Claymore (feat. Smino) E Isaiah Rashad, Smino	The House Is Burning	Mar 16, 2023	3:06
7	Mónaco LAGOS, Danny Ocean	Clásicos	Mar 15, 2023	3:12



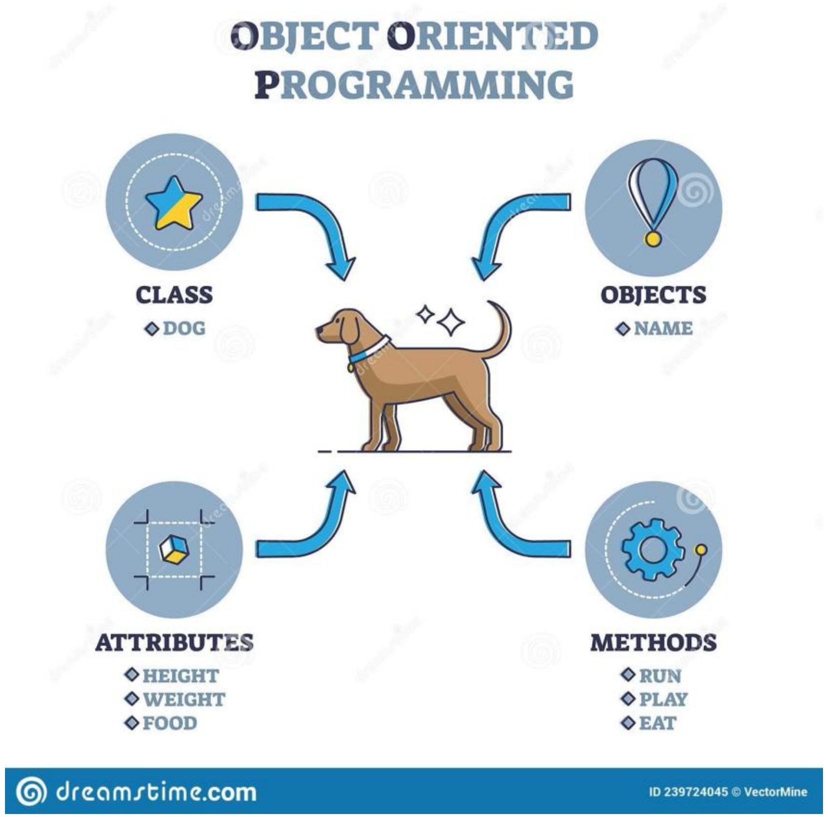
Wordle

A	R	I	S	E
A	L	I	G	N
A	G	I	N	G

Why 122? (2/2)

2. Learn an important structural pattern for representing **objects** in code to make our code more **reusable** and **maintainable** and **easier to understand.**

- Java is designed around this idea of ***objects***. We haven't been leveraging that yet!
- Used in almost every real-world software project.



Lecture Outline

- Introductions
- **About this Course**
  - **Course Components & Tools**
  - Grading
  - Policies
  - Making the Most of this Class
- Intro/Review Java

Course Components

Meetings

LECTURES (x20)

- We're here!
- Introduce concepts, practice ideas, discuss applications.
- Pre-class materials to prepare for class each day. Due **before** class.
- Recorded 🎥

SECTIONS (x19)

- Held in person
- More practice, reviews, applications
- TA advice, how to be an effective student
- Preparation for quizzes / exams
- Incentives to attend this quarter!
- 🚨 Not Recorded! 🚨

Assessments

PROGRAMMING ASSIGNMENTS (x4)

- Structured assignments
- Programming in Java
- Applying & implementing course concepts

CREATIVE PROJECTS (x4)

- More open-ended assignments
- Explore new ideas and applications

QUIZZES (x3)

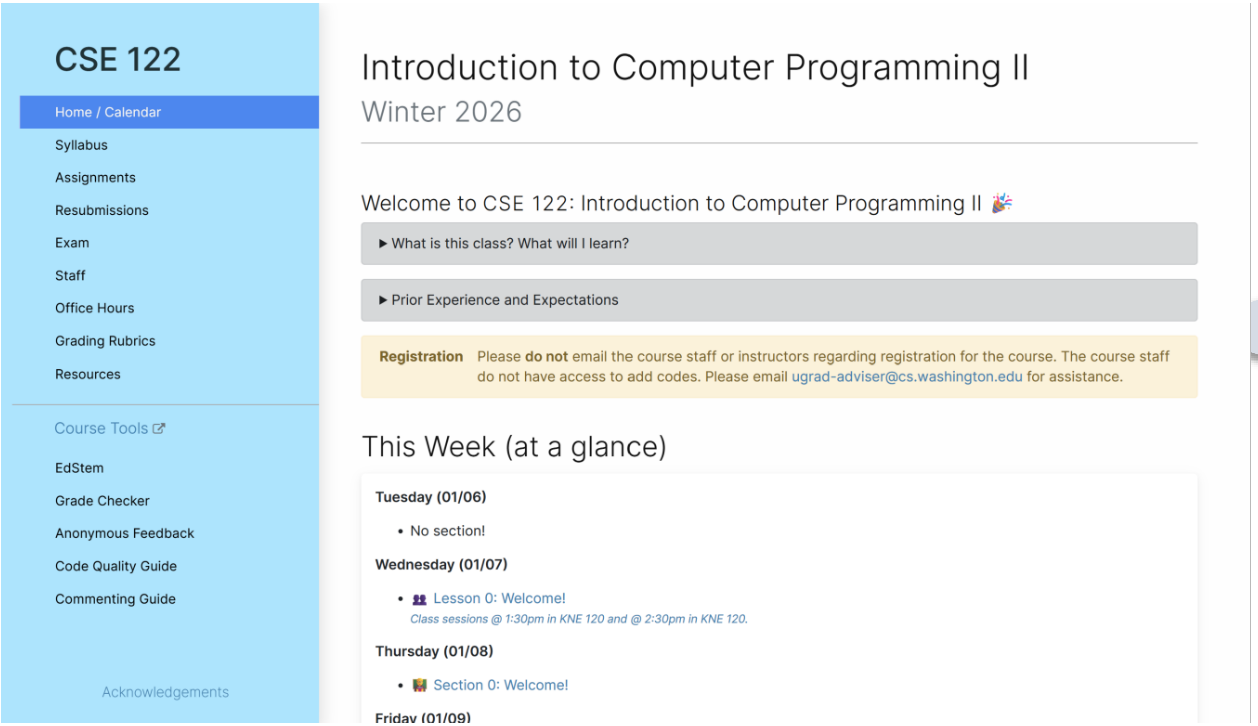
- Taken in quiz section
- 45 minutes on paper

EXAM (x1)

- Culminating exam
- **March 17, 2026** 🍀

Course Website (1/2)

[cs.uw.edu/122](cs.uw.edu/122)



Introduction to Computer Programming II

Winter 2026

Welcome to CSE 122: Introduction to Computer Programming II 🎉

▶ What is this class? What will I learn?

▶ Prior Experience and Expectations

Registration Please **do not** email the course staff or instructors regarding registration for the course. The course staff do not have access to add codes. Please email ugrad-adviser@cs.washington.edu for assistance.

This Week (at a glance)

Tuesday (01/06)

- No section!

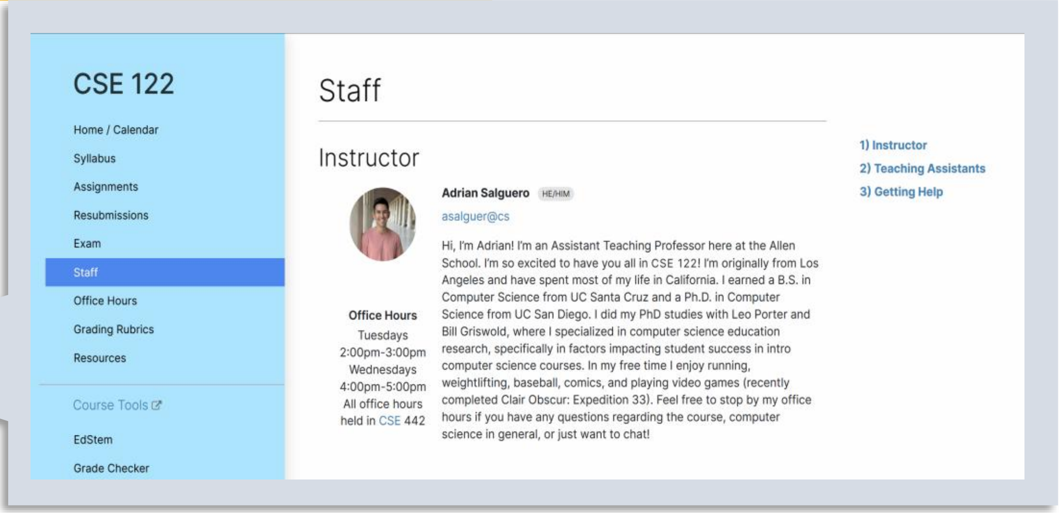
Wednesday (01/07)

- Lesson 0: Welcome!
  Class sessions @ 1:30pm in KNE 120 and @ 2:30pm in KNE 120.

Thursday (01/08)

- Section 0: Welcome!

Friday (01/09)



Staff

Instructor

Adrian Salguero HE/HIM

asalguer@cs

Hi, I'm Adrian! I'm an Assistant Teaching Professor here at the Allen School. I'm so excited to have you all in CSE 122! I'm originally from Los Angeles and have spent most of my life in California. I earned a B.S. in Computer Science from UC Santa Cruz and a Ph.D. in Computer Science from UC San Diego. I did my PhD studies with Leo Porter and Bill Griswold, where I specialized in computer science education research, specifically in factors impacting student success in intro computer science courses. In my free time I enjoy running, weightlifting, baseball, comics, and playing video games (recently completed Clair Obscur: Expedition 33). Feel free to stop by my office hours if you have any questions regarding the course, computer science in general, or just want to chat!

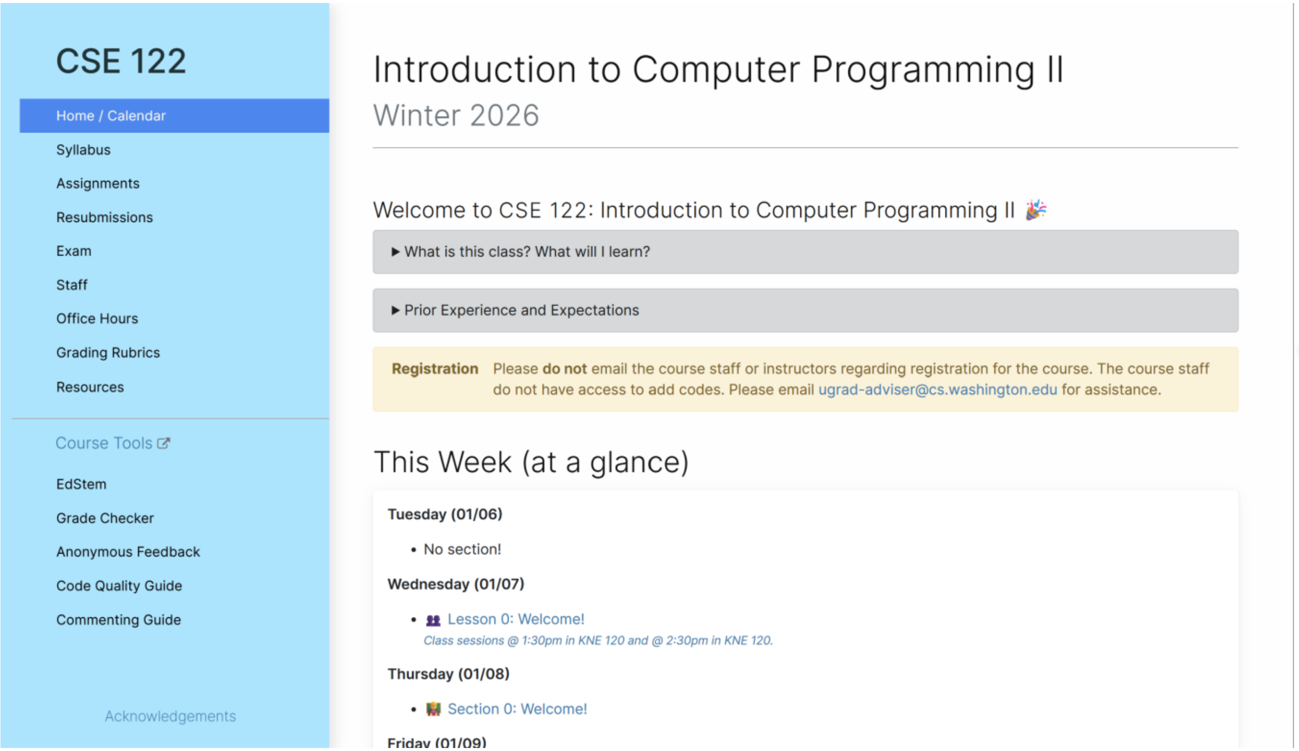
Office Hours
Tuesdays
2:00pm-3:00pm
Wednesdays
4:00pm-5:00pm
All office hours
held in CSE 442

Get to know the course staff

Contains most course info – check frequently!
Calendar, Lecture Slides, Office Hours schedule, Staff Bios, Important Links

Course Website (2/2)

cs.uw.edu/122



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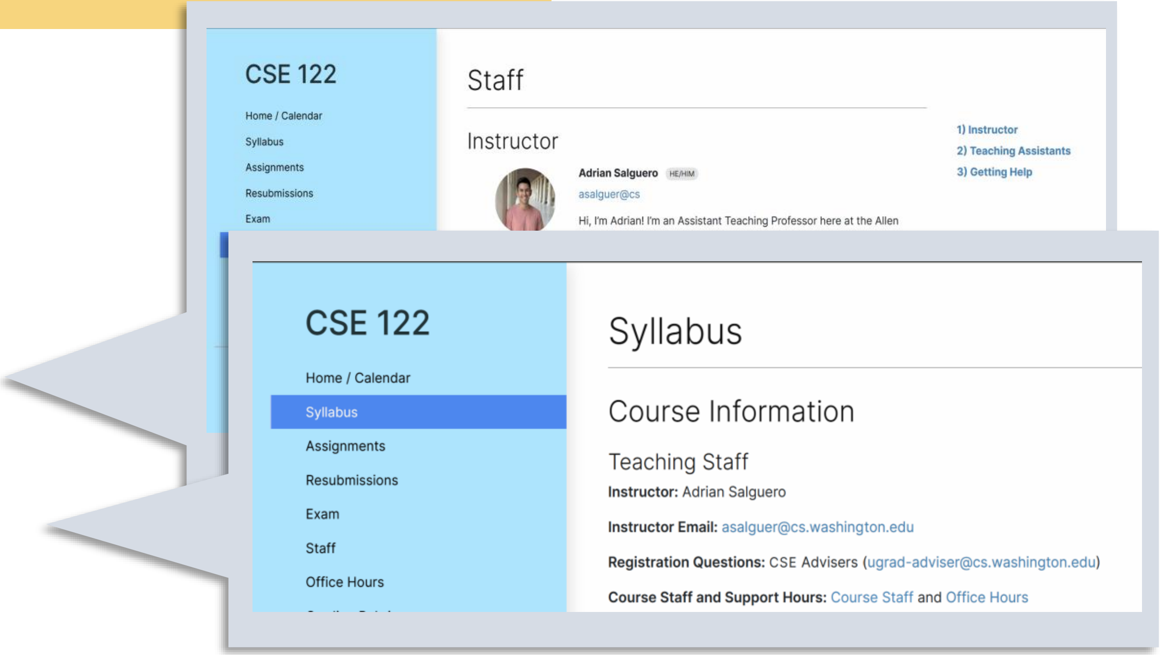

Staff

Instructor

Adrian Salguero HE/HIM

asalguer@cs

Hi, I'm Adrian! I'm an Assistant Teaching Professor here at the Allen

Syllabus

Course Information

Teaching Staff

Instructor: Adrian Salguero

Instructor Email: asalguer@cs.washington.edu

Registration Questions: CSE Advisers (ugrad-adviser@cs.washington.edu)

Course Staff and Support Hours: Course Staff and Office Hours

Please familiarize yourself with the course syllabus this week!

Contains most course info – check frequently!

Calendar, Lecture Slides, Office Hours schedule, Staff Bios, Important Links

Other Course Tools

Ed

- Community & Information
  - Discussion Board
    (please ask & answer!; anonymous option)
  - Chat
  - Announcements
- Pre-Class Materials / Section Handouts
- Assignments
  - Online IDE
  - Submit assignments
  - View Feedback

My Digital Hand

- Queueing in office hours

VSCode (Optional)

- Develop offline
- Visual debugger

Canvas

- Lecture recordings

Sli.do

- In-class activities (ungraded)
- No account needed

Lecture Outline

- Introductions
- About this Course
  - Course Components & Tools
  - Grading ◀
  - Policies
  - Making the Most of this Class
- Intro/Review Java

Graded Course Components

- Your grade will consist of the following categories:
- Each mark is graded on the scale:
  - **E**(xcellent)
  - **S**(atisfafactory)
  - **N**(ot yet)

Category	#	Marks per	Total Marks
Programming Assignments	4	4 (Behavior, Concepts, Quality, Testing/Reflection)	16
Creative Projects	4	1	4
Quizzes	3	3 (3 questions)	9
Exam	1	6 (6 questions)	6

Course Grades

In assigning course grades, we'll use a bucket system:

- Marks earned place in an initial bucket, additional S+ marks improve grade.
- Must meet all requirements of a bucket for initial placement.
- These are minimum GPA guarantees – grade can always be higher than minimum promise.

Minimum Grade	Required S+, of which…	Required E
3.5	30	27
3.0	27	22
2.5	24	17
2.0	21	0
1.5	14	0
0.7	8	0

S+ indicates S or E

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- **About this Course**
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  - **Policies** ◀
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Resubmissions

Learning is a challenging process that takes time, it doesn't always happen on your first try.

- Each week, one previous Programming Assignment or Creative Project can be resubmitted
  - Must be accompanied by write-up explaining changes
  - Grade on resubmission replaces original grade.
  - An assignment can be resubmitted in the 3 cycles after feedback has been published
  - *Tip: Resubmit as early as possible*

See syllabus for more details

Collaboration & Resources

- These concepts are challenging—we strongly encourage discussion + collaboration!
  - Don’t attempt to gain credit for something you didn’t do
  - In general, share ideas and work together, but don’t copy work. Never show someone else your code or solution write up.
  - For any ungraded work (e.g., pre-class materials) there is no concern about academic misconduct! You should be collaborating on those without reservation.
  - On graded assignments you should still collaborate, but the code you write should be of your own creation.
  - **Submitted work must be done completely without LLM/AI tool help.**
  - Be aware of and avoid use of **Forbidden Features** in submitted work
  - Always cite the help you receive on graded work
- **Read full policy in Syllabus**

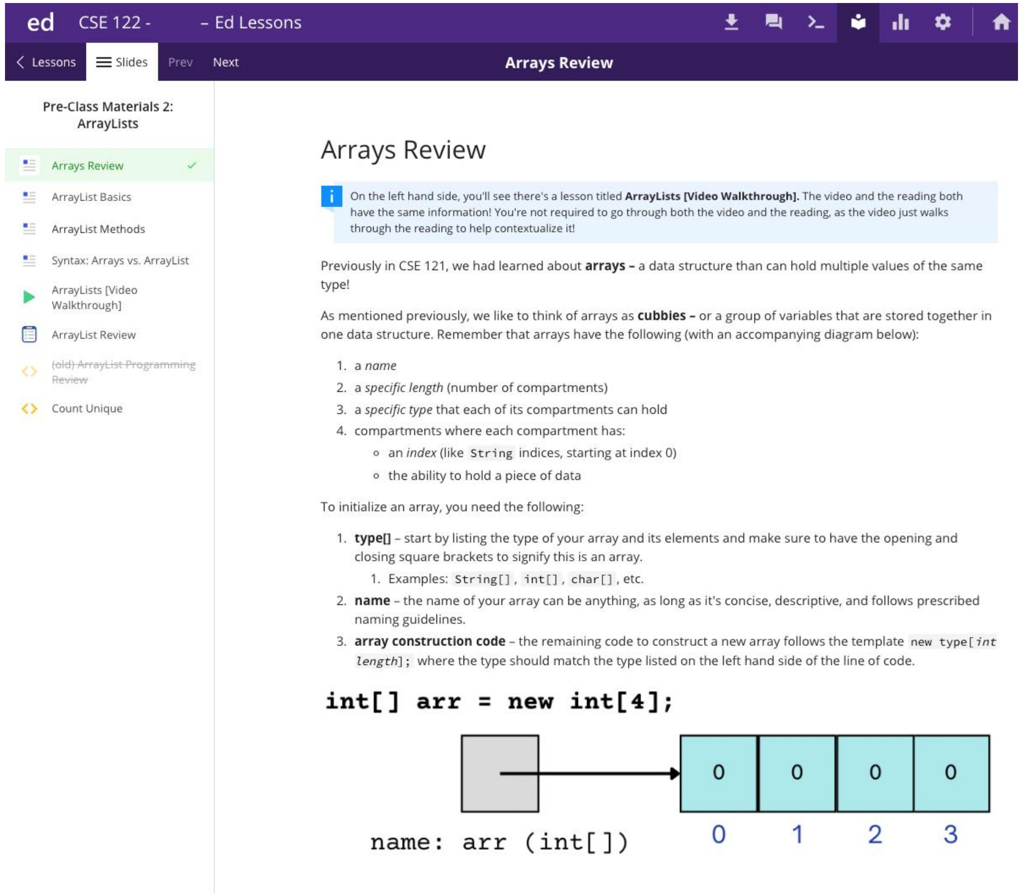
Textbook

Pre-class Materials

- All required readings are available free on Ed!
- Should be finished before class (not graded)

Optional Textbook

- [Building Java Programs by Reges and Stepp (5th Edition)]
- Not required but does add another perspective. Will reference relevant chapters.
- Advice: only purchase if you learn best with a textbook, otherwise not recommended.



ed CSE 122 - – Ed Lessons
Lessons
Slides
Prev
Next
Arrays Review
Pre-Class Materials 2: ArrayLists
Arrays Review ✓
ArrayList Basics
ArrayList Methods
Syntax: Arrays vs. ArrayList
ArrayLists [Video Walkthrough]
ArrayList Review
~~(old) ArrayList Programming Review~~
Count Unique

Arrays Review

On the left hand side, you'll see there's a lesson titled **ArrayLists [Video Walkthrough].** The video and the reading both have the same information! You're not required to go through both the video and the reading, as the video just walks through the reading to help contextualize it!

Previously in CSE 121, we had learned about **arrays –** a data structure than can hold multiple values of the same type!

As mentioned previously, we like to think of arrays as **cubbies –** or a group of variables that are stored together in one data structure. Remember that arrays have the following (with an accompanying diagram below):

1. a *name*
2. a *specific length* (number of compartments)
3. a *specific type* that each of its compartments can hold
4. compartments where each compartment has:
   - an *index* (like `String` indices, starting at index 0)
   - the ability to hold a piece of data

To initialize an array, you need the following:

1. **type[]** – start by listing the type of your array and its elements and make sure to have the opening and closing square brackets to signify this is an array.
   1. Examples: `String[]`, `int[]`, `char[]`, etc.
2. **name** – the name of your array can be anything, as long as it's concise, descriptive, and follows prescribed naming guidelines.
3. **array construction code** – the remaining code to construct a new array follows the template `new type[int length];` where the type should match the type listed on the left hand side of the line of code.

```
int[] arr = new int[4];
```

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How Learning Works

- Learning requires **active participation** in the process. It's not as simple as sitting and listening to someone talk at you.
  - Requires **deliberate practice** in **learning by doing**
  - Benefits from **collaborative learning**

- Hybrid classroom model
  - Asks you to do some preparation before class in the form of readings and practice problems.
    - Should take ~30 minutes a day
  - Class will start with brief recap, then pick up where the reading and practice problems leave off.
  - Attendance isn't graded, but showing up and trying is the first step in succeeding in the class!

- Pre-class materials are ungraded, but…
  - It's okay if you find them challenging! That means you are learning!

Metacognition

- **Metacognition**: asking questions about your solution process.

- Examples:
  - **While debugging**: explain to yourself why you're making this change to your program.
  - **Before running your program**: make an explicit prediction of what you expect to see.
  - **When coding**: be aware when you're not making progress, so you can take a break or try a different strategy.
  - **When designing**:
    - Explain the tradeoffs with using a different data structure or algorithm.
    - If one or more requirements change, how would the solution change as a result?
    - Reflect on how you ruled out alternative ideas along the way to a solution.
  - **When studying**: what is the relationship of this topic to other ideas in the course?

Getting Help

- Discussion Board
  - Feel free to make a public or private post on Ed
  - We encourage you to answer other peoples' questions! A great way to learn
- Introductory Programming Lab (Office Hours)
  - TAs can help you face to face in office hours, and look at your code
  - You can go to the IPL with **any** course questions, not just assignments
- Section
  - Work through related problems, get to know your TA who is here to support you
- Your Peers
  - We encourage you to form study groups! Discord or Ed are great places to do that
- Email
  - We prefer that all content and logistic questions go on the Ed discussion board (even if you make them private). 450 of you >>> 31 of us!
  - For serious personal circumstances, you can email Adrian directly. It never hurts to email us, but if it's a common logistic question, we may politely ask you to post on the discussion board instead.

Help Us Improve!

- This is a relatively new course! We are always looking for feedback on how to improve the class for you and for future students! Thank you in advance for your patience and understanding as we develop everything. ☺
  - We *really* value your feedback!
  - Let us know what's working and what isn't working for you
  - Something that went well in another course? Tell us about it!

- Post on the discussion board (can be public/private).
  - Note: Anonymous here is anonymous to other students, not to the stasff.

- Submit feedback via the **Anonymous Feedback Tool** (linked under "Course Tools" on the website)

The World Around CSE 122

- Our goal is to give you a great CSE 122 experience
  - But CSE 122 does not exist in a vacuum – there’s a lot going on in the world right now that can impact your education

- We’ve designed course policies for maximum flexibility: ability to resubmit assignments and drop low letter grades in quizzes
  - But we cannot cover every individual situation

- **Please reach out** if you need accommodations of any kind to deal with these unfamiliar situations

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Hello World

- Java Specifics
  - Every program needs a `class`
  - Runnable programs need a `main` method (*signature* must exactly match)
  - `System.out.println` to print
  - `"Hello world"` is a `String`

```
public class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Hello world");
    }
}
```

- Running on Ed
  - **Run** runs your program
  - **Mark** submits and runs autograder
    - Submit as many times as you like
    - “Shotgun submission” = Unhelpful habit
  - **Solution** shows solution (if applicable)

Review Java Syntax

Java Tutorial reviews all the relevant programming features you should familiar with (even if you don’t know them in Java).

- Printing and comments
- Variables, types, expressions
- Conditionals (if/else if/ else)
- Loops (for and while)
- Strings
- Methods
- Arrays & 2D Arrays

“Homework” for Next Time

- First assignment will be released Friday, but there are some things to do in the meantime.

- TODO this week
    - Fill out the introductory survey
    - Go meet your TA and classmates in Thursday’s quiz section
    - ⭐Complete the pre-class material for Friday (see calendar)
    - Check over syllabus details