

# Syllabus (Fall 2024)

Course Conflict for the Friday Quiz Section?

I am willing to sign the course conflict form and have you register for the class with a Friday conflict, and we will schedule an alternate time on Friday for you to take quizzes/exam. Friday sessions not used for assessments will be optional open lab time, with POGIL exercises, review and homework help.

Quiz 1 (Sep 13). Quiz 2 (Oct 4). Quiz 3 (Oct 25). Quiz 4 (Nov 15) Comprehensive Exam (Dec 6)

## **ITP 265 Object Oriented Programming**

#### Instructor: Kendra Walther

Office: RRB 204

**Office hours:** Will be posted at start of semester

Email: kwalther@usc.edu

#### **Course Sections:**

10:00-11:50am, TuTh (31848) in RTH 105

2:00-3:50pm, Tu/Th (31849) in LVL 17

✓10:00-11:50am, Fri (Quiz section, 31852) in SoS B2

#### 🔊 Enrollment

Prerequisite(s): ITP 115, ITP 116, or ITP 165

Units:  $4 \rightarrow$  According to <u>USC Policy</u>, this means that you are expected to work 8 hours per week outside of class time.

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Contact Info: All general course/assignment questions should be asked on EdStem Discussions (every student will be added at the start of the semester)
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This course focuses on problem solving within the object-oriented programming paradigm. This is the second course in the introductory series for the programming minor. Students will expand upon what they learned in their introductory programming course, applying it to the **Java** programming language. Students will learn how to design and create classes in Java using constructors, accessors, and mutators to maintain object state. The course focuses on object-oriented programming design, and students will learn about inheritance, polymorphism, abstract classes, and interfaces. Students will learn best practice approaches for software project design using object-oriented principles and some basic design patterns. Students will be introduced to collection classes and how to use basic data structures. By the end of the course, students should feel comfortable designing a system with multiple classes using inheritance.

#### **Course Learning Objectives**

- Build and strengthen programming and software design skills
- Understand the difference between classes and objects
- Design classes within Java to represent real-world data
- Understand and apply basic object-oriented principles such as inheritance and polymorphism to coding problems
- Use the Java collection classes to solve real-world problems
- Design and implement a system with multiple classes using inheritance

### Course Notes and Tools

Kendra will post lecture notes, videos, code, and other supplemental course content for use by all students enrolled in the course. **Students may not share the material outside of the course or post to any online location.** 

Announcements for the course will be posted on on Ed Discussion. Assignments will be be submitted through EdStem unless otherwise noted.

#### **Course Structure**

This class meets for two hours twice a week. Class time will comprise of lecture and various in class individual or group activities. Programming assignments and the final project will be assigned to be completed outside of class time. Access to

# Live class sessions and Zoom

My plan is to continue to run Zoom sessions for classes. **However**, it is expected that students attend class **inperson** whenever physically possible. a functional computer where you can install software is required. ITP has a laptop loaner policy for students enrolled who do not have a personal laptop.

#### **Course Tools**

This course will make use of several tools for content and assignments including EdStem, Google Drive, Notion, and Brightspace. Lecture notes and any supplemental course content will be posted for use by all students but may not be shared externally. The majority of class materials and discussion will occur through the course EdStem page, accessible through Brightspace.

It is the student's responsibility to understand how and where class information is located, or to ask for help if something is unclear.

#### **Communication Outside of Class**

I encourage you to ask questions and get help. ITP 265 offers lots of office hours and an online forum for asking general guestions (of the whole class or privately to the instructional team). In general, questions should be asked on EdStem Discussions rather than over email. Students will be added to EdStem at the start of the semester, however, students who add the class late will need to reach out to the instructor (with full name, email, and section) in order to be manually added to the platform. For other questions or concerns, please email: kwalther@usc.edu when emailing, please always include your full name, course and section number or name (coffee/tea). Timeline for replying

#### 嶐 Readings

Readings will be from the freely available online textbook <u>Think Java by Allen</u> <u>Downey and Chris Mayfield</u>. This book is available via pdf or as <u>interactive online</u> <u>version</u>. Applicable chapters will be embedded into the course edStem page.

#### Late Add

Per university policy, students are allowed to add the course after the initial start period. Any students wishing to add the course should plan on attending the course from the beginning of the semester. Upon adding the course after week 1, the student should email the instructor **immediately** to make sure there is a plan for completion of work and learning missed materials. Any missed work is required to be completed and submitted according to the schedule provided by the instructor.

**If you add that class after day 1**, I do not get automatic notification, so please send an email to kwalther@usc.edu with your full name, email, <tea or coffee> section so that I can manually add you to course platforms. to emails is 24-48 **business** hours, but is often much quicker. Please note that I expect most general questions to be posted on EdStem, so my response may be "Post on EdStem in order to get an answer."

Students should NOT directly email the learning assistants (LAs) or graders: all correspondence with the LAs should be done on EdStem Discussions. If a direct email with a LA is required for any reason, the student must **cc** the instructor in the email.

## 🏆 Grading

My view of grading is that it should be in support of learning, and I often change or experiment my policies in order to better support the goal of course material mastery. One of my over-arching goals is to move away from the reliance on extrinsic motivation of grades and instead focus on helping students stay intrinsically motivated on learning and improving throughout the semester. Students should plan on being part of the teaching and learning process and engage in discussions throughout the semester on how we can continue to focus on mastery of learning objectives rather than accumulating points. With rapidly advancing Generative AI technologies, there remains a delicate balance between practice and assessment of student learning, which the current grading scheme is trying to address.

Item	Percent
Assignments	15
4 quizzes, drop lowest. (15% each)	45
Comprehensive Exam	25
Final Project	15
TOTAL	100

If you are taking the class with a grade of **P/NP,** you must earn a grade of **70%** or

#### **Grading Scale**

Letter Grade	Percentages
A (3.75-4)	≥ 94
A- (3.5-3.75)	≥90 < 94
B+ (3.25-3.5)	≥87 < 90
В (3-3.25)	≥ 83 < 87
B- (2.75-3)	≥ 80 < 83
C+ (2.5-2.75)	≥ 73 < 80

higher in order to receive a P.

If a student feels that their course grade (going into the final project) does not reflect their mastery of material, please reach out to Professor Walther at the start of study days and we will explore offering an oral final exam option. (Requires regular in-person course participation throughout the semester)

Letter Grade	Percentages
C (2.0-2.5)	≥ 70 < 73
C- (1.75-2.0)	≥ 67 < 70
D+ (1.25-1.75)	≥ 63 < 67
D (1.0-1.25)	≥ 60 < 63
D- (0.5-1.0)	≥ 55 < 60
F (0.0 - 0.5)	< 55



# Here are three options that the University has given as guidance towards Al usage:

#### ▼ Generative AI is not permitted:

Since creating, analytical, and critical thinking skills are part of the learning
outcomes of this course, all assignments should be prepared by the student
working individually or in groups as described on each assignment. Students may
not have another person or entity complete any portion of the assignment.
Developing strong competencies in these areas will prepare you for a competitive
workplace. Therefore, using AI-generated tools is prohibited in this course, will be
identified as plagiarism, and will be reported to the Office of Academic Integrity.

#### Generative AI permitted but limited as follows:

- In this course, you are permitted to use artificial intelligence (AI)-powered programs to help you, but only on assignments that explicitly indicate a permitted use of AI. However:
  - You should also be aware that AI text generation tools may present incorrect information, biased responses, and incomplete analyses; thus, their answers

may not meet the standards of this course.

- To adhere to our university values, you must cite any AI-generated material (e.g., text, images, and other content) included or referenced in your work and provide the prompts used to generate the content. Using an AI tool to generate content without proper attribution will be treated as plagiarism and reported to the Office of Academic Integrity.
- Please review the instructions in each assignment for more details on how and when to use AI Generators for your submissions.

#### ▼ Generative AI is encouraged:

- You are expected to use AI (e.g., ChatGPT and image generation tools) in this class. Learning to use AI is an emerging skill; this is an opportunity for you to discuss with the instructor appropriate use of these tools. Keep in mind the following:
  - Al tools are permitted to help you brainstorm topics or revise work you have already written.
  - If you provide minimum-effort prompts, you will get low-quality results. You will need to refine your prompts to get good outcomes. This will take work.
  - Proceed with caution when using AI tools and do not assume the information provided is accurate or trustworthy If it gives you a number or fact: assume it is incorrect unless you either know the correct answer or can verify its accuracy with another source. You will be responsible for any errors or omissions provided by the tool. It works best for topics you understand.
  - Al is a tool, but one that you need to acknowledge using. Please include a paragraph at the end of any assignment explaining if, how, and why you used Al and indicate/specify the prompts you used to obtain the results. Failure to do so is a violation of academic integrity policies.

Given the experience of the course staff over the past year, we will not be permitting the use of generative AI for any programming assignment. Students may use generative AI tools for studying purposes: to help explain topics, generate additional practice problems, or create practice assessments.

## Course Policies (read thoroughly)

#### **Course Material Policy**

Do not share, upload, reproduce, distribute, or post any lecture material, assignments, midterms, or other course material without my explicit written consent. Students may take notes and make copies of course materials for their own use. **Students may not post any ITP 265 course materials on any other online (public or private) site. Doing so is a copyright violation and an academic integrity violation that will be reported and dealt with accordingly.** Additionally, importing course materials (like assignments prompts) into generative Al tools is an academic integrity violation.

#### **Participation and Attendance**

Successful completion of the course and mastery of learning objectives requires that students be present and engaged with course materials and group activities. Students are responsible for in class work, POGIL activities, other participation activities, announcements made during lecture time, and for understanding material covered in class. As such, students who miss a class session should watch lecture recordings (if available) and consult with classmates before attending office hours for help with material.

If you are attending over Zoom, please make a private post on EdStem Discussion (attendance category) with the reason for that choice. While I plan to make the Zoom video-recordings of class sessions available to all students for review, asynchronous participation (watching recording rather than attending class

# Programming Assignment Policies

Programming assignments will be posted with assigned due dates on EdStem and should be completed individually without the use of generative AI. All code should be submitted on EdStem and must compile and run. Code that does not compile and run may receive a 0. It is the student's responsibility to double-check that submission finished uploading properly and that the **correct** files were uploaded.

Due to the nature of the course, it is important that assignments be completed in a timely manner. It is the student's responsibility to submit assignments on or before the due date. Assignments should be submitted within 1 hour of the due date to not occur late penalties, see the chart below for penalties. After three days, late submissions will not be accepted, and will result in a score of 0 (zero).

Late	Penalty Deducted (with no tokens used)	Token Usage
1-12 hours	5% of total points	1 token
12-24 hours	10% of total points	1 token
24-36 hours	20% of total points	2 tokens
36-48 hours	30% of total points	2 tokens
48-60 hours	40% of total points	2 tokens + 1( off

during scheduled time) should be reserved for **rare** instances. Students who do not regularly participate during live-class sessions may not be given the oral exam option.

#### **OSAS** Accommodations

If you have course accommodations authorized by OSAS (Office of Student Accessibility Services, previously DSP), please **email** the instructor your accommodation letter **by the end of Week 3**, the subject of the email should be "*ITP* 265 Course Accommodations". In the body include your name and your class section (*Coffee or Tea*). In addition, reach out the week before each quiz or exam to discuss details for coordinating specific testing accommodations.

#### **Exam Policy**

No make-up exams (except for **documented** medical or family emergencies) will be offered. If a medical or family emergency occurs, it is your responsibility to provide adequate documentation as soon as possible to the instructor.

#### Backups

Students should keep a copy of all of their assignments. Frequent backups to an external drive or to the cloud is strongly recommended. ITP is not responsible for any work lost.

#### **Grading Timeline**

In most circumstances, assignments will be graded and students will receive feedback

Late	Penalty Deducted (with no tokens used)	Token Usage
60-72 hours	50% of total points	2 tokens + 2 off
more than 3 days	0	Not accepted

#### **Tokens: Late Days**

Each student will receive 5 "tokens" that may be used as late passes. Tokens can not be used for extra credit and have no value other than to allow all students an equal opportunity to have more time as needed. To use a token, fill out <u>this google</u> <u>form.</u>

Tokens may be used for late submission of assignments **(1 token for up to 24 hours)** unless otherwise specified (some assignments must be completed by class time and there are NO late submissions allowed on the final project.) **No more than 2 tokens** can be used at once (48 hours late).

#### Regrades

If you believe you were graded inaccurately on an assignment, create a private post in the **Regrade Requests** category on EdStem discussions with your name, section, assignment number, and your reasons for requesting the regrade. This will allow the grader **and** instructor to view your submission and make a decision. **Remember you should never directly email the grader without also CC'ing the instructor.**  (on EdStem) within two weeks of submission (hopefully within 1 week in many cases). We will post an announcement on EdStem when grades have been posted. The instructor will demonstrate how to view code feedback on EdStem for the first couple assignments. After that students should review feedback on their own. If you believe you were graded inaccurately on an assessment, there is mechanism within Gradescope to request a regrade on specific questions.

### Well Being

Overall well-being and a sense of belonging is critical for effective learning. It is my goal to create an environment where all students feel included and can flourish in the classroom. I hope to engage all of you in discussions throughout the semester on how we can work together to create the optimal environment to support learning for each and every one of you. Not all learning strategies equally benefit all learners, but I strive to implement classroom practices that focus on mastery of content rather than short-term memorization of concepts.

Your physical and mental health are important components for thriving within the classroom, and I encourage you to practice self-care throughout the semester. If you need help or support, please reach out to me and I will do my best to connect you with appropriate resources. If you don't feel comfortable sharing details, even a brief message to let me know that things are "not okay" can help you get support. USC offers a variety of student-focused support and I hope you feel empowered to get the help you need and deserve. Please see this document for the full list of USC support services which includes contact information:

USC Statement on Support Systems and Academic Conduct

## Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles.

#### 😢 Plagiarism

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in **SCampus** in Part B, Section 11, "Behavior Violating University Standards" <u>https://policy.usc.edu/scampus-part-b/</u> . Other forms of academic dishonesty are equally unacceptable. See additional information in **SCampus** and university policies on scientific misconduct, <u>http://policy.usc.edu/scientific-misconduct</u>.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it will be reported to the Office of Academic Integrity https://academicintegrity.usc.edu/. Do not share assignments with any other people. Do not look up solutions on websites or use Al-generated code unless specifically permitted. Do not look at other student's solutions to any assigned coding homework. Do not submit another person's work as your own. Do not look at or discuss any work during guizzes or tests. Do not leave the room during an exam without permission. Do not cheat! As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.

# Examples of behavior violating University standards:

- The submission of material authored by another person but represented as the student's own work, whether that material is paraphrased or copied in verbatim or near-verbatim form. (This applies to code as well as written work)
- Obtaining for oneself or providing for another person a solution to homework, a project or other assignments, or a copy of an exam or exam key without the knowledge and expressed consent of the instructor.
- Unauthorized collaboration on a project, homework, or other assignment.
- Fabrication: Submitting material for lab assignments, class projects, or other assignments which is wholly or partially falsified, invented, or otherwise does not represent work accomplished or undertaken by the student.

Academic integrity tutorials can be found at <u>https://libraries.usc.edu/research/refere</u> <u>tutorials</u>

#### 🔝 Viterbi Honor Code

Engineering enables and empowers our ambitions and is integral to our identities. In the Viterbi community, accountability is reflected in all our endeavors.

Engineering+ Integrity.

Engineering+ Responsibility.

Engineering+ Community.

Think good. Do better. Be great.

These are the pillars we stand upon as we address the challenges of society and enrich lives.

## Weekly Course Schedule (Subject to change)

See <u>live view</u>

Week	Topics	Assignments & Assessments	Reading
Week 01	Intro to Java. Syntax Practice. Data Types. Conditionals.	A00 and A01	Week 1 Reading (Ch 1-2)
Week 02	Loops. Methods. Simple user input. Intro to Using Java APIs.	A02	Week 2 Reading (Ch 4-6)
Week 03	User input details. More on using Java APIs: String, Math, Random, LocalDate, ArrayList.	A03 Quiz 1 (Sep 13)	Week 3 Reading (Ch 3)
Week 04	File I/O. arrays data structure.	A04	Week 4 Reading (Ch 7)
Week 05	Immutable Objects. Mutable Objects	A05	Week 5 Reading (Ch 9-10)
Week 06	Designing classes → Constructors, Accessors, Mutators.	Quiz 2 (Oct 4)	Week 6 Reading (Ch 11)
Week 07	OOP. Arrays of objects. Using real world data. Fall Recess	A06	Week 7 Reading (Ch 12)
Week 08	Data structure overview: ArrayLists versus arrays, Enums	A07	Week 8 Reading (Ch 13)
Week 09	Data structures: HashMaps	A08 Quiz 3 (Oct 25)	
Week 10	Inheritance. Object. Abstract classes.	A09	Week 10 Reading (Ch 14)
Week 11	Interfaces. Comparable interface and compareTo method.	A10	

Week	Topics	Assignments & Assessments	Reading
Week 12	Program Design, using Polymorphism. Liskov principle and Polymorphism.	A11 Quiz 4 (Nov 15)	Week 11 Reading
Week 13	Exceptions. 2d arrays. Java Collection Framework.		
Week 14	OOP Design Principles and Patterns (Video Lecture) Thanksgiving Recess	A12	
Week 15	Final Projects Miscellaneous Topics	A13 Comprehensive Exam	
Study Days	Special Office Hour Schedule	Final Project	
Exam Period	Final Project Due Saturday Dec 14th at 11pm		



#### Requirements

The initial **design** for final project will be assigned and graded as the last course homework. Students should immediately start programming their final projects and will submit **two** intermediate graded checkpoints. The final project will be due by 11pm on Saturday December 14th.

Students must plan and implement a multiple-class, fully functioning application in Java. Successful projects will have a clear inheritance hierarchy, read and store data to files, allow for user interaction, and demonstrate concepts learned during the course (like inheritance, polymorphism, interfaces, MVC pattern, and good code style). A project must represent the

#### **Final Project Grading.**

Each of the below categories will be rated "Excellent", "Approaching Mastery", "Attempting Mastery", "Some Attempt" and "Incomplete or Not Functional"

- Checkpoints 1& 2: 8 points.
- Inheritance Hierarchy and code implementation of hierarchy: 16 points
- Code Implementation Requirements: 8
   points
- Data to files: 16 points
- User Interaction: 16 points
- System representation and use of collections: 16 points
- Coding Style: 4 points

student's sole effort; online tutorials or other examples may be consulted, but they must be improved upon and noted in the final documentation. Failure to note and provide links to reference material will be considered cheating. The final project will be graded on how it fulfills the requirements and the quality and completion of the code.

- Final Report: 8 points
- Reflection: 8 points

#### Total points possible: 100

## Syllabus Action Items

[] (If applicable) Send OSAS accommodation letter to instructor

☐ If you have questions about any portion of the syllabus, please post on edStem discussions.