University of Oklahoma
College of Engineering

Computer Science 2334
Programming Structures and Abstractions
Fall 2021 Syllabus

General Information

Section 010 Class Time:	Monday and Wednesday 1:30 pm - 2:45 pm
Section 020 Class Time:	Monday, Wednesday, and Friday 11:30 am - 12:20 pm
Class Location:	Gallogly Hall 127
Prerequisites:	C S 1323 or 1321 or 1324, and MATH 1523 or higher.

Section 010 Instructor and Office Hours:

Name	Office	Hours	Email
Rafal Jabrzemski	DEH 235	Monday 10:00 am - 11:30 am	rjabrzemski@ou.edu
	DEH 235	Wednesday 10:00 am - 11:30 am	

Section 020 Instructor and Office Hours:

Name	Office	Hours	Email
Anindya Maiti	DEH 546	Thursday 2:00 pm - 4:00 pm	am@ou.edu

Important Dates

First Day of Class	August 23, 2021
Section 010 Final Exam	December 17, 2021, 8:00 am - 10:00 pm, Gallogly Hall, 127
Section 020 Final Exam	December 13, 2021, 1:30 pm - 3:30 pm, Gallogly Hall, 127

(*) You are expected to have a working knowledge of Java, including familiarity with its basic data types and control structures, and an understanding of basic program abstraction and organization. If you do not have a solid understanding of these skills, then you need to revisit the material from CS 1323 before attempting this course.

Lab Times

Times will be shown in Canvas.

Text and Course Materials

1. Books

    (a) Programming in Java (**Zyante**) at `http://zybooks.com`.

        i. Click on your zyBooks link in your learning management system. (Do not go to the zyBooks website and create a new account) and then subscribe

        ii. A subscription is $77. Students may begin subscribing on Aug 10, 2021 and the cutoff to subscribe is Dec 01, 2021. Subscriptions will last until Dec 29, 2021.

    (b) A Gift of Fire: Social, Legal, and Ethical Issues for Computing and the Internet, Sara Baase, Fourth Edition (**GOF**)

2. Java SE Development Kit (JDK) Version 11.

(a) `https://www.oracle.com/technetwork/java/javase/downloads/index.html`

Note that just having the Java Runtime Environment (JRE) is not sufficient (which you may have installed for previous classes).

3. We will use Eclipse as our integrated development environment (IDE) this semester. If you install the Java SDK before Eclipse, the installation process usually goes smoothly. We strongly recommend the latest version from `https://www.eclipse.org`

4. It is the responsibility of each student in this class to have a *working laptop computer with ample battery* (at least 2 hours of life under moderate usage) and wireless Internet connectivity. You must bring the laptop computer to all classes and labs. If your computer requires repair during the semester, it is your responsibility to make arrangements to have another computer available and to get the necessary software installed. Note that temporarily borrowing a computer from a fellow student in the class can present many problems, including the potential for academic misconduct.

3.1   Ownership of Course Materials

The instructor retains ownership and all rights to the original content. This includes but is not limited to exams, lectures, quizzes, handouts, protocols, electronic documents, syllabi, and all other materials. Original or transcribed course content may not be copied, recorded, retransmitted, posted on-line, or sold without the expressed written consent of the instructor. Violation of content ownership will be treated as academic misconduct.

Course Description

This is your second course in programming. We will focus on abstraction and programming methodologies including: inheritance, abstract data types, integrated development environments, unit tests, test driven development, and ethics.

Course Goals

By the end of this course, you should be able to:

- Analyze simple computing problems and define the requirements that are appropriate to their solution.

- Apply design and development principles to the implementation of a solution to the computing problems. Specifically, implement a program in Java using abstract data types and objects.

- Demonstrate sophisticated use of objects, inheritance, polymorphism, and generics in Java programming.

- Evaluate and analyze the correctness of your implementations, and use this information to make further implementation changes.

- Use an integrated development and debugging environment.

- Write unit tests.

- Evaluate and analyze the professional, ethical, legal, security and social issues that are faced by computer scientists, specifically in the areas of intellectual property rights and privacy.

5.1   Student Outcomes

- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

- An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

- An understanding of professional, ethical, legal, security, and social issues and responsibilities.

- An ability to apply design and development principles in the construction of software systems of varying complexity

Course Expectations and Policies

6.1   Class Home Page

This class will use Canvas software for our home page. The URL for the home page is `https://canvas.ou.edu`. Login with your 4+4 using your standard OU password. If you have difficulty logging in, call 325-HELP. This software provides a number of useful features, including a list of assignments and announcements, an electronic mailing list, newsgroups, and grade book. I will use this web site for all updates. I may update the Canvas page several times a week. When I update the site in any significant way, I will post an announcement on Canvas telling you what has been added and where it is located. You are responsible for things posted on the site within 48 hours of the post.

Note that you can configure Canvas to send you an email whenever a new piece of information is posted. You should check the site regularly.

6.2   Class Attendance

You are expected to attend all of the lectures and the labs in which you are enrolled. Class attendance is important because we will discuss/clarify concepts and examples that are may not be in the textbook. You are responsible for everything that is announced in class, independent of whether you choose to attend or not. In class, students may be required to work in small groups. Additionally, graded quizzes will be given in class using Canvas. Students who do not attend will not get credit for quizzes or group assignments.

6.3   Class Email

Urgent announcements will be sent through Canvas email. It is your responsibility to:

- Regular read your university-supplied email or have it forwarded to a location where you do regularly read email. I will send out a test message during the first week of class. If you do not receive this message, it is your responsibility to get the problem resolved.

- Have your email program set up so that replying to your email will work correctly. You can send email to yourself and reply to yourself to test this. If you need assistance in accomplishing any of these tasks, contact 325-HELP. You are responsible for reading emails within 24 hours.

*Please put **CS2334** as the first word in the subject line of your email.*

Learning Activities and Assessment

7.1 Readings/Homework

You are responsible for the assigned material found in your textbooks before the class session for which the reading is assigned. The Zyante exercises contained in the designated sections are due before class on the assigned day (see the schedule in Canvas).

7.2 Quizzes

The quizzes will consist of questions about the material from required reading material and discussions, and previous homework questions.

7.3 Projects

Five 2-week long projects will be given over the course of the semester. Some of these projects will be individual, and some may be done in groups of two. Group members are expected to contribute approximately equally to each project solution.

7.4 Automatic grading

Lab and project assignments will be submitted for grading to a system chosen for a given lab or a project. Once you have submitted your assignment, you will automatically receive a partial assessment of your submission. A limited number of re-submissions is allowed until the lab/project deadline. After the deadline, you will receive further feedback on your submission.

7.5 Examinations

There will be two midterm and one final examination. The dates are given in the class schedule. Missing an examination without a previously approved excuse will result in a grade of zero for that examination. If an examination is missed for a verifiable, documented, and approved reason the percentage of the grade coming from the final examination will be adjusted to compensate. Makeup examinations are never available, except as required by University policy.

7.6 Final Examination

The final is comprehensive, as required by College of Engineering policy. No final examinations can be given early, except as required by University policy.y.

7.7 Examination Grading Questions

If there is a dispute about the grading of an examination problem, you may stay after class the day the tests are returned to discuss it. If you cannot stay at this time, stop by during my office hours.

- Projects/Labs: Grading questions for projects/labs that are graded by the TA should first be brought to the same TA. If this does not resolve your question, please see the instructor.

- Exams: All grading questions must be addressed within one week of the graded exam being returned.

- Others: All other grading questions may be brought to the instructor.

- Please note that when an exam/assignment is brought with grading questions, we may examine the entire exam/assignment and your final grade may end up lower. All disagreements about scores must be brought to our attention within one week of when the item is returned.

7.8 Final Grade

The course grade will be determined by the average of the quizzes, discussions, and Final Exam. The final letter grading for the course will be as follows: A $\geq$ 90%, B = 89-80%, C = 79-70%, D = 69-60%, F = < 60%. The instructor will round all averages to two significant figures (69.5 will round to 70 and 69.4 will round to 69) to determine the student's letter grade in the course (70 = C, 69 = D). The instructor reserves the right to make linear adjustments to quiz and final exam grades in cases were a quiz or exam question was found to be in error or unreasonably difficult.

7.9 Canvas Grade Summary

Canvas has a grade book that is used to store the raw data that is used to calculate your course grade. It is the responsibility of each student in this class to check their grades on Canvas after each project or homework is returned. If an error is found, bring the grading document to me, and I will correct it.

7.10 Course Grade

There are the components to the course grade. They are weighted as follows:

Component	Percent of Final Grade	Total Number	Tools	Notes:
Quizzes and In-class Activities	11%	TBD	GitHub	The highest N-2
Homework	10%	TBD	Zyante	
Laboratory	14%	TBD	Eclipse; automatic grading system, GitHub	The highest N - 1
Projects	25%	5	Eclipse; automatic grading system	
Midterm Exams	20%	2	Respondus with Canvas, zyBooks	
Final Exam	20%	1	Respondus with Canvas, zyBooks	

7.11 Incompletes

The grade of "I" is intended for the rare circumstance when a student who has been successful in a class has an unexpected event occur shortly before the end of the class. I will not consider giving a student a grade of "I" unless the following three conditions have been met:

- It is within two weeks of the end of the semester.

- The student has a grade of C or better in the class.

- The reason that the student cannot complete the class is properly documented and compelling.

Course Coverage and Procedures

8.1 Material Covered

Most or all chapters in Zybooks will be covered starting with Chapter 7 and several chapters from GoF (including chapter 2 and 4)

8.2 Backup Copies of Projects

It is the student's responsibility to backup their files appropriately. No extensions to deadlines will be given as a result of lost files, unless there is a massive, network-wide problem that affects the entire class. Do not rely on anyone else to backup your important files. Configure **OneDrive** that is a part of your **Office365** to make backing up your work a routine part of computer usage. It is particularly important to save a backup copy of any project that is submitted. This backup version should not be opened or edited after submission in case something goes wrong with the submission system.

Course Policies

9.1 Make-up Policy

Although the Instructor does not expect a student to miss an assignment, if a student does miss an assignment for a legitimate, verifiable reason, the Instructor will work with the student to provide an opportunity for make-up work.

9.2 Absences

Attending every lecture is highly recommended and expected. Not attending class will have an indirect negative effect on your grade. If low attendance to lectures becomes problematic, the instructor reserves the right to use attendance as extra-credit. There will not be assigned seating in the lecture, but students are expected to sit next to their study group partners to facilitate communication during problem-solving sessions in class.

9.3 Civility

All students are expected to follow proper classroom behavior and treat other students and the instructor with respect. If the instructor deems a student's actions or behavior disruptive to the class, the students will be asked to leave the class for that day.

9.4 Emergency Contact

In case of family or medical emergencies, students should send an email (rjabrzemski@ou.edu). Once the emergency has passed, the student can meet will the instructor to discuss what material/assignments the student has missed and what steps would beneficial to aid the student in continued success in the course.

9.5 Changes in the Syllabus

As the course develops, it might be desirable/necessary to make appropriate changes in aspects of this syllabus. The Instructor reserves the right to make changes if desirable or necessary

University Policies

10.1 Academic Integrity

Cheating is strictly prohibited at the University of Oklahoma, because it devalues the degree you are working hard to get. As a member of the OU community, it is your responsibility to protect your educational investment by knowing and following the rules. For specific definitions on what constitutes cheating, review the Student's Guide to Academic Integrity at `http://integrity.ou.edu/students_guide.html` . To be successful in this class, all work on exams and quizzes must be yours and yours alone. You may not receive outside help. Should you see someone else engaging in this behavior, I encourage you to report it to myself

or directly to the Office of Academic Integrity Programs. That student is devaluing not only their degree, but yours, too. Be aware that it is my professional obligation to report academic misconduct, which I will not hesitate to do. Sanctions for academic misconduct can include expulsion from the University and an F in this course, so don't cheat. It's simply not worth it.

All work submitted for an individual grade, such as quizzes, should be the work of that single individual: not their friends or tutor. **Please ask me if you are in doubt before you collaborate with others. You have to work individually unless it is stated that a collaboration is allowed**.

- Do not show another student a copy of your homework or individual projects before the submission deadline. The penalties for permitting your work to be copied are the same as the penalties for copying someone else work.

- If you choose to do your work on your computer, make sure that your computer account is properly protected. Use a good password, and do not give your friends access to your account or your computer system. Do not leave printouts, or thumb drives around a laboratory where others might access them.

- Upon the first documented occurrence of collaborative work, I will report the academic misconduct to the Campus Judicial Coordinator. The procedure to be followed is documented in the University of Oklahoma Academic Misconduct Code (`http://integrity.ou.edu/summary_of_the_process.html`). In the unlikely event that I elect to admonish the student, the appeals process is described in `http://www.ou.edu/provost/integrity-rights/` .

- If you work with anyone else in completing an assignment, you must include that person's name on the submitted work. Failure to list a student you worked with on the assignment is a violation of academic integrity. If I find that the submitted work appears to be plagiarized, all students involved will be invited to my office individually to explain the work and/or perform similar work. The instructor will determine whether plagiarism occurred based on the match between the depth of understanding of the material displayed in the assignment and the individual interviews.

  [See `http://integrity.ou.edu/faculty_guide.html`]

- Programming projects may be checked by software designed to detect collaboration. This software is extremely effective and has withstood repeated reviews by the campus judicial processes.

- Tutors can be an excellent source of support for students who are having difficulty in the class, but only if the tutor is aware of the distinction between teaching students the material so that they can do their own work, and doing work for students. Tutors who do work for students are not only failing to help the students learn, they are abetting academic misconduct. Examples of misconduct include: If your tutor is sitting behind you while you are typing and methodically telling you what to enter, he or she is abetting academic misconduct. If your tutor is emailing files containing partial or complete programming projects to you, you will commit academic misconduct if you use those lines in your program. More effective use of tutoring services is to do problems that are similar to the assigned work, instead of doing assigned work. For example, it would be fine to work unassigned problems from the textbook with a tutor. This requires significant discipline, both on the part of the tutor and the part of the student. Copying from a tutor is as unacceptable as copying from another student. If your tutor doesn't know how to teach properly, please ask them to call or visit me and I will provide training and guidance. If you are tutoring someone else in the class, you can be accused of academic misconduct if this person copies your work.

- Cheating is strictly prohibited at the University of Oklahoma, because it devalues the degree you are working hard to get. As a member of the OU community it is your responsibility to protect your educational investment by knowing and following the rules. For specific definitions on what constitutes cheating, review the Student's Guide to Academic Integrity at `http://integrity.ou.edu/students_guide.html`.

To be successful in this class, all work on exams and quizzes must be yours and yours alone. You may not receive outside help. On examinations and quizzes you will be informed about permissible study aids. Should you see someone else engaging in this behavior, I encourage you to report it to myself. That student is devaluing not only their degree, but yours, too. Be aware that it is my professional obligation to report academic misconduct, which I will not hesitate to do. Sanctions for academic misconduct can include expulsion from the University and an F in this course, so don't cheat. It's simply not worth it.

- Feel free to discuss all assignments with the instructor or the TAs. However, do not discuss, look at, or copy another student's solution to a Zyante or lab assignment. Doing so is considered cheating. For group projects, communication is expected between group members. However, communication about the solution to a project between groups is disallowed. Doing so is considered cheating.

- You may make use of the net as a reference as you are working on assignments. For projects, these references must be explicitly documented in your code. However, downloading or deriving specific solutions from the net is considered cheating.

10.2   Religious Observance

It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays, without penalty. [See Faculty Handbook 3.15.2 (`https://apps.hr.ou.edu/FacultyHandbook#3.15.2`).]

10.3   Reasonable Accommodation Policy

Students requiring academic accommodation should contact the Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Disability Resource Center website `http://www.ou.edu/drc/home.html`. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

10.4   Title IX Resources and Reporting Requirement

For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on-call 24.7, counseling services, mutual no contact orders, scheduling adjustments and disciplinary sanctions against the perpetrator. Please contact the Sexual Misconduct Office 405-325-2215 (8-5, M-F) or OU Advocates 405-615-0013 (24.7) to learn more or to report an incident. For more information, visit `http://www.ou.edu/eoo.html`.

10.5   Adjustments for Pregnancy/Childbirth Related Issues

Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact your professor or the Disability Resource Center at 405/325-3852 as soon as possible. Also, see `http://www.ou.edu/eoo/faqs/pregnancy-faqs.html` for answers to commonly asked questions.

10.6   Final Exam Preparation Period

Pre-finals week will be defined as the seven calendar days before the first day of finals. Please refer to OU's Final Exam Preparation Period policy (`https://apps.hr.ou.edu/FacultyHandbook#4.10`).

Emergency Protocol

During an emergency, there are official university procedures that will maximize your safety.
   http://www.ou.edu/emergencypreparedness/procedures

11.1   Severe Weather

If you receive an OU Alert to seek refuge or hear a tornado siren that signals severe weather:

1. LOOK for severe weather refuge location maps located inside most OU buildings near the entrances

2. SEEK refuge inside a building. Do not leave one building to seek shelter in another building that you deem safer. If outside, get into the nearest building.

3. GO to the building's severe weather refuge location. If you do not know where that is, go to the lowest level possible and seek refuge in an innermost room. Avoid outside doors and windows.

4. GET IN, GET DOWN, COVER UP.

5. WAIT for official notice to resume normal activities.

   Link to Severe Weather Preparedness - Video: https://vimeo.com/237922159

11.2   Fire Alarm/General Emergency

If you receive an OU Alert that there is a danger inside or near the building, or the fire alarm inside the building activates:

1. LEAVE the building. Do not use the elevators.

2. KNOW at least two building exits

3. ASSIST those that may need help

4. PROCEED to the emergency assembly area

5. ONCE safely outside, NOTIFY first responders of anyone that may still be inside building due to mobility issues.

6. WAIT for official notice before attempting to re-enter the building.

Link to OU Fire Safety on Campus - https://vimeo.com/125093634

11.3   Armed Subject/Campus Intruder

If you receive an OU Alert to shelter-in-place due to an active shooter or armed intruder situation or you hear what you perceive to be gunshots:

1. GET OUT: If you believe you can get out of the area WITHOUT encountering the armed individual, move quickly towards the nearest building exit, move away from the building, and call 911.

2. HIDE OUT: If you cannot flee, move to an area that can be locked or barricaded, turn off lights, silence devices, spread out, and formulate a plan of attack if the shooter enters the room.

3. TAKE OUT: As a last resort fight to defend yourself.

Link to OU Fire Safety on Campus - http://www.ou.edu/emergencypreparedness/procedures/active-shooter