Computer Science 1321
Java for programmers
Fall 2024

Class Time: 3:00 - 4:40 PM on Monday
Location: Physical Science Ctr 359

Instructor: Keerti Banweer **Email:** Keerti.banweer@ou.edu

This course has three essential learning objectives:

1. Learning to write a few lines of code to solve given problems.
2. Learning to write complete computer programs to solve given problems.
3. Developing conceptual understanding of how computer programs work.

Students achieve these objectives through extensive practice in the Java programming language. This practice occurs in phases. First, students read about the lecture material before class. Then we discuss the material in class while working many examples together and checking understanding with a classroom response system (Canvas). After class, students practice with interactive programming tutors (Zybook, CodingBat problems), projects, and homework assignments. This means that there are class deadlines every two or three days. Repeated practice leads to mastery.

Office Hours: On Canvas, under Pages. These sometimes change during the semester. Temporary changes will be announced through email. Permanent changes will be announced through email and made on Canvas.

Fall 2024 Disclaimer: I have made every reasonable attempt to anticipate the challenges that could occur this semester and create a robust structure that can withstand these challenges. However, there may be unanticipated challenges. If changes are made, I will make every reasonable effort to be fair and kind to all students and respect the spirit of this document**. If you need special consideration, please ask for it.**

Class Structure: This class is a synchronous class. You are expected to attend all class sessions in person at the scheduled time, unless you are ill, have unanticipated caretaking responsibilities, or feel unsafe being around groups of people at this time. Examinations in the class will take place during class time and must be done in person unless there are extenuating circumstances, usually arranged in advance.

Canvas Learning Management System: https://canvas.ou.edu
Log in with your OUNetID (usually the first 4 letters of your last name followed by a 4-digit number). All assignments, deadlines, grades, announcements, and course documents will be posted to the CS 1321 Canvas page. It is your responsibility to regularly check for updates. You can configure Canvas to email you notifications or send them through text messages.

Prerequisites:

1. Math 1523 (precalculus and trigonometry), equivalent, or concurrent enrollment.
2. Basic computer literacy such as the ability to install software and navigate folder structures. A list of specific expectations is available on Canvas under Modules -> Important Documents.

Topics Covered: programs, Java, input and output, identifiers, variables, assignment statements, constants, memory diagrams, primitive data types, operations on primitive data, conditional statements, repetition, methods, parameters, arguments, return values, passing by value, passing by sharing, nested control statements, one dimensional arrays, objects, user defined classes, and classes from the Java Application Programmers Interface (API) (including Arrays, ArrayList, Character, Collections, Double, Integer, Float, Math, Scanner, String, and StringBuilder).

ABET: Students will increase their ability to meet the following ABET outcomes:
Outcome 1: Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
Outcome 2: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

Required Materials:
Please purchase the following items as soon as possible (all contain graded assignments that cannot be completed any other way):

1. Zyante online textbook (ZyBook) with labs (zyLabs).
   - Click on the first Zybook assignment in Canvas, which has the title "Ch. 2 to 5 Reading"
   - Click the link at the bottom of the assignment page to open the Zyante website in a new window.
   - Subscribe to the book.
2. Turing's Craft CodeLab
   - Click on the first interactive tutoring assignment in Canvas, which has the title "TC 1: Storing and Changing Primitive Data."
   - Click the link at the bottom of the assignment page to open the Turing's Craft website in a new window.
3. Laptop computer with network access for class.
   - You are responsible for having a working laptop available for every class. This includes finding a replacement with the necessary software installed if your laptop requires repairs during the semester.

Tutors

The College of Engineering tutoring schedule will be here (usually about two weeks into the semester): http://www.ou.edu/content/coe/currentstudents/studentsupport/tutoring.html.

Software Tutorial Products
We will use a number of software products to help you learn to program. These products need to be setup very carefully so that I can access your progress and assign your grades for your work. The first project of the course will walk you through this setup process, or you can follow the steps below. Note that it is important that you enter your name exactly as it appears in the official OU systems.

Tentative Class Schedule:

Wk	Date	Topic	Projects & due date	TC & due date	Zyante Chapters
1	19-Aug	Introduction, Data Types & Math, Input/Output	Project1 (Aug 23)		Ch. 2 - 5 (Aug 25)
2	26-Aug	**(Quiz)** Branching & Loops, Arrays of Primitive Data, Logical Operators	Project2 (Aug 26)	TC1 (Aug 28)	Ch. 6 - 8 (Sep 4)
3	2-Sep	Labor Day	Project3 (Aug 29)		
4	9-Sep	**(Quiz)** Methods, Perfect-Size vs. Oversized Arrays	Project4 (Sep 9)	TC2 (Sep 10)	Ch. 9 - 13 (Sep 9)
5	16-Sep	**(Take Home Quiz)** Methods and Reference, Nested loops, Sorting	Project5 (Sep 16)		Ch. 14 - 17 (Sep 16)
6	23-Sep	**(Quiz)** Object, Class Methods, Classes with Generics	Project6 (Sep 23)	TC3 (Sep 18)	Ch. 18 - 20 (Sep 23)
7	30-Sep	**(Quiz)** Malevolent Tools, Encapsulation, Aggregation	Project7 (Sep 30)	TC4 (Sep 25)	Ch. 21 - 24 (Sep 30)
8	7-Oct	**Final Exam (During the Class hours)**			

Course Policies

Platform: You are responsible for things posted on Canvas or sent by email with a 24-hour delay.

Final Exam: 3:00 – 4:40 PM on Monday, Oct 7.
The College of Engineering requires this exam to be comprehensive. No final exam will be given early except as required by university policy.

Study Advice: In technical fields like computer science, the only way to master the subject matter is to practice. Learning to program is like learning to play a musical instrument. You can read a hundred books on playing the piano, but if you don't sit down in front of a keyboard and practice, you won't be able to produce any interesting music. Similarly, if you only attend lectures or read the textbook, you're going to find it difficult to write functioning computer programs of any complexity.
To facilitate your practice, this course has different types of assignments, which are described below. Start each assignment as early as you can and get help from me, a teaching assistant, or a tutor if you get stuck. Programming can be challenging, which is why we have so many office hours. If you work hard on and understand the assignments, you should do well on the exams, earn a good grade in the class, and generally have a rewarding semester.

Assignments: This course has 4 different assignment types. Each is designed to help you learn the material in a different way. All assignments are due at 11:59 PM on their posted due dates.

1. Zyante (zyBook) and CodingBat (CB): The online textbook will introduce you to new topics before I cover them in class.

- Each section contains activities to reinforce the ideas in the text. Activities come in two types: participation and challenge. **You are only required to complete participation activities**, although you are welcome to complete challenge activities for extra practice.
- Each question can be attempted an unlimited number of times without a penalty. For reading assignment, you earn 1 point for each question answered correctly and 2 points for each CB problem answered correctly before the deadline.
- Some sections are marked as optional. You are not required to complete these sections.

2. Turing's Craft (TC): Interactive tutoring assignments reinforce topics after they are discussed in class.
   - TC exercises are answered in a web browser and provide immediate feedback on your code. Answers are often given in the form of code fragments (a few lines of code), rather than complete programs.
   - As with zyBook assignments, there is no penalty for incorrect answers. You earn 1 point for each TC exercise.
3. Projects: These assignments require you to solve a problem in a less structured environment by writing a complete program.
4. In-class quiz: These assignments are given in class (through canvas) to keep you engaged and determine which topics need additional clarification.

All assignments must be completed *individually* unless otherwise stated.

Grading: Your final course grade is calculated from your average grade on each type of assignment, your average midterm grade, and your final exam grade. These averages are combined using the weights in the table below. The weights applied to the Zyante, iClickers (class participation) and Turingscraft & CodingBat grades are intentionally low. This allows you to learn from mistakes with only small penalties. Completing these assignments is how most students develop the conceptual understanding needed to do well on the homework, projects, and exams.

Assignment	Weight (%)	Forgiveness Policy
Zyante & CodingBat*	15	none
Turingscraft	10	20 free points (not to exceed 100%)
Projects	25	One lowest grade will be dropped
Class Quiz	20	One lowest grade will be dropped
Final Exam	30	none

* Zyante questions and Turing's Craft exercises are each worth 1 point, and CodingBat problems are each worth 2 points.

The table also lists the forgiveness policy for each assignment type. ***At the end of the semester***, these adjustments are applied when calculating average assignment grades. I do not put these adjustments in the Canvas gradebook earlier in the semester because this would tend to inflate grades, which misleads students into thinking they are doing better than they really are. This means that the grade that shows in the Canvas gradebook is always inaccurate and is usually, but not always, lower than your actual grade in the class.

Letter Grades: Your course grade will be converted into a letter using a scale no higher than the following:

Letter	Percentage
A	90+
B	80–89
C	70–79
D	60–69
F	Below 60

The scale may be lowered at the end of the semester at my discretion.

Borderline Grades: It would be nice if all course grades fell cleanly into the ranges shown above. Most semesters, however, a handful of letter grades are decided by only a few points. In these difficult cases, I will use the following algorithm:

1. A course grade is considered "borderline" if it is within three points of the next higher letter. For example, 87, 68 and 79 are borderline course grades, but 81 and 92 are not.
2. For borderline grades, if the grade on the final exam is above the threshold for the higher letter, the higher letter will be given.
3. Otherwise, the lower letter will be given.

Grade Checking: Canvas has a grade book that stores the raw data used to calculate your course grade. It is your responsibility to periodically check that your grades are recorded properly. If you find an error, email me as soon as possible, and I will correct it. **The grade summary on Canvas is not and cannot be made accurate** since Canvas does not allow the implementation of several course policies in the Gradebook. In addition, Canvas excuses grades that are not actually excused. Treat Canvas grades with great suspicion and recalculate them by hand using the rules in this syllabus if you need an accurate calculation.
Late Work: If there are good reasons for missing an assignment deadline (e.g. illness or caretaking responsibilities), assignment deadlines may be delayed or excused.

Backup Copies of Homework and Projects: No deadline extensions will be given as a result of lost files, unless there is a massive, network-wide problem that affects the entire class. It is your responsibility to back up your files appropriately. Dropbox and other cloud services are useful for this, assuming you have reliable internet access. It is wise to save a backup copy of any homework or lab project that is submitted. This backup version should not be opened or edited after submission in case something goes wrong.

Academic Integrity Violations: The Student's Guide to Academic Integrity defines academic misconduct as "any act that improperly affects the evaluation of a student's academic performance or achievement," including cheating on exams, improper collaboration on assignments, and plagiarism (https://www.ou.edu/integrity/students).

The most common violation in this course is plagiarism, usually on homework and projects. Plagiarism is "an act or instance of using or closely imitating the language and thoughts of another author and the representation of that author's work as one's own" (https://www.dictionary.com/browse/plagiarism). When completing assignments in this class, please keep the following in mind:

- Solutions should not be copied from internet sources, including websites and paid professional programmers.
- Do not show, give, or email another student a copy of your work before the submission deadline. Every semester I have multiple students submitting work with another student's name on it. This happens because people who want to cheat are generally too lazy to even read the document they are copying.
- Do not use artificial intelligence systems like ChatGPT to complete your work. Copying from an automated source is also plagiarism, just like copying from a human and for exactly the same reasons. This particular type of plagiarism is particularly easy to catch since the automation will provide answers that are identical and yet partially or completely incorrect to any student using the system. This kind of academic misconduct is especially easy for us to identify.
- The penalties for permitting your work to be copied are usually the same as the penalties for copying someone else's work, since it is not possible to distinguish the person who copied from the person who allowed their work to be copied. If I can determine who created the work, the person copying the work will receive a harsher penalty.

Projects are done in the laboratory with one assigned partner. Sharing your code with this person is not only permitted but required. Sharing code with anyone else can be a violation of academic integrity.

Proper and Improper Collaboration: When you pass this class with a grade of C or better, I am certifying that you are a competent Java programmer. I cannot make this certification without seeing work that you complete on your own. Interactive programming tutors, homework, and examinations should be the work of a single individual, not their friends and not their tutor. It is permissible to talk to other students in the class for help completing or improving your work, however, this help must not interfere with my ability to evaluate the quality and quantity of your understanding of computer programming. To understand this distinction, please review the examples in the table below. This is not a comprehensive list of all the ways in which academic integrity can or cannot be violated.

Situation	**Integrity Violation?**
Students A and B meet and work on their homework together. Neither student prepared anything in advance.	**Yes**
Students A and B create drafts of their homework assignment independently and meet to compare answers and discuss their understanding of the material. Each student decides independently whether to make changes that are discussed.	No
Students A and B agree to prepare drafts of their homework assignment independently, but only Student A does. Student A shares his draft with Student B who reviews it and offers suggestions for improvement.	**Yes**
Students A and B agree that student A will work the even problems and student B will work the odd problems. They share their work.	**Yes**
Student A has completed a project and is helping student B complete the same project. Student A explains to student B what student B's code does, which is different than what student B thinks the code does. Student B determines how to modify the code independently.	No

Student A has completed a project and is helping student B complete the same project. Student B is having trouble getting one part of the program to work, so student A texts student B three lines of their solution.	**Yes**
Student A has completed a project and is helping student B complete the same project. Student B is having difficulty getting the program to work, so student A tells student B exactly what to type for several lines.	**Yes**
Student A has completed a project and is helping student B complete the same project. Student B is having difficulty getting the program to work, so student A suggests that student B use a specific debugging strategy (e.g., "Print out the contents of the variable").	No
Student A has completed a project and is helping student B complete the same project. Student A shows student B an example program in the online textbook that will be helpful in figuring out the solution to the problem.	No
Students A and B work on a project together. After they have finished it, student A takes the code and modifies it so the programs do not appear to be identical.*	**Yes**
Student A uses ChatGPT to complete an assignment.	**Yes**

*Be aware that I can detect these changes.

Chegg and Other Online Tutoring Sources: There are a wide variety of tutoring resources available through paid websites. Many of these sites have students upload assignments and solutions and surreptitiously provide these documents to other students. What appears to be a session with a tutor may be, behind the scenes, the tutor doing a search of their company database of solutions to share. By using these sites you risk being charged with academic misconduct, either by supplying other students with answers they did not author or by receiving someone else's answer that you did not author. Since these companies are not open with students about their practices, you cannot know whether a tutor is providing meaningful support (for example, identifying misunderstandings of content and explaining them like our teaching assistants would) or simply feeding you someone else's solution. The tutor's actions can result in different students submitting answers that are identical, which may be flagged as academic misconduct during grading, especially when the solution is incorrect (which it often is since their so called tutors often lack sufficient expertise to do their jobs well). See the table below for specific examples. **There is no way to use these sites without risking being charged, and even committing, academic misconduct at this time.** These sites can cooperate with the OU Office of Academic Integrity to identify students who are using their services to commit academic misconduct.

Scenario	**May Be Charged With Academic Misconduct?**	**Guilty of Academic Misconduct**
You use the website to receive help. During the process, the assignment and all or part of your solution are stored on a company computer. The assignment or solution are subsequently delivered by the company to another student that you do not know.	Yes	No, but you're going to have to prove it since two students with identical solutions is usually considered good evidence of academic misconduct, especially if the solution is not correct.

You use the website to receive help. The assignment has already been uploaded, and your tutor provides you with a solution. You submit all or part of this solution as your work.	Yes	Yes, and you may not even be aware that the tutor was working from someone else's solution.

Academic Integrity Process: Upon the first documented occurrence of academic misconduct, I will report the violation to the Office of Academic Integrity Programs. If you are found guilty by this process, the penalty can be a failing grade in the class and being suspended from college for a semester. If you have committed academic misconduct previously, the sanctions can be more severe, including expulsion from OU. The grade sanction that I usually request for academic misconduct on a single assignment is a zero on the assignment. The grade sanction that I usually request for a student accused of cheating on an examination is an F in the course. The procedure to be followed is documented in the University of Oklahoma Academic Misconduct Code. If I elect to admonish you, the appeals process is described here: https://www.ou.edu/integrity/students. The highest penalty for an admonition is a zero on the assignment.

Tutors and Academic Integrity: Before you hire a private tutor, please take advantage of the many people who support this class. (See the list of TA and tutoring hours on Canvas). These people are trained to tutor properly. Private tutors can be a source of support if you are struggling in the class, but only if the tutor is aware of the distinction between teaching you the material so that you can do your own work and completing assignments for you. Tutors who simply complete your assignments are not only failing to help you learn, they are committing academic misconduct. Each of the situations listed above in the table of collaboration scenarios applies when student A is a tutor.

Religious Observances: 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.

Accommodation of Disabilities:
The University of Oklahoma (OU) is committed to the goal of achieving equal educational opportunity and full educational participation for students with disabilities. If you have already established reasonable accommodations with the Accessibility and Disability Resource Center (ADRC), please submit your semester accommodation request through the ADRC as soon as possible and contact me privately, so that we have adequate time to arrange your approved academic accommodations.

If you have not yet established services through ADRC, but have a documented disability and require accommodations, please complete ADRC's pre-registration form to begin the registration process. ADRC facilitates the interactive process that establishes reasonable accommodations for students at OU. For more information on ADRC registration procedures, please review their Register with the ADRC web page. You may also contact them at (405)325-3852 or adrc@ou.edu, or visit www.ou.edu/adrc for more information.

Note: disabilities may include, but are not limited to, mental health, chronic health, physical, vision, hearing, learning and attention disabilities, pregnancy-related. ADRC can also support students experiencing temporary medical conditions

Adjustments for Pregnancy/Childbirth Related Issues: Should you need modifications or adjustments to your course requirements because of pregnancy-related or childbirth-related issues, please contact me as soon as possible. Generally, modifications will be made where medically necessary that are similar in scope to accommodations based on temporary disability. Please see the following site for answers to commonly asked questions: https://www.ou.edu/eoo/faqs/pregnancy-faqs.

Title IX Resources:
The University of Oklahoma faculty are committed to creating a safe learning environment for all members of our community, free from gender and sex-based discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking, in accordance with Title IX. There are resources available to those impacted, including: speaking with someone confidentially about your options, medical attention, counseling, reporting, academic support, and safety plans. If you have (or someone you know has) experienced any form of sex or gender-based discrimination or violence and wish to speak with someone confidentially, please contact OU Advocates (available 24/7 at 405-615-0013) or University Counseling Center (M-F 8 a.m. to 5 p.m. at 405-325-2911)

Because the University of Oklahoma is committed to the safety of you and other students, and because of our Title IX obligations, I, as well as other faculty, Graduate Assistants, and Teaching Assistants, are mandatory reporters. This means that we are obligated to report gender-based violence that has been disclosed to us to the Institutional Equity Office. This means that we are obligated to report gender-based violence that has been disclosed to us to the Institutional Equity Office. This includes disclosures that occur in: class discussion, writing assignments, discussion boards, emails and during Student/Office Hours. You may also choose to report directly to the Institutional Equity Office. After a report is filed, the Title IX Coordinator will reach out to provide resources, support, and information and the reported information will remain private. For more information regarding the University's Title IX Grievance procedures, reporting, or support measures, please visit Institutional Equity Office at 405-325-3546.

Mental Health Support Services:

Support is available for any student experiencing mental health issues that are impacting their academic success. Students can either been seen at the University Counseling Center (UCC) located on the second floor of Goddard Health Center or receive 24/7/365 crisis support from a licensed mental health provider through TELUS Health. To schedule an appointment or receive more information about mental health resources at OU please call the UCC at 405-325-2911 or visit University Counseling Center. The UCC is located at 620 Elm Ave., Room 201, Norman, OK 73019.

Final Exam Preparation Period:

Pre-finals week will be defined as the seven calendar days before the first day of finals. Faculty may cover new course material throughout this week. For specific provisions of the policy please refer to OU's Final Exam Preparation Period policy.

Emergency Protocol:
During an emergency, there are official university procedures that will maximize your safety.
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.
Additional Weather Safety Information is available through the Department of Campus Safety.

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. Run: 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: 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. Fight: As a last resort fight to defend yourself.
For more information, visit OU's Active Shooter page.
Shots Fired on Campus Procedure – Video

Fire Alarm/General Emergency:

If you receive an OU Alert that there is 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.

OU Fire Safety on Campus

Copyright Statement for In-Person or Online Courses: Sessions of this course could be recorded and live-streamed, if OU's policies change. These recordings are the intellectual property of Keerti Banweer and may not be shared or reproduced without the explicit, written consent of Keerti Banweer. In addition, privacy rights of others such as students, guest lecturers, and providers of copyrighted material displayed in the recording may be of concern. Students may not share any course recordings with individuals not enrolled in the class or upload them to any other online environment.

Ownership of Course Materials: All original content used in this course is owned by Dr. Deborah Trytten and Instructor Keerti Banweer. This includes but is not limited to exams, lectures, quizzes, handouts, protocols, electronic documents, and syllabi. Original or transcribed content may not be copied, recorded, retransmitted, posted online, or sold without her and/or her expressed, written consent.