Computer Science 1324
Introduction to Computer Programming for Non-Programmers
Fall 2022

Class Time: 9:30-10:20 AM on Monday, Wednesday, and Friday
Location: Dale 206
Instructor: Dr. Deborah Trytten Email: dtrytten@ou.edu Office: Devon 252

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 (TopHat). After class, students practice with interactive programming tutors (Turingscraft, CodingBat problems), projects done in the laboratory, and homework assignments. This means that there are class deadlines every two or three days. Repeated practice leads to mastery.

Teaching Assistants (TAs):

Name	Email
Keerti Banweer	keerti.banweer@ou.edu
Meghana Alaparthy	meghana.alaparthy@ou.edu
Lithitha Chopparpu	chandra.likhitha.chopparpu-1@ou.edu
Sudhi Gopal	sudhi@ou.edu

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.

Zoom Addresses: On Canvas, under Pages.

Masking: The course will follow OU's policy on masking, which can change rapidly. If you are not feeling well or have been exposed to Covid, inform Dr. Trytten and do not come to class or the laboratory.

Fall 2022 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 and all laboratories 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 the evening 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 1324 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.
3. Little or no prior programming experience. If you've taken a programming course before, you must enroll in CS 1323 instead.

Free Tutoring: In addition to faculty and TA office hours, the School of Computer Science through the William Kerber Foundation Teaching Scholars, the Dean's Leadership Council (DLC) of the Gallogly College of Engineering, and University College through Action Center Tutoring offer free weekly tutoring sessions. The course TAs, me, and these tutors should be the first place you go for help, since we are all trained specifically to support students in this course.

The times, people, locations, and Zoom links will appear on Canvas under Pages as they are available under Pages on Canvas (usually 2-3 weeks into the semester).

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**. Each is required to complete a different type of assignment and counts for your grade. If you are unable to

afford these items at the start of the semester, let me know so I can excuse your work for a little while or help you find another way to get access.

1. Zyante online textbook (ZyBook) with labs (zyLabs).
   - Click on the first Zybook assignment in Canvas, which has the title "Ch. 1: Introduction to Programming."
   - 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.
   - Click the upgrade link at the top of the page to open a page of payment options (you can work 10 Turingscraft exercises before you pay, but those don't go very far in this class).
   - Use a credit card or activation code (from the online bookstore or from Turingscraft.com) to purchase the CodeLab. The code is cheaper if you buy it directly from Turingscraft.

3. TopHat subscription

   - You will receive a link from TopHat that will give instructions on how to purchase and start their software.

   - If you do not have TopHat installed the first day, come to class anyways. You will still be able to (almost) fully participate.

   - When you sign up, be sure to use your official OU email, not your alias. My official OU email looks like this: Deborah.A.Trytten-1@ou.edu. My alias is dtrytten@ou.edu. If you sign up using an alias, your grades will not be recorded in Canvas.

4. Laptop computer with network access for class and lab.
   - You are responsible for having a working laptop available for every class and laboratory. This includes finding a replacement with the necessary software installed if your laptop requires repairs during the semester.

Midterm Exams: We will have two midterm examinations: Thursday October 6 from 7:30-9:30 pm and Thursday November 10 from 7:30-9:30 pm. Both examinations will be given in Nielson 270. **This is not our regular classroom.** These dates are on Canvas on the Calendar, and on the Assignments tab under Midterms. These dates will not change unless there is a major University-wide problem, like an ice storm.

Makeup exams are only available when required by University policy. Missing an exam without a previously approved excuse will generally result in a grade of zero unless there are

extenuating circumstances. If an examination is excused, your grade on the final examination will be used to replace the grade.

Final Exam: 8-10 am on Tuesday, December 13.
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 5 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, except Top Hat, which is due in class.

1. Zyante (zyBook): 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. You earn 1 point for each question answered correctly before the deadline.
   - Some sections are marked as optional. You are not required to complete these sections.

2. Participation: These assignments are given in class to keep you engaged and determine which topics need additional clarification.
   - Participation activities are given through TopHat
   - You earn 1 point for each section where you answer half or more of the quiz questions correctly. Odd numbers of questions round up (so if you got 1 question right out of 3, you would get credit). I lower this threshold when we have unusually hard questions.

3. Turing's Craft (TC) and CodingBat (CB): Interactive tutoring assignments reinforce topics after they are discussed in class.
   - TC exercises and CB problems 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.

- Each assignment is due about two days after the last class on the corresponding topic.
- As with zyBook assignments, there is no penalty for incorrect answers. You earn 1 point for each TC exercise and 2 points for each CB problem answered correctly before the deadline.

4. Homework: These assignments consist of questions that are like those on the exams.
   - Each homework will be posted as a PDF file with fillable fields. You can read and answer the questions using Acrobat Reader: https://get.adobe.com/reader. Do not use reader within a browser, you will need to use a desktop app to be able to save your changes.
   - Homework is submitted through Gradescope, which can be accessed from the link on the left side of the course Canvas page.

5. Laboratory Projects: These assignments require you to solve a problem in a less structured environment by writing a complete program.
   - Projects are assigned in lab each Tuesday and are generally due via zyLabs the following Monday.
   - You and another student will be paired together to work as a team. You will perform pair programming, which has benefits: https://en.wikipedia.org/wiki/Pair_programming.

All assignments must be completed *individually* unless otherwise stated. Lab projects are an exception since you will collaborate with your partner.

Laboratory Sections: All labs are held on Tuesdays. Below are the meeting times and instructors for each section:

Section	Time	Location	Instructors
11	8:30 am – 10:20 am	Sarkeys M207	Likhitha, Meghana
12	12:30 pm – 2:20 pm	Sarkeys M207	Keerti, Likhitha
13	2:30 pm – 4:20 pm	Sarkeys M207	Keerti, Meghana

The following are answers to frequently asked questions about the labs, along with a few things worth noting:

- You must attend lab to receive credit on a project. Missing lab will result in a grade of zero, even if you complete the project independently and submit it before the deadline.
- Remote attendance via zoom is permitted for laboratories for students only by prior arrangement. Students must request permission to attend the lab virtually in advance from Dr. Trytten.
- Because laboratory assignments are done with a partner, if you are late to lab by more than 10 minutes, you will be asked to leave. In this case, you will receive a zero on the project. Please respect your partner and arrive on time.
- Lab partners will be assigned by the instructor at least three times in the semester.
- Although you and your partner will collaborate on each project, you *both* must submit a copy of your source code (the .java file, not the .class file). Make sure you each have a copy before leaving lab! Do not trust your partner to email it to you later.

- Projects are graded according to a rubric included in each project handout. Review this rubric before submitting your code so you don't lose points. If you understand the rubric and you test your code, you should be able to accurately predict your grade.
- Incomplete projects can be submitted for partial credit, but source code that does not compile or fails immediately upon execution generally receives no credit.
- Each exam will have a final problem that requires you to write most of a complete program. This question is typically worth 30–40% of the exam points. Projects are the assignments most like these questions. Thoroughly understanding and completing each project is thus an excellent way to prepare for exams.

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, TopHat 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	5	50 free points (not to exceed 100%)
TopHat	5	2 free sections
Turingscraft & CodingBat*	5	50 free points (not to exceed 100%)
Homework	15	20 free points (not to exceed 100%)
Lab Projects	20	100 free points (not to exceed 100%)
Midterm Exams	30	none
Final Exam	20	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: The forgiveness policies listed above are designed to allow you to miss one full week of class without a grade penalty. If there are good reasons for missing an assignment deadline (e.g. illness or caretaking responsibilities), assignments may be 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.

Excused Absences: Please let me know about absences from class as soon as reasonably possible. If you will miss this course for a period of time, TopHat will be excused. If you are ill and unable to do course work, all work that is due during that period of time will be excused. If there is an examination shortly after you return from an illness (the interpretation of "shortly" depends on the length and severity of the illness), the examination will be excused. While

excusing assignments may keep them from harming your grade in the short run, in the long run you will need to complete the assignments to gain the knowledge that will make it possible to succeed in class. **Makeup work is never available.** Assignments may be excused by submitting the information to: https://tinyurl.com/ExcusedAssignments

Religious Observances: It is University policy to excuse absences that result from religious observances and to reschedule exams and assignment deadlines that fall on religious holidays. Please check the schedule and inform me of conflicts as soon as possible.

Accommodation of Disabilities: The University of Oklahoma and I are both fully committed to providing reasonable accommodations for all students with disabilities. If you require accommodations, you must register with the Accessibility and Disability Resource Center: https://www.ou.edu/adrc.

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: 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 at 405-325-2215 (8 AM–5 PM) or the Sexual Assault Response Team at 405-615-0013 (24/7) to learn more or report an incident.

Children in Class: Currently, the university does not have a formal policy on children in the classroom/laboratory. The policy described here is just a reflection of my own beliefs and commitments to students who are parents.

- All exclusively breastfeeding babies are welcome in class or laboratory whenever necessary.
- For older children and babies, I understand that unforeseen disruptions in childcare often put parents in the position of having to miss class to stay home with a child. While this is not meant to be a long-term childcare solution, occasionally bringing a child to class or lab to cover gaps in care is acceptable. Sick children should not be brought to class or lab. I will excuse grades for in-class work of any type for any parent who needs to stay home with a sick child.
- I ask that all students work with me to create a welcoming environment that is respectful of all forms of diversity, including diversity in parenting status.

- In all cases where babies and children come to class, I ask that you sit close to the door so that if your child needs special attention and is disrupting learning for other students, you may step outside until their need has been met.

Disruptive Electronic Devices: You may use laptops, tablets, cell phones, and other electronic devices in class in ways that enhance your learning. These devices should not be used in ways that distract other students (e.g., playing games, watching videos, or making noise). Your cell phone, laptop, and tablet should generally be off during class time unless you are using them for class related work.

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.
- 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.

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**

*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 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 and one grade lower in the class. 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.

Mental Health Support Services: If you are experiencing any mental health issues that are impacting your academic performance, counseling is available at the University Counseling Center (UCC). The Center is located on the second floor of the Goddard Health Center, at 620

Elm Rm. 201, Norman, OK 73019. To schedule an appointment call (405) 325-2911. For more information please visit http://www.ou.edu/ucc.

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