

Computer Science 1324

Introduction to Computer Programming for Non-Programmers

Spring 2021

Class Time: 11:00-11:50 AM on Monday, Wednesday, and Friday

Location: Via Zoom

Instructors: Dr. Deborah Trytten dtrytten@ou.edu

Teaching Assistants (TAs):

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Zoom Addresses for Class: On Canvas, under Pages.

OU Masking Statement Spring 2021: All employees, students, and visitors of the OU community will be mandated to wear masks (1) when they are inside University facilities and vehicles and (2) when they are outdoors on campus and social distancing of at least six feet is not possible. For the well-being of the entire university community it is important that everyone demonstrate the appropriate health and safety behaviors outlined in the University Mandatory Masking Policy (<https://www.ou.edu/coronavirus/masking-policy>). As this mandate includes all campus classrooms, please make sure you are wearing your mask while in the laboratory. If you do not have a mask or forgot yours, see the teaching assistant for available masks. If you have an exemption from the Mandatory Masking Policy, please see the Accessibility and Disability Resource Center (<http://drc.ou.edu>) for accommodations before class begins. If a student is unable or unwilling to wear a mask and has not made an accommodation request through the ADRC, they will be instructed to exit the classroom.

Food and Drink in the Laboratory: OU policy now forbids the eating of food in the classroom or laboratory since it would require the removal of facemasks. Since the laboratory is two hours long, it is permitted to bring a water bottle and unmask briefly to take a drink. If there is a medical reason why you need to eat during the laboratory time, take your food outside of the laboratory (preferably outdoors) and get back to class as soon as you can. If this is not adequate for your medical needs, you will need to make arrangements through the Accessibility and Disability Resource Center (<http://drc.ou.edu>).

Spring 2021 Disclaimer: Under normal circumstances, this syllabus would not be changed significantly during the course of the semester. These are not normal circumstances. I have made every reasonable attempt to anticipate the challenges that could occur during the course of this semester and create a robust structure that can withstand these challenges. However, I

need to have some flexibility to handle unanticipated challenges. In the event that changes have to be made, I will make every reasonable effort to be fair and kind to all students and respect the original spirit of this document. **If you need special consideration this spring, please ask for it.**

Class Structure: This class is a synchronous class. This means that you are expected to attend all class sessions through zoom and all laboratories in person at the scheduled time (with obvious exceptions for events like illness or unanticipated caretaking responsibilities). Examinations in the class will take place during the class meeting time only. If you do not wish to be in a synchronous class, you may take CS 1323, which has both synchronous and asynchronous options. Email me to change courses.

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.

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.

Office Hours: The office hours are published on Canvas under Pages.

Free Tutoring: In addition to our office hours, the both Dean's Leadership Council (DLC) of the Gallogly College of Engineering and the School of Computer Science through the William Kerber Foundation Teaching Scholars offer free weekly tutoring sessions.

The times, people and zoom links will appear on Canvas under Pages as they are available.

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.

1. Zyante online textbook (zyBook) with labs (zyLabs).
 - Click on the first reading assignment in Canvas, which has the title "Ch. 2: 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.
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 using the Zoom link. 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.
4. Laptop computer, network access, and webcam
 - For instructions on connecting to the WIFI@OU wireless network, see the following page: <http://askit.ou.edu/customer/en/portal/articles/2943699-connecting-to-wifi-ou>
 - You are responsible for having a working laptop available for every laboratory. This includes finding a replacement with the necessary software installed if your laptop requires repairs during the semester.

Midterm Exams: The dates for the midterm examinations are given on Canvas on the Calendar, and on the Assignments tab under Midterms.

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 (such as illness or unanticipated caretaking responsibilities).

Final Exam: 8:00–10:00 AM on Tuesday, May 11

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 really learn 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 in the following section. 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'll 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, other than quizzes and TPS assignments, which are 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 sometimes lower this threshold if 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 usually given in the form of code fragments, 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 similar to 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 in order 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 due via zyLabs the following Monday. Projects due just before midterm examinations are due on Friday.
 - You and another student will be paired together to work as a team. You will perform pair programming, which has a number of 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. Please carefully read the sections at the end of this document on academic integrity violations. I take cheating, improper collaboration, and plagiarism very seriously, and I expect you to do the same.

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

Section	Time	Location	Instructors
11	7:30 AM – 9:20 AM	REPF B004	Keerti
12	11:00 AM – 12:50 PM	REPF B004	Jonathan, Jalal, Abinash
13	1:00 PM – 2:50 PM	REPF B004	Jalal, Keerti, Abinash

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 who are uncomfortable wearing masks or concerned about being in close contact with others during a pandemic.
- All students will work with their partners over Zoom, whether they are attending in person or remotely. This ensures that proper distancing is maintained to comply with OU policy.
- 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.
- New lab partners will be assigned after each midterm exam.
- 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!
- 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 similar to 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. Note that 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 lowest assignments
Turingscraft & CodingBat*	5	50 free points (not to exceed 100%)
Homework	15	50 free points (not to exceed 100%)
Lab Projects	20	lowest assignment
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 usually 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, 86, 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 to me as soon as possible, and I will correct it. The grade summary on Canvas is not 100% accurate, although it generally gives a reasonable approximation.

Late Work: I do not accept 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 all absences from class as soon as reasonably possible. If you will have to be absent from the in class portion of this course for a period of time, TopHat will be excused. If you are ill and unable to do course work for a period of time, 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 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.

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.

Incomplete Grades: A letter grade of I (incomplete) is intended for the rare circumstance when a student who has been successful in class, has an unexpected event occur shortly before the end of the semester. I generally will not consider giving an incomplete grade unless three conditions are met:

1. It is close to the end of the semester.
2. You have a grade of C or better in the class.
3. The reason you are unable to complete the class is compelling.

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, please speak with me as early in the semester as possible. Additionally, you must register with the Accessibility and Disability Resource Center: <https://www.ou.edu/drc>.

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 me as soon as possible to discuss. 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 as often as 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 in order to cover gaps in care is acceptable. Sick children should not be brought to class or lab, however 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, tablet, and gaming console 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 cheat sites and paid professional programmers.
- Do not show, give, or email another student a copy of your work before the submission deadline.
- 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.

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 at the beginning of this document.) 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 below in the table of collaboration scenarios applies when student A is a tutor.

Proper and Improper Collaboration: When you pass this class with a grade of C or better, I am certifying to the world 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 actually 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 have software at my disposal that can detect these kinds of changes.

If you collaborate with another student in one of the permissible ways described above, **you must include that person’s name on the submitted work**. Failure to do so is a violation of academic integrity.

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 a bit at a time. The tutor’s actions can result in different students submitting answers that are identical, which may be flagged as academic misconduct during grading. 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
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 minimum penalty often results in failing 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>.

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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