

ELEMENTS OF COMPUTERS & PROGRAMMING

CS 303E
FALL 2021, 52420
MW 9:30-11:00

COURSE DESCRIPTION

This class is an introduction to computer science and programming, using the Python programming language. It is open to all majors and there are no prerequisites. You do not need any prior programming experience in order to take this class. We will start at the very beginning. We'll move at a moderate-to-quick pace so that we can cover a lot and you will come out of this class with enough programming knowledge to be able to write practical and useful computer programs.

You will learn to write programs that include branching, looping, functions, and/or recursion. You will be able to apply object-oriented principles to your program design and make use of data structures, including lists, sets, tuples, and dictionaries. You will practice identifying errors in code and debugging them.

PROFESSOR

Angie Beasley
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GDC 6.314

Book an individual
appointment:
bit.ly/beasleycal

TAs

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Only one of the following may be counted: CS 303E, 305J, 312, 312H. Credit for CS 303E may not be earned after you have received credit for CS 307, 314, or 314H. May not be counted toward a degree in computer science.

WHAT YOU WILL NEED

Computer (required)

You will need a computer for this course. We will be writing computer programs in Python.

This can not be done on a phone or a tablet. (Microsoft Surface and Surface Pro *will* work for this class.) In addition to needing a computer to complete your programming assignments, you will also be writing code during exams and during class, so if you are sharing or borrowing a computer, please make sure you will have use of it every M/W from 9:30-11:00.

Textbook (recommended)

The textbook for this class is Introduction to Programming Using Python by Y. Daniel Liang. While I do not assign required readings or problems from the book, I do think the book is a helpful resource, especially for first-time programmers. I recommend book problems and chapters that you may want to use as practice/study problems before exams. I have made a free pdf of the book available to everyone on our Canvas page.

CLASS RESOURCES

Drop-In Hours

The professor and the TAs will hold student drop-in hours throughout the week. You can drop-in to ask questions about the material, get homework help, study for exams, just hang out and chat with us, or ask us anything at all! See Canvas for the drop-in hours schedule.

Piazza

Piazza is an online discussion/question and answer board. You may post questions or comments to Piazza that the professor, the TAs, and other students can answer/respond to. We encourage you to help your peers by answering their questions on Piazza, if you are able!

On Piazza, you may post questions anonymously. You may also post "private" questions that only the teaching staff (the professor and TAs) can see.

Do not post more than 2 lines of code on Piazza.

If you need help with a larger chunk of code, come to drop-in hours or make sure that it is posted as a private question to only the professor and the TAs.

Supplemental Instruction

The Sanger Learning Center holds free Supplemental Instruction (SI) sessions for this class every week! SI Sessions are led by experienced and trained students who develop engaging, structured, small-group activities for you to work through. You are welcome to attend SI sessions at any point in the semester. Regular participation in SI Sessions has been shown to improve students' performance by an average of one-half to one full letter grade higher than the class average! It is highly recommended for everyone. Information on session times and how to access them will be available at <https://ugs.utexas.edu/slc/support/si>

COURSE SCHEDULE

MON

WED

HOMEWORK

8/25: HelloWorld!

8/30: HW 0 due

8/30: NumericTypes,
Variables, User Input

9/1: Math, Formatting

9/8: HW 1 due

9/6: Labor Day Holiday

9/8: Booleans, Turtle

9/13: HW 2 due

9/13: Conditionals

9/15: Coding Challenge

9/20: HW 3 due

9/20: While loops

9/22: For loops

9/27: HW 4 due

9/27: Coding Challenge

9/29: Exam 1

10/4: Functions

10/6: Lists

10/11: HW 5 due

10/11: Multi-dimensional lists

10/13: Coding Challenge

10/18: HW 6 due

10/18: Tuples, Sets, Dictionaries

10/20: Files, Modules, Exceptions

10/25: HW 7 due

10/25: Coding Challenge

10/27: Exam 2

11/1: Hardware

11/3: OOP

11/8: HW 8 due

11/8: OOP

11/10: OOP

11/15: HW 9 due

11/15: OOP

11/17: Coding Challenge

11/22: HW 10 due

11/22: Sorting & Searching

11/24: Thanksgiving Holiday

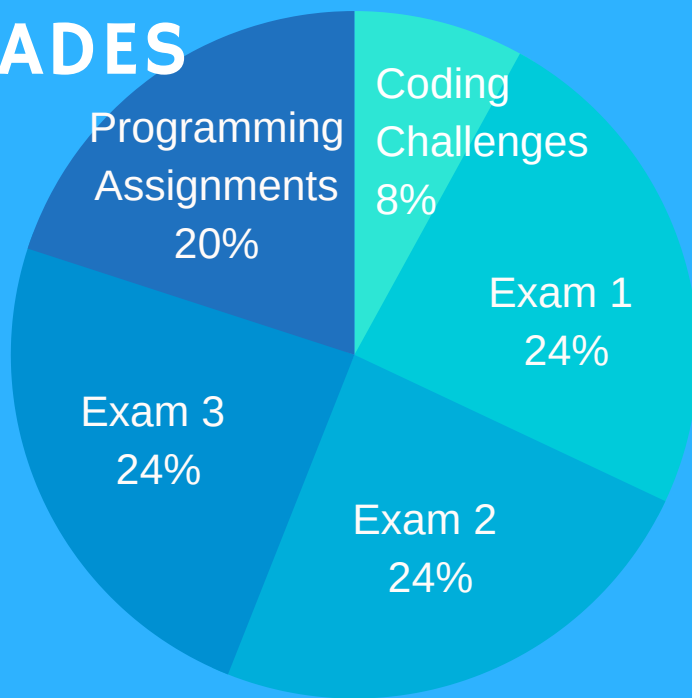
11/29: Recursion

12/1: Coding Challenge

Friday 12/3: HW 11 due

12/6: Exam 3

GRADES



All numbers are absolute and will not be rounded up or down at any stage.

A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	64-66
D-	60-63
F	0-59

EXAMS & EXAM RETAKES

There will be three exams throughout the semester. After each exam, there will be an exam retake opportunity!

Exactly one week after the original exam, you will be allowed to retake any exam questions you missed on the original exam. (You do not need to retake questions you got correct on the original exam.) The new exam questions will be different than the original ones, but they will test the same concepts and be of the same difficulty as the original exam. On each problem, if your score goes up, your new score will replace your original score on that problem. If your score goes down, your new score will be the average of the original score and the new score.

Exam retakes are completely optional.

Retaking an exam does not allow putting off or delaying the next homework assignment. If you do an exam retake, you still must complete the next homework assignment on time.

The purpose of this is so that you have another chance to LEARN the material and demonstrate your mastery of it. The skills in this class are foundational to all future programming courses and all real-world programming tasks, so I want you to learn them, and not just move on without understanding some things!

Academic Integrity: Exams must be completed individually. Submitting work on exams that is not entirely your own will not be tolerated and will result in immediate failure of the course, a report to the Dean of Students, and possible dismissal from the University.

PROGRAMMING ASSIGNMENTS

There will be a programming assignment due every week on Monday at 6:00 pm CT.

Practice is THE KEY to learning programming! The programming assignments provide you practice opportunities for the topics we'll cover.

The best strategy for completing homework is to start early and complete as much of the homework assignment as you can on your own.

If you get stuck, you may ask for help during drop-in hours, or on Piazza.

You may also ask for help from your peers, but be aware that there is a fine line between getting help and cheating.

Academic Integrity: Please see the very detailed, and very important, Academic Integrity page of the syllabus.

LATE ASSIGNMENTS

You will have 3 late days in 1-day units (that is, 1 minute to 24 hours late = 1 late day) to use throughout the semester. You may divide your late days across the programming assignments in any way you wish. Once you have used all of your late days, late assignments will no longer be accepted.

To use late days, you only need to submit the assignment. You do not need to email the professor or the TA, you do not need to indicate that you are using late days. Your late days will be deducted according to when your assignment is submitted. If you submit a late assignment without enough late days to support it, you will receive a zero for that assignment.

Contact me if there are extenuating circumstances or if you get sick.

CODING CHALLENGES

There will be six coding challenges during the semester. You will have the choice to either complete the coding challenges during class with a group, or complete them individually, asynchronously.

The coding challenges are graded and you may NOT use late days on them.

GRADE DISPUTES

All grades will be posted on Canvas. You have one week from the date the grade is posted to dispute your grade. First contact the TAs and see if you can resolve the issue. If you can not resolve your differences, you may contact me to explain the situation. We will not entertain any grade disputes after one week.

ACADEMIC INTEGRITY

The work you submit in this class must be entirely your own. Collaboration during exams is strictly prohibited and will result in immediate failure of the course, being reported to the Dean of Students, and possible dismissal from the University.

You are encouraged to form study groups, to discuss the course material with peers, to work practice problems together, and you may ask your peers for help when stuck on homeworks. It is great to help each other and learn from each other, but it is not ok to give someone answers or submit work that is not your own.

Things that are permitted:

- Helping others with setup/configuration issues (i.e. installing Python).
- Helping someone understand the intent of a programming assignment.
- Discussing course content and helping others understand general concepts.
- Helping peers debug their homework by walking them through general steps of an algorithm, or asking them questions to think through their own work, and NOT by showing them your code, or writing any of their code for them, or talking them through what to type line-by-line.
- Getting coding help from TAs and the professor.
- Posting 2 lines or less of code that is giving you an error to Piazza.

Things that are **NOT PERMITTED**:

- Sharing your code file with anyone or accepting anyone's code file.
- Looking at others' code or showing your code to others.
- Writing anyone else's code for them.
- Copying code from ANYWHERE (other students, online, etc.).
- Posting code ANYWHERE (Piazza, online, in chats, discussion boards, assignment sharing websites, social media, or ANYWHERE).
- Employing someone else to write your code for you.
- Submitting work that is not your own.
- Talking someone through what to type line-by-line.
- Working to design coding solutions together so closely that your code ends up exactly the same.

You are encouraged to study together and learn from each other, to discuss general concepts covered in class and on assignments, to help each other learn and debug. If you talk about an assignment with someone else, you are okay, if you help someone debug some of their code, you are okay, but the moment you start showing someone else your code, typing code for someone else, or describing code line-by-line, you have crossed the line into cheating. Discuss high level approaches and debugging tactics together, but do the coding on your own.

We will be running a sophisticated program on all submitted assignments to detect similarities amongst submissions. If we do detect any cases of academic dishonesty, we will assign a course grade of F to all students involved and refer the case to the Dean of Students. Further penalties, including suspension or expulsion from the university may be imposed by that office

You may not look on the internet for code to solve your assignments or exam problems and you may not post your solution code ANYWHERE. Materials from the web should be used for educational purposes only. Thus, you can read about loops and look at examples of loop code, but you must not search for, or copy, or look at any code from the web to solve your homeworks or exam problems.

If you have any doubts about what is allowed, ask the professor or a TA. Ignorance on the policy is not a legitimate excuse.

STUDENT SUPPORT & ACCOMMODATIONS

Many students face obstacles to their education as a result of unforeseen personal difficulties, or work or family obligations. If you are experiencing challenges throughout the term that are impacting your ability to succeed in this course, or in college more broadly, please reach out to me immediately so that we can work together to form a plan for your academic success.

I am committed to creating an accessible and inclusive learning environment for everyone. Please let me know if you experience any barriers to learning so I can work with you to ensure you have equal opportunity to participate fully in this course.

Please contact me as soon as possible if the material being presented in class is not accessible to you, if any of the physical space is difficult for you, or to discuss any other accommodations you may need.

If you are a student with a disability, or think you may have a disability, and need accommodations please contact Services for Students with Disabilities (SSD):
<http://diversity.utexas.edu/disability/>.

UNIVERSITY RESOURCES

The Counseling and Mental Health Center (CMHC) provides counseling, psychiatric, consultation, and prevention services:
<http://cmhc.utexas.edu/>

Student Emergency Services (SES) can be contacted in cases of family emergency/death in the family, medical emergencies, fire or natural disasters, academic difficulties due to crisis or emergency situations, interpersonal violence (stalking, harassment, physical and/or sexual assault), and more:
<http://deanofstudents.utexas.edu/emergency/>

If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (the Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn't feel right - it probably isn't. Trust your instincts and share your concerns.

RELIGIOUS HOLY DAYS

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the absence.

Q DROP POLICY

If you want to drop a class after the 12th class day, you'll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution.

For more information, see:
<http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop>

SHARING COURSE MATERIALS IS STRICTLY PROHIBITED

Sharing of Course Materials is Prohibited. No materials used in this class, including, but not limited to, videos, assessments, quizzes, exams, papers, projects, homework assignments, in-class materials, lecture hand-outs, review sheets, and problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission.

Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. I am well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure of the course.

Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA federal law (20 U.S.C. § 1232g; 34 CFR Part 99). Class recordings may not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. Classes may be recorded by the instructor. Students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with anyone without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

Notice of Copyright: Materials in this course—unless otherwise indicated—are protected by United States copyright law (Title 17, U.S. Code). No material from this course may be copied, reproduced, re-published, uploaded, posted, transmitted, or distributed in any way without the permission of the original copyright holder.