

ELEMENTS OF COMPUTERS & PROGRAMMING

CS 303E
SPRING 2021, 52095
MW 11:00-12:30

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 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 and debugging them.

PROFESSOR

Angie Beasley
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Book an individual
appointment:
bit.ly/beasleycal

TAs

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**See Canvas for up to date
office hours**

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.

MODALITY

This class will be conducted synchronously/ live online, using Zoom. We will also use Canvas, Gradescope, and Piazza.

All of the course materials, including lectures, assignments, and exams will be structured so that anyone wanting or needing to complete the course asynchronously will be able to do so.

For the coding challenges, you will need to choose in advance whether you will complete them with a group, live during class time, or whether you will complete them asynchronously individually.

WHAT YOU WILL NEED

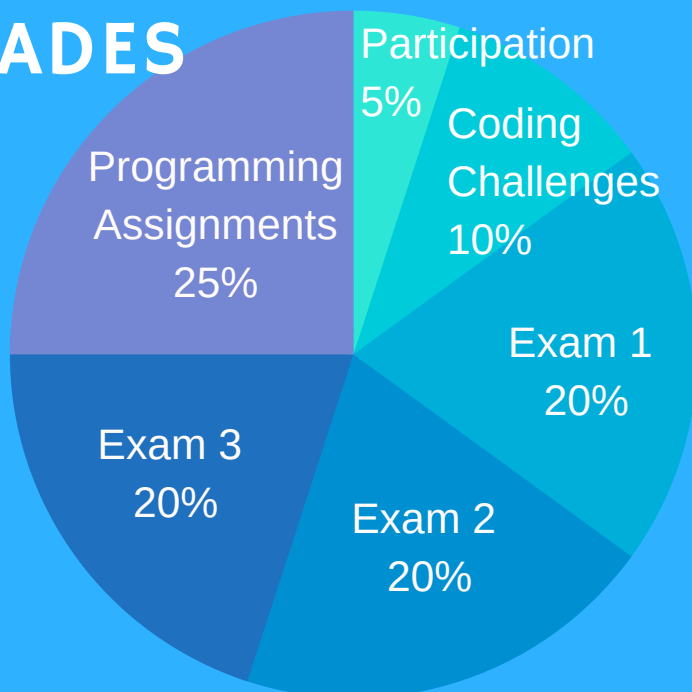
Computer (required)

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 11:00-12:30.

Textbook (optional)

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 reference book problems and chapters that you may want to use as practice/study before exams.

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

PROGRAMMING ASSIGNMENTS

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

Programming assignments must be completed using Python 3.

All programming assignments must be worked individually.

Please read the Academic Integrity section of the syllabus for more details.

PARTICIPATION

Questions to gauge your understanding of the material will be asked using UT Instapoll. These questions will remain open for 24 hours. Your 2 lowest of these grades will be dropped.

CODING CHALLENGES

There will be six coding challenges during the semester. Before each coding challenge, you must decide if you want to complete it live during class with a group, or asynchronously individually. (I will post a survey.) Once you have decided, you can not change your decision. The coding challenges are graded and you will be evaluated by your group as part of the grade (if you chose group work).

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.

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 on exams and assignments must be entirely your own. While you are free to discuss the course material with your classmates, and are encouraged to form study groups for exams, **collaboration on programming assignments or exams is not permitted.**

Things that are permitted:

- Helping someone understand the intent of a programming assignment.
- Discussing course content and helping others understand general concepts.
- Helping others with setup/configuration issues (i.e. installing Python).
- Getting coding help from TAs and the professor.
- Posting 2 lines or less of code that is giving you a syntax error to Piazza in order to get help on fixing the syntax error.

Things that are **NOT PERMITTED:**

- Looking at others' code or showing your code to others.
- Copying code from ANYWHERE (other students, online, etc.).
- Working to design coding solutions together.
- Posting code online (Piazza, Slack, or ANYWHERE else).
- Employing someone else to write your code for you.

You are encouraged to study for exams together, to discuss general concepts covered in class and on assignments, to help each other in using the software, and to discuss methods for debugging code. If you talk about an assignment with someone else, you are okay, but the moment you start looking at someone else's code, or showing someone else your code, or describing code line-by-line, you have crossed the line into cheating. Similarly, you should not discuss your algorithmic strategies to such an extent that you and your collaborators end up turning in exactly the same code. Discuss high level approaches together, but do the coding on your own.

We will be running a sophisticated program on all submitted assignments to detect similarities amongst submission. 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.

This policy is not intended to discourage students from learning from each other, nor is it unmindful of the fact that most significant work in computer science and the computing industry is done by teams of people working together. But, because of our need to assign individual grades, we must impose a requirement for individual work.

You may not look on the internet for code to solve your assignments and you may not post your solution code to any publicly accessible web site. You may not make use of code you find from other sources, including the internet. 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 copy any code from the web or be looking at any of this code from the web when writing anything you turn in.

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

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 in 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.

UNIVERSITY RESOURCES

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

Student Emergency Services
<http://deanofstudents.utexas.edu/emergency/>

Need help with technology?
<http://www.utexas.edu/its/>

Canvas help is available 24/7 at
<https://utexas.instructure.com/courses/633028/pages/student-tutorials>

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>

STUDENT ACCOMODATIONS

Students with a documented disability may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329-3986 (video phone). <http://ddce.utexas.edu/disability/about/>

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

COURSE SCHEDULE

MON

WED

HOMEWORK

1/20: HelloWorld!

1/25: HW 0 due

1/25: NumericTypes,
Variables, User Input

1/27: Math, Random

2/1: HW 1 due

2/1: Formatting, Turtle

2/3: Errors, Hardware, Binary

2/8: HW 2 due

2/8: Conditionals

2/10: Coding Challenge

2/15: SNOW

2/15: SNOW

2/17: SNOW

2/22: SNOW

2/22: SNOW

2/24: While loops

3/1: HW 3 due

3/1: For loops

3/3: Coding Challenge

3/8: HW 4 due

3/8: Exam 1

3/10: Functions

Spring Break

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3/22: Functions, Lists

3/24: Multi-dimensional lists

3/29: HW 5 due

3/29: Coding Challenge

3/31: OOP

4/5: HW 6 due

4/5: OOP

4/7: OOP

4/12: HW 7 due

4/12: Coding Challenge

4/14: Exam 2

4/19: Tuples, Sets, Dictionaries

4/21: Files, Modules, Exceptions

4/26: HW 8 due

4/26: Inheritance & Polymorphism

4/28: Inheritance & Polymorphism

5/3: HW 9 due

5/3: Coding Challenge

5/5: Recursion

Friday 5/7: HW 10 due

Date TBD: Exam 3