











DSC 10

Syllabus

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🧐 About

Welcome to DSC 10 at UC San Diego! This course aims to teach you how to draw conclusions about data. We will learn how to explore data and make predictions using data. Programming is a useful tool to help us analyze large datasets, and so we will learn how to program in Python towards this goal. We will learn some of the core techniques of data science, and we will practice applying them to real datasets from a variety of different disciplines.

Prerequisites: None. This course is an introduction to data science with no prior background assumed beyond high school algebra. If you are not planning on entering the DSC major/minor and have already taken a programming class and a statistics class, you may wish to take a more advanced course. If you are a DSC major/minor, DSC 10 is absolutely required, as later courses heavily reference its specific content.

Acknowledgements

The contents of this course come from UC Berkeley's Data 8 course, created by Ani Adhikari, John DeNero, and many others. This offering builds off of earlier offerings of DSC 10 by Justin Eldridge, Suraj Rampure, Janine Tiefenbruck, and many others. Thanks to all those who have played a role in shaping this amazing course!

🧑 Course Meetings

Lecture

There are two lecture sections, both of which are held in [Center Hall 109](#):

- A(00): MWF 12-12:50PM
- B(00): MWF 1-1:50PM

Lecture is meant to introduce to the main concepts of the course. In-person attendance is never required, but is strongly encouraged when possible, as you'll get the opportunity to ask questions,

answer ungraded concept-check polls, and participate in discussion.

You can attend either lecture section, but if space fills up, priority will be given to students officially enrolled in that section. For the midterm exam, you must attend the lecture section in which you are officially enrolled.

Lectures will be podcasted. Podcast recordings will be [available online](#) within a few hours. We will also link recordings from the B section directly on the course homepage; you can access these by clicking the 📻 emoji.

Discussion

There are two discussion sections, both of which are held in [Center Hall 214](#):

- A(50): W 2-2:50PM
- B(50): W 3-3:50PM

WARNING

In the Schedule of Classes, this course has both a discussion section (DI) and a lab section (LA). We are using the listed lab section for discussion, and we are not using the discussion section listed on WebReg for anything. In short, ignore what WebReg says and follow the information above.

You can attend either discussion section, but if space fills up, priority will be given to students officially enrolled in that section.

Discussion section is focused on exam preparation. Students will work through problems from past DSC 10 exams and go over solutions with the TA. Attending discussion section and working through practice problems in discussion gives you direct experience with the types of questions you will see on the midterm and final exam. **Attendance is optional, but students can earn up to 2 percent extra credit on their overall course grade by attending at least 8 discussion sections (0.25% earned for each discussion, up to a maximum of 2%).**

Discussions will be podcasted. Podcast recordings will be [available online](#) within a few hours. We will also link recordings from the B section directly on the course homepage; you can access these by clicking the 📻 emoji.

Office Hours

In order to provide you with help on assignments and concepts, the course staff will hold several office hours throughout the week. The majority of our office hours are held in-person, though a few

are held remotely – **if you're able to, you're strongly encouraged to attend in-person**. See the [Calendar](#) tab of the course website for the most up-to-date schedule and instructions.

NOTE

In-person office hours are not held in an office – instead, they're held in a large open space where you can come to work on assignments, meet your classmates, and get help from course staff.

Office hours are your chance to ask for general help, clarification on assignments, and to review previous assignments. Our tutors have previously taken the class, done well, and been trained in how to help you. Course staff will not tell you if your answer is correct, and it is inappropriate to ask. Here are some really good questions to ask instead:

- I got confused about a concept in class. Can you explain it?
- When the assignment says X, does it mean A or B?
- My code is giving a weird error - can you help me understand why?
- I can't get this test to pass, so I must be doing something wrong. Can you help me figure it out?
- My code is doing something different than what I expected. Can you explain what is happening?

Questions that you should never ask a tutor:

- Is this the right answer?
- Can you check my code and make sure it is right?
- What is the answer?
- What's going to be on the exam?

Your primary motivation when interacting with course staff should be **learning**.

Getting Started

Technology

First and foremost, you will need access to a computer (or tablet with a keyboard) and a stable internet connection to participate in this course. UCSD has a Laptop Loaner program which may be helpful, but you should also contact us if you have any concerns about access to technology. You will not need a webcam for this course. Most students bring a computer to lecture, and a computer or tablet will be necessary to attend discussion section.

All course content will be linked from this website, but there are a few additional platforms that you'll need to access:

- **Ed:** We'll be using Ed as our course message and discussion board. More details are in the [Communication](#) section below. If you didn't already get an invitation, [join here](#).
- **Gradescope:** You'll submit all assignments and exams to [Gradescope](#). This is where all of your grades will live as well. If you didn't already get an invitation to our Gradescope course, reach out to the instructor on Ed.
- **DataHub:** Assignments in this course will involve programming in Python. DataHub (datahub.ucsd.edu) is UCSD's online data science and machine learning platform, where you will work on assignments. We will show you how to use it in class.

Make sure you can access all three sites ASAP. It's a good idea to bookmark them, too (though they're all linked at the top of this website). You'll also need a **Zoom** account to access remote office hours. You should already have an account through UCSD; see the [Zoom guide](#) for more help.

WARNING

Note that we will not be using Canvas this quarter. Please do not contact the staff through Canvas – we won't be able to read it!

Welcome Survey

Please fill out this short [survey](#) at the start of the quarter. This is required of all students.

Communication

This quarter, we'll be using Ed as our course message board.

If you have a question about anything to do with the course — if you're stuck on a problem, want clarification on the logistics, or just have a general question about data science — you can make a post on Ed. If your post includes any part of your solution to a problem (e.g. code), please make your post private; otherwise, please make your post public so that other students can benefit from the interaction. You can also post anonymously if you prefer. Course staff will regularly check Ed and try to answer any questions that you have. You're also encouraged to answer a question asked by another student if you feel that you know the answer – this is a great way to strengthen your understanding of the material.

Please use Ed **instead of email**, as this helps us keep all course-related communication in one place. In particular, don't send course staff questions about course content over email/social media – Ed is the place for that.

Readings

Our readings will come from two free online sources.

- [Computational and Inferential Thinking \("CIT"\)](#) is the main textbook for the course, written to support UC Berkeley's version of this course, from which DSC 10 was adapted. This book uses slightly different Python commands (it does not use the `babypandas` module), but the underlying concepts are the same.
- [Notes on \(Baby\)Pandas \("BPD"\)](#) are a set of notes about the `babypandas` module, written specifically for DSC 10 students.

Assignments

Lab Assignments

Weekly lab assignments are a required part of the course and will help you develop fluency in Python and working with data. The labs are designed to help you build the skills you need to complete homework assignments and projects in a low-stress setting.

As you complete the lab, you'll be able to run a sequence of autograder tests, which check to make sure that your answers are correct. If you complete the assignment and all the tests pass, you'll get a perfect score!

To submit a lab, follow the instructions in the assignment to upload your notebook to Gradescope, which will run automated tests and assign your score. You should verify that all of your test cases pass on Gradescope **before the deadline**. Lab assignments will *usually* be due on **Saturdays at 11:59PM**, though this may change in any given week. We will release lab assignments roughly a week before they're due. **Your lowest lab score is dropped from your grade calculation at the end of the quarter.**

Labs must be completed and submitted individually, but we encourage you to discuss high-level approaches with others. See the [Collaboration Policy and Academic Integrity](#) section for more details.

Homework Assignments

Weekly homework assignments build off of the skills you have developed in labs. Homeworks will reinforce concepts from class, explore new ideas, and provide hands-on experience working with data.

An important difference between labs and homeworks lies in the way autograder tests are run. Unlike the tests in the labs, the tests in the homework cannot be used to guarantee that you have the correct answers. The tests in the homework only check to make sure that your answer is reasonable, not that it is correct. For example, if a homework question asks you to calculate a percent, the test in the homework might check that the answer you provide is a number between 0 and 100. **You should make sure that all the tests pass before submitting your homework, but this will not guarantee a perfect score.**

After you submit your homework to Gradescope, and after the deadline for submissions has passed, a new set of hidden tests will be run to make sure that you have the correct answers. In the percent example above, the hidden test might check that your answer equals 56, for example. Your score for the assignment will be based on the results of the hidden tests, which won't be available immediately after submission. So if you see a perfect score upon submission, this only means that you've passed the formatting tests, not the hidden correctness tests that determine your score.

To submit a homework, follow the instructions in the assignment to upload your notebook to Gradescope. Homeworks will *usually* be due on **Tuesdays at 11:59PM**, though this may change in any given week. We will release homework assignments roughly a week before they're due. **Each homework is equally weighted at 5% of your overall grade, with no drops.**

Like labs, homeworks must be completed and submitted individually, but we encourage you to discuss high-level approaches with others. See the [Collaboration Policy and Academic Integrity](#) section for more details.

Projects

This class has two projects, a Midterm Project and a Final Project. Projects are like more challenging homeworks. They are longer than a typical homework, and they require you to pull together ideas from previous weeks, rather than just the last week. Projects also give you a chance to explore a dataset in-depth, which can be a lot of fun!

Project tests are like homework tests – the provided tests only check if your answers have the correct format, not if they are correct. You'll only be able to see your score on the project after the deadline, once all projects are submitted and the hidden correctness tests have been run.

Unlike labs and homeworks, you may work with a partner on projects. Your partner can be anyone else in either section of the course. If you choose to work with a partner, start by reading these [project partner guidelines](#). If working with a partner, only one of you should submit the assignment, and you'll be able to tag your partner in your Gradescope submission.

Deadlines and Slip Days

Labs, homeworks, and projects must be submitted by 11:59PM on the due date to be considered on time. You may turn them in as many times as you like before the deadline, and only the most recent submission will be graded, so it's a good habit to submit early and often.

When submitting any assignment on Gradescope, make sure to stick around until you see a confirmation that all tests have passed. If the Gradescope autograder cannot grade your work or you see a message saying "Your submission timed out," this indicates an error with your code, and it is your responsibility to identify and solve the problem before the deadline.

It may take some time for Gradescope's autograder to grade your submission. You are encouraged to submit with enough time to see the output of the autograder before the 11:59PM deadline, as it may alert you to a problem you need to fix. However, if you submit before 11:59PM and the autograder finishes running after 11:59PM, your assignment will still be considered on time.

After submitting, check that you got a confirmation email from Gradescope to verify that your submission was successful. Save this email until you receive your grade on the assignment, in case of any issues with your submission.

You are allotted **six "slip days"** to use throughout the quarter. A slip day extends the deadline of any one homework, lab, or project by 24 hours. You cannot turn in any assignments more than 48 hours late, meaning that you cannot use more than 2 slip days on any assignment.

Slip days are designed to be a transparent and predictable source of leniency in deadlines. You can use a slip day if you are too busy to complete an assignment on its original due date. But slip days are also meant for things like the internet (or the DataHub server) going down at 11:58PM just as you go to submit your homework. Slip days are meant to be used in exceptional circumstances, so you probably should not need to use all six, but if you have something going on in your life that is impeding your ability to do your classwork on time, please reach out to us as soon as possible so we can work something out.

Slip days are applied automatically at the end of the quarter, and you don't need to ask in order to use one. It's your responsibility to keep track of how many you have left. If you've run out of slip days and submit an assignment late, that assignment may still be graded, but you will receive a 0 on it when we calculate grades at the end of the quarter. However, in the event that you use all

six days and submit another assignment late, we will allocate your slip days first to the Final Project and Midterm Project, then to your homeworks (in chronological order), and then to your labs (in chronological order). This is done to prevent you from receiving a 0 on, say, the Final Project, if you've used up all of your slip days at the end of the quarter; in such an example, you'd instead receive a 0 on an earlier assignment that isn't weighted as much in your grade.

If you submit the Midterm Project or Final Project late and are working with a partner, both you and your partner will have to use slip days. For example, if you submit the Midterm Project two days late, both you and your partner will lose two slip days.

Submission Errors

It is your responsibility to ensure that your work is submitted correctly to Gradescope as a `.ipynb` file. Watch 20:05 and onwards of [this video](#) to see two ways of downloading Jupyter notebooks as a `.ipynb` file.

When submitting your work, there are two potential errors to watch out for:

- 1 Submitting your notebook in the wrong format, e.g. submitting as a `.json` or `.txt` file instead of a `.ipynb` file. If you do this, the Gradescope autograder will not be able to grade your work, and you will get a 0. This can almost certainly be avoided by watching the aforementioned video, and by waiting until you see confirmation from Gradescope that all tests have passed.
- 2 Submitting the wrong notebook, e.g. submitting your Lab 6 notebook to the Homework 6 assignment on Gradescope. This will also give you a 0, because the Gradescope autograder for a particular assignment can only grade your work for that assignment. To avoid this error, make sure to stick around on Gradescope after submission until you see that all tests have passed.

To prevent these issues, it is important that you (1) double-check that you are submitting the right notebook in the right format to Gradescope, and (2) let the autograder run on Gradescope until it shows you under "Public Tests" that all public test cases passed.

If you happen to make one of the above mistakes and you notice it yourself within 48 hours of the deadline, please resubmit your assignment. If it is more than 48 hours since the deadline, please reach out to a staff member and we may resubmit for you, which will cost you 2 slip days. It is your responsibility to ensure that all assignments are submitted correctly.

Exams

This class has one Midterm Exam and one Final Exam:

- Midterm Exam: Friday, May 5th, **during your registered lecture slot**
- Final Exam: Saturday, June 10th, 7-10PM, location TBD

Exams are cumulative, though the Final Exam will emphasize material after the Midterm Exam. Both exams will be held **in-person and on-paper**.

If you have a conflict with either exam, you should let us know right away via the [Welcome Survey](#) to see if accommodations can be made. Without express permission otherwise, students are required to take both exams at the scheduled times.

Weekly Schedule

To summarize all of the events and deadlines, refer to this general weekly schedule (which is subject to change in any given week):

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Nothing! 😎	Lecture		Lecture and Discussion		Lecture
		Homework due			

Grades

The table below shows how your mastery of class material will be assessed and how grades will be computed:

Component	Weight	Notes
Lab Assignments	15%	drop lowest score
Homework Assignments	30%	5% each
Midterm Project	10%	
Midterm Exam	10%	

Final Project	17.5%	
Final Exam	17.5%	
Attendance	2% (extra credit)	0.25% per discussion, max 8

Note that each lab and each homework assignment will be worth the same amount, regardless of the number of points it is graded out of.

Regrade Requests

If you'd like to request a regrade on any assignment, you must do so within one week of the assignment being graded. If you think there is a problem with the autograder, please fill out the [Autograder Regrade Request Form](#). If you think there is a problem with how your written question was graded, submit a regrade request through Gradescope.

Letter Grades and Incompletes

We will use a standard scale for assigning letter grades:

Letter Grade	A	A-	B+	B	B-
Percentage	93+	90+	87+	83+	80+

A+ grades are given at the instructor's discretion. If you are taking the course P/NP, you will receive a grade of P if you meet the criteria for a C- grade, otherwise you will receive a grade of NP.

If you have extenuating circumstances that prohibit your completion of coursework, you may be eligible for an Incomplete grade. If you are considering using this option, the best thing you can do is let us know right away, and we can help you decide if this is an appropriate course of action. If you have any doubt about your ability to perform satisfactorily in this course due to something outside of your control, please contact us as soon as possible so we can figure out a plan.



Collaboration Policy and Academic Integrity

The basic rule for DSC 10 is: Work hard. Make use of the expertise of the staff to learn what you need to know to really do well in the course. Act with integrity, and don't cheat.

If you do cheat, we will enforce the [UCSD Policy on Integrity of Scholarship](#). This means you will likely fail the course and the Dean of your college will put you on probation or suspend or dismiss you from UCSD. Students agree that by taking this course, their assignments will be submitted to third party software to help detect plagiarism.

Why is academic integrity important?

Academic integrity is an issue that is pertinent to all students on campus. When students act unethically by copying someone's work, taking an exam for someone else, plagiarizing, etc., these students are misrepresenting their academic abilities. This makes it impossible for instructors to give grades (and for the University to give degrees) that reflect student knowledge. This devalues the worth of a UCSD degree for all students, making it imperative for the campus as a whole to enforce that all members of this community are honest and ethical. We want your degree to be meaningful and we want you to be proud to call yourself a graduate of UCSD!

The UCSD Policy on Integrity of Scholarship and this syllabus list some of the standards by which you are expected to complete your academic work, but your good ethical judgment (or asking us for advice) is also expected as we cannot list every behavior that is unethical or not in the spirit of academic integrity. Ignorance of the rules will not excuse you from any violations.

What counts as cheating?

In DSC 10, you can read books, surf the web, talk to your friends and the DSC 10 staff to get help understanding the concepts you need to know to complete your assignments. However, all code must be written by you (or, in the instance of projects, together with your partner).

The following activities are considered cheating and are not allowed in DSC 10 (not an exhaustive list):

- Using or submitting code acquired from other individuals (except in the instance of projects, your partner), artificial intelligence tools such as ChatGPT or GitHub CoPilot, the internet, or any other resource not officially sanctioned by this course.
- Posting your code online, including on Ed, unless privately to instructors only.
- Having any other person or artificial intelligence tool complete any part of your assignment on your behalf.
- Completing an assignment on behalf of someone else.
- Providing code, exam questions, or solutions to any other student in the course.
- Splitting up project questions with your project partner and each working on different questions.
- Collaborating with others on exams.

The following activities are examples of appropriate collaboration and are allowed in DSC 10 (not an exhaustive list):

- Discussing the general approach to solving homework problems or projects.
- Talking about problem-solving strategies or issues you ran into and how you solved them.
- Discussing the answers to exams with other students who have already taken the exam after the exam is complete.
- Using code provided in class or in any assigned readings or videos, with attribution.
- Google searching for documentation on Python or babypandas.
- Working together with other students on assignments without copying or sharing answers.
- Posting a question about your approach to a problem on Ed, without sharing your code.

How can I be sure that my actions are NOT considered cheating?

The best way to avoid problems is by using your best judgement and remembering to act with Honesty, Trust, Fairness, Respect, Responsibility, and Courage. Here are some suggestions for completing your work:

- Don't look at or discuss the details of another student's code for an assignment you are working on, and don't let another student look at your code.
- Don't start with someone else's code and make changes to it, or in any way share code with other students.
- If you are talking to another student about an assignment, don't take notes, and wait an hour afterward before you write any code.



Support

Accommodations

From the [Office for Students with Disabilities \(OSD\)](#):

OSD works with students with documented disabilities to review documentation and determine reasonable accommodations. Disabilities can occur in these areas: psychological, psychiatric, learning, attention, chronic health, physical, vision, hearing, and acquired brain injuries, and may occur at any time during a student's college career. We encourage you to contact the OSD as soon as you become aware of a condition that is disabling so that we can work with you.

If you already have accommodations via OSD, make sure that we receive your Authorization for Accommodation (AFA) letter at the start of the quarter so that we can make arrangements for accommodations. The Data Science OSD Liaison can be reached at dscstudent@ucsd.edu.

Diversity and Inclusion

We are committed to an inclusive learning environment that respects our diversity of perspectives, experiences, and identities. Our goal is to create a diverse and inclusive learning environment where all students feel comfortable and can thrive. If you have any suggestions as to how we could create a more inclusive setting, please let us know. We also expect that you, as a student in this course, will honor and respect your classmates, abiding by the [UCSD Principles of Community](#). Please understand that others' backgrounds, perspectives and experiences may be different than your own, and help us to build an environment where everyone is respected and feels comfortable.



Waitlist FAQs

I am on the waitlist, but I really want to get into the course. Can you let me in?

Instructors are not able to enroll students in classes.

I am on the waitlist, so how can I keep up with the course?

Waitlisted students may attend lecture and discussion, space-permitting, and can also watch podcast recordings. You can (and should) still submit assignments if you are on the waitlist.

Waitlisted students should have access to DataHub to work on assignments. You may need to add yourself to some course tools; see the [Getting Started](#) section of the syllabus.

What are my chances of getting off the waitlist?

The instructional staff is not equipped to answer this question. Many questions about enrollment are [answered here](#). Please direct your questions about enrollment to DSC advising. You can send an email to dscstudent@ucsd.edu, send a message through the Virtual Advising Center, or stop by drop-in advising hours. In short, seats in the class open up when students drop the class, which can be hard to predict.

I have been added to Gradescope, Ed, and other course tools. Does this mean I am off the waitlist?

No. Students on the waitlist were also added to all course tools, so they can complete assignments while they are on the waitlist. Check [WebReg](#) if you are not sure of your enrollment status.

