DS 2001: Computer Science Practicum for DS 2000

Instructor: Prof. Felix Muzny[1] (pronunciation: "Muse-knee"; pronouns: they/them and he/him)
Contact: f.muzny@northeastern.edu
Office: Meserve 307A
Office Hours: see ds 2001 course website

TAs:

Section	Time	Location
1	W 2:50pm - 4:30pm	Snell Library 015
2	W 9:50am - 11:30am	West Village F 010
11	R 9:50am - 11:35am	Behrakis Health Sciences Center 007
14	R 11:45am - 1:25pm	Forsyth Building 235

TA Office Hours: see the DS 2000 home page

Fall 2021 Course Format

DS2000/2001 are organized as in-person, on-ground classes for Fall 2021. This means that we expect you to attend class in person, keep up with Northeastern's testing schedule, and follow the below guidelines if you find that you are unable to attend practicum due to illness or other extenuating circumstance for any given week.

- If you are ill in any way, even with a negative covid test, we expect you **not** to attend class in person. In lieu of attending class in person, fill out this form as early as possible and follow up with Felix as necessary.

Instructors and students will all follow university guidelines regarding wearing masks, social distancing, and other covid-related policies.

About This Course

This is a practicum and co-requisite for DS2000, Programming With Data. In the DS2000 lecture, you'll learn foundational data science and programming concepts. In practicum, we'll complete practice exercises, review material, and study and discuss issues related to data within a general computer science context.

New programmers are welcome; we don't assume any previous knowledge and we'll start from the very beginning.

Each week, you'll complete a practicum assigned within the scheduled time. Instructors and TAs will be on-hand to go over concepts, answer questions, and lend a hand (both in-person and remotely). At the end of

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[1] Call them "Felix", "Professor Muzny", or "Professor Felix"

practicum, you'll submit whatever you've completed. We do expect you to be diligently working during practicum but you are not required to spend significant time outside of practicum to get full credit. Practicum assignments are graded on a scale of 0 (did not complete) through 5 (practicum time was used wisely and solution shows significant effort). Sometimes, technical issues arise during practicum time that prevent you from working on your lab work. Should this happen, we will work with you to resolve the issues, but you may need to spend extra time outside of class to earn full credit for the material that day.

The practicum includes a final project, which you **will** need to spend significant time on outside of class. The goal of the project is to coordinate your data analysis skills with research questions that you are interested in. It will also allow you gain hands-on experience with finding, importing, analyzing, visualizing, and presenting a dataset of your choosing . You can work alone or in a small group (of 2-3 members, all from Computer Science DS 2001 sections) -- you will first submit this group's topic, membership, and division of labor in a proposal. At the conclusion of the class you will submit your Python code along with any datasets you used in the project.

You'll also present your project to course staff and your classmates; this can be done in-person or remotely. One of your project responsibilities is to attend the presentations (remote or real-life) of your classmates and complete peer reviews. All project components, including presentations and peer reviews are **required**.

TA Office Hours

We have office hours all week long. Please check [the DS2000 website](#) for the schedule, and keep an eye on Piazza for any updates. Remember that you are welcome to attend the office hours of any TA, not just the ones assigned to your section of DS 2001!

TAs are here to help and happy to answer your questions about the course material, homework assignments, practicum, and the project. We expect you to treat TAs with kindness and respect; we expect the same of your behavior towards one another and towards all the instructors.

Come to office hours well before an assignment is due; they often get crowded, and if you arrive a few hours before an assignment is due, you'll end up feeling rushed and frustrated. Even if you find yourself in that unhappy situation, bear in mind that it is not the TAs' job to provide the solution for you. We host office hours so we can debug **your understanding of the material**, not your code.

Software and Communication

We'll be using Python 3 in this class. During our first practicum, we'll work together to download and setup everything you need to program with Python for your practicum assignments, homeworks, and the project.

The main piece of software we'll be using is:
- [Anaconda Navigator](#)
    - Spyder (included with Anaconda Navigator installations)

You will be submitting your assignments on gradescope, just as in DS 2000.

There is a gradescope set up specifically for the computer science practicum. You should already be enrolled automatically from Canvas, but if you're not, sign up for it at https://www.gradescope.com/courses/299253 using entry code **X3785X**.

There is one Piazza page for all of DS2000/2001. Sign up for it at https://piazza.com/class#fall2021/ds2000. For section specific announcements and discussions, we'll use the Canvas announcements and discussion board features.

You can always reach out to course staff via email or in office hours.

Classroom Environment & Expectations

- **Attendance:** You are strongly encouraged to attend practicum synchronously whenever possible. If you are unable to attend practicum on a given day, it is your responsibility to attend office hours, consult practicum materials, and submit them on time electronically.
- **Classroom environment:** It is unusually common in Computer science classes for some students to ask questions that are not really questions so much as opportunities to demonstrate knowledge of vocabulary or facts beyond the topic at hand. This can have a discouraging effect on other students who are not familiar with those terms, causing them to worry that they are less prepared to do well in the class (this is rarely the case—knowing terms outside the scope of the course is not a good predictor of success). If you find yourself wanting to make such a question or comment, please come talk to me about the topic after class or during office hours—I'm always happy to discuss tangentially related topics at those times!
- **Accommodation letters:** If you have an accommodation letter, please bring it to me at your earliest convenience so that I can make sure this class is meeting your needs.
- **Name and pronouns:** If your name and pronouns are not in alignment with those listed on our class roster, please let me know either in person or via email so that I can ensure you are correctly addressed in this class.
  - If you wish to add, change, or update your pronouns in Canvas, see this knowledge base webpage. To update your display name in Canvas, see this article.
- **Class expenses:** If obtaining any material for use in our class presents a financial hardship for you, please let me know and I will work with you to locate the resources that you need to succeed in this class.
- **Feedback:** Please don't hesitate to reach out to me if any aspect of this course or class community could be improved.

Schedule

Practicum sections meet on Wednesdays and Thursdays. Please make sure you attend only the section you've signed up for, as space is particularly precious this semester.

The topics we'll cover in practicum throughout the semester will align with the material you're covering in DS2000.

The practicum assignments are designed to be completed within the 100-minute officially scheduled time. However, we know that schedules are harder to work with this year, and so the deadline for practicums for <u>everyone</u> will be on Fridays at 12 noon Boston time. We recommend submitting your work in real-time at the end of your section, but it's OK if your preference is to submit later as long as you meet that last deadline.

Below is the tentative practicum schedule. The ordering of topics is likely to change, but dates and requirements will not.

Week #	Dates	Topics

1	Sept 8, 9	Introduction, Getting Setup, Running and manipulating files
2	Sept 15, 16	Variables, data types, working with data
3	Sept 22, 23	Conditionals, branching, ethics
4	Sept 29, 30	Lists, loops
5	Oct 6, 7	Functions, structured data
6	Oct 13, 14	Functions, parameters, defining & using libraries
7	Oct 20, 21	2-dimensional/nested lists, project proposals
8	Oct 27, 28	Midterm review/more on lists
9	Nov 3, 4	Strings, project work time
10	Nov 10, 11	project work time/VETERAN'S DAY, no classes
11	Nov 17, 18	Classes, objects, abstraction/Project work and discussion
12	Nov 24, 25	No practicum; thanksgiving break
13	Dec 1, 2	Presentations and presentation reviews
14	Dec 8	Presentations and presentation reviews

Evaluation

You will receive separate grades for DS2000 and DS2001. Your grade in DS2001 will be evaluated based on the following factors:

Factor	Number	Weight
Practicum Assignments (your lowest practicum grade will be dropped)	10 (weeks 2 - 11)	40%
Proposal + Project + Presentation + Peer Reviews	n/a	60%

Final grades for DS 2001 will be based on the following scale:

Letter	Range
A	95 - 100
A-	90 - 94
B+	87 - 89
B	83 - 86
B-	80 - 82
C+	77 - 79
C	73 - 76

C-   70 - 72
D+   67 - 69
D   63 - 66
D-   60 - 62
F   < 60

Project

You'll work on the project throughout much of the semester. We'll publish the project requirements early on, and it will be your responsibility to meet all project deadlines.

You can work alone or with a group for your project.

The last two weeks of practicum are designated for project presentations. You can deliver your presentation in-person during the scheduled practicum, or you can present at another time in a zoom meeting. Your presentation will be viewed and evaluated by course staff; and you must submit peer reviews of other groups' presentations.

No project grades will be dropped.

Academic Integrity

Practicum assignments are graded on participation and effort; we expect that you will talk to one another during practicum and exchange ideas, concepts, and help. However, you **may not copy anyone else's code**. Note that "copying" includes any medium that transfers one student's code to another student, whether it be by showing it to them, telling to them, or by other means.

Projects are expected to be novel work. Within your project group, you'll collaborate on ideas, code, and writing, but you **may not share outside of your group.**

The university's academic integrity policy discusses actions regarded as violations and consequences for students: http://www.northeastern.edu/osccr/academic-integrity

In this class, if you violate our academic integrity policy, this will result in a zero on the assignment(s) in question.

Accommodations

It is my job to create a classroom environment that is most conducive to you learning well. If you have accommodations from the Disability Resource Center, please provide your letter to me early in the semester so that I can arrange for these accommodations. If you wish to receive accommodations and do not have a letter, please visit the DRC at 20 Dodge Hall or call (617) 373-2675.

Student Names and Pronouns

We recognize that your legal information doesn't always align with how you identify. Students may update their first and middle names as well as gender marker [with the registrar](#), even if they are not your legal names or gender. Those names and gender marker are what would appear publicly in most university systems. In the absence of such updates, what we see on most university systems by default are your legal name and gender marker.

Classroom Environment

To create and preserve a classroom atmosphere that optimizes teaching and learning, all participants share a responsibility in creating a civil and non-disruptive forum for the discussion of ideas. Students are expected to conduct themselves at all times in a manner that does not disrupt teaching or learning. Your comments to others should be constructive and free from harassing statements. You are encouraged to disagree with other students and the instructor, but such disagreements need to respectful and be based upon facts and documentation (rather than prejudices and personalities). The instructor reserves the right to interrupt conversations that deviate from these expectations. Repeated unprofessional or disrespectful conduct may result in a lower grade or more severe consequences.

Part of the learning process in this course is respectful engagement of ideas with others.

The [Code of Student Conduct can be found on the OSCCR website](#).

Title IX

Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance.

Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking.

The Title IX Policy applies to the entire community, including male, female, non-binary, and transgender students, faculty and staff.

If you or someone you know has been a survivor of a Prohibited Offense, confidential support and guidance can be found through [University Health and Counseling Services](#) staff and the [Center for Spiritual Dialogue and Service](#) clergy members.

By law, those employees are not required to report allegations of sex or gender-based discrimination to the University.

Reports can be made non-confidentially to the Title IX Coordinator within the Office for Gender Equity and Compliance at: titleix@northeastern.edu and/or through NUPD (Emergency 617.373.3333; Non-Emergency 617.373.2121).

Reporting Prohibited Offenses to NUPD does NOT commit the victim/affected party to future legal action.

Faculty members are considered "responsible employees" at Northeastern University, meaning they are required to report all allegations of sex or gender-based discrimination to the Title IX Coordinator.

In case of an emergency, please call 911.

Please visit http://www.northeastern.edu/titleix for a complete list of reporting options and resources both on- and off-campus.

Religious Holidays

The course staff will make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, contact the course staff at least 7 days in advance of the conflicting date to reschedule a practicum or project due date.