Math 173B: Optimization Methods for Data Science, Winter 2023

• **Instructor:** Yuhua Zhu • **E-mail:** yuz244@ucsd.edu • **Office:** AP&M 5101 • **Office Hours** : Tue/Thu 5 - 6 pm	• **Discussion session:** Wed 5 - 5:50 pm • **Teaching Assistant**: Jinjie Zhang • **E-mail: jiz003@ucsd.edu** • **Office Hours**: Thu 10 - 11 am, HSS 3071

Lecture: Attending the lecture is a fundamental part of the course; you are responsible for the material presented in the lecture. You should expect questions on the exam(s) that will test your understanding of the concepts discussed in the lecture.

You are also responsible for material covered in the HW assignments ***whether or not it is discussed in the lecture.***

Homework:

- In general, homework will be assigned every one or two weeks.
- Homework is due on the dates posted on this webpage (in the Assignments section) by 11:59 pm.
- No late homework will be accepted without prior permission from the instructor.
- If you choose to handwrite your homework, your handwriting must be clearly legible, and the submitted HW must be neat (and not resemble work on scratch-paper). That said, you are encouraged to type up your assignments using LaTex.
- For the programming components of the HW, you may use Matlab or Python.
- HW will be submitted using Gradescope.

Midterm Exams:

- Rather than have midterm exams, we will have several graded HW assignments.
- The assignments will be collectively worth 60% of your grade.
- You are allowed to discuss HW assignments with your classmates, but you must list the names of people you discussed the assignment with. This will **not** adversely affect your grade.
- You are **not allowed** to seek help from people outside of the course in completing your assignments. This would be treated as a serious academic integrity violation.
- **You must write your own solutions, in your own words, and must show your work.**

Final exam:

- The final exam is scheduled for **March 21,** 3 -6 pm at HSS 2321.
- ***There will be no makeup final exam.*** It is your responsibility to ensure that you do not have a schedule conflict involving the final examination; you should not enroll in this class if you cannot take the final examination at its scheduled time.

Regrades: If you wish to have your homework regraded, you must submit a regrade request via Gradescope within 7 days of the grades being released.

Academic Dishonesty: Academic dishonesty is considered a serious offense at UCSD. Students caught cheating will face an administrative sanction which may include suspension or expulsion from the university. Click here. for more information.

Accommodations: Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the office for Students with Disabilities (OSD) which is located in University Center 202 behind Center Hall. The AFA letter may be issued by the OSD electronically or in hard-copy; in either case, please make arrangements to discuss your accommodations with me in advance (by the end of week 2). We will make every effort to arrange for whatever accommodations are stipulated by the OSD. For more information, see here

Additional Resources.
While there is no required textbook for the course, (parts of) the following books/resources may be useful -- additional resources may be posted in the "Modules" component of this Canvas page:

- Boyd and Vandenberghe, Convex Optimization. Link (Links to an external site.)
- Charles L. Byrne, A First Course in Optimization. Link (Links to an external site.)
- Chong and Zak, Introduction to Optimization, Wiley, 2013
- Pedregal, Introduction to Optimization, Springer, 2006

- **Python:** python 3 "quick-start" for open source libraries (Courtesy of Jinjie Zhang): py3_quickstart.ipynb Download py3_quickstart.ipynb and py3_quickstart.pdf Download py3_quickstart.pdf
- **Matlab:**
  - Your best friend is the "help" command in MATLAB.
  - An introduction to MATLAB is available here (Links to an external site.).
  - You can get Matlab from hereLinks to an external site.