Syllabus – CE191 Spring 2021

Course Title
Civil and Environmental Engineering 191: Civil and Environmental Engineering Systems Analysis

Course Description
This course is organized around five real-world large-scale CEE systems problems. The problems provide the motivation for the study of quantitative tools that are used for planning or managing these systems. The problems include design of a public transportation system for an urban area, resource allocation for the maintenance of a water supply system, development of repair and replacement policies for reinforced concrete bridge decks, traffic signal control for an arterial street, scheduling in a large-scale construction project.

Course Format
Two one-hour lectures and one three-hour lab section per week. The instructor will teach the lectures and the GSIs will use the lab sections to help students with the lab assignments.

Prerequisites
CE93 and either E7 or E77

Lectures
Monday and Wednesday 9am-10am
https://berkeley.zoom.us/j/92861544536

Lab Sections
Thursday 5pm-8pm
 https://berkeley.zoom.us/j/92308399043

Friday 9am-12pm
https://berkeley.zoom.us/j/98375460467

Lab Access
A CEE Computer Lab Account is required to use the computers in 345 Davis. Use the link below to request an account. http://www.ce.berkeley.edu/resources/computing/create_lab_account

Instructor
Raja Sengupta
E-mail: sengupta@ce.berkeley.edu
Office Hours: TBD

GSIs
Nikolay Velkov
E-mail: nikolayvelkov@berkeley.edu
Office Hours: By Appointment

Website
The course website is hosted at http:// bcourses.berkeley.edu. The website will be used to postcourse announcements, lecture slides, lab assignments, grades and other course materials. The website will also be used for lab assignment submission. It is your responsibility to check the course website frequently, as important information about the course will routinely be posted without being announced in lecture.

Piazza

We will be using Piazza for all Q&A related to lecture material and lab assignments, reserving email for administrative questions only. Student answers and discussion is encouraged but please do not post solutions or code there. If you need help debugging your code or your question reveals too much of the solution, please make the post **private** and attach a screenshot. Additionally, please post questions in the relevant threads and do a search beforehand so we can avoid duplicate questions.

Sign-up link:
https://piazza.com/berkeley/spring2021/cee191

Software

The numerical computing software Matlab must be used for lab assignments. Matlab is available on the computers in the lab, or you may obtain a student license of the software on the Matlab website for use on you own machine.

Textbook

Civil and Environmental Systems Engineering, C. Revelle, E. Whitlatch, R. Wright, Prentice Hall, 2004.

Note: The text is not required to complete assignments, but can be a useful reference. An older version may serve the same purpose.

Lab Submission

Lab assignments must be submitted via the course website as a .pdf document, according to precise formatting requirements. A template document will be provided for this purpose.

In addition to the lab assignment, you must submit all Matlab code used to complete the assignment as .m files. All submitted functions must have the filename and declaration specified in the assignment. Submitted functions must have the same spelling and case as dictated by the lab. Any deviation will cause errors in the autograder.

Labs are due Friday at 11:59pm for full credit, but are accepted until Saturday at midnight with a 10% grade penalty. Two free late days are allowed for emergencies. Solutions will be posted on Monday.

It is acceptable to discuss the material in the lab assignments with classmates, but you are required to complete all lab assignments on your own. All materials that is submitted must be your own work. Copying someone else's work, or allowing your work to be copied, constitutes cheating and will result in zero credit for the entire assignment, as well as possible disciplinary action from Student Judicial Affairs. For further reference, see the Berkeley Campus Code of Student Conduct at http://students.berkeley.edu/uga/conduct.pdf.

Grading

Labs: 50% (5 labs, 10% each)
Midterm: 20% (Wednesday, March 17 in lecture)
Final: 30% (Exam Group 4: Monday May 10, 2021 7-10pm)

Graded lab assignments will be returned via the course website. If you feel a problem was graded incorrectly, you may submit a regrade request to one of the GSIs within one week of receiving the graded assignment, along with a short paragraph explaining the reason for the regrade. Any regrade request is subject to a full regrade, meaning points may be lost.