CS 210: Introduction to Data Science
Syllabus, Fall 2022

Data science topics span a large variety of disciplines and require a collection of skills. This course is intended to cover data science's fundamental principles and techniques, emphasizing data-centric quantitative thinking. We will tour the basic data science techniques from manipulation and summarizing the essential characteristics of a data set, basic statistical modeling, visualization, and prediction.

Prerequisites: IF 100 and MATH 203

Schedule

Mon 17:40 – 18:30	FENS G077
Fri 12:40 - 2:30	FMAN 1099

Contact Information

Instructor:	Oznur Tastan	`otastan@sabanciuniv.edu`
Instructor Office Hours:	By appointment.	
TAs:	Deren Ege Turan	`derenege@sabanciuniv.edu`
	Vahid Khalili Param	`vahid.khalili@sabanciuniv.edu`
	Mert Pekey	`mpekey@sabanciuniv.edu`
TA Office Hours:	Will be announced.	

Course Webpage

We will be using SuCourse. Please regularly check the SuCourse of the course for lecture notes, homework assignments, project information, discussions and announcements.

Textbook: There is no specific textbook. There will be required readings, videos shared on SuCourse.

Learning outcomes

- Learning the fundamentals of data science pipeline
- Learning how to explore and experiment with data
- Learn basic statistics (sampling techniques, mean, variance, outliers, distributions) and machine learning techniques that are necessary to analyze data
- Perform statistical analysis on sample socio-economic data
- Building an understanding of data analytics techniques (data collection, cleaning, exploratory techniques, modeling, and presentation)
- Develop competency in the Python programming language within the course projects and assignments
- Design and run experimental tests to evaluate hypotheses about data

Delivery format

We will have physical lectures and recitations. There will be no recordings. Your active participation is expected.

Disclaimer

- Students who are registered to the course with time-conflict override accept the responsibility of any inconvenience that might occur due to missed content. No make-up will be available for missed exam/content.
- This syllabus and course details might need to be updated throughout the semester if there is need due to a pandemic. Any modification will be announced at SUCourse and also during the class. Students are responsible from following the announcements.

Grading

The final grades will be based on the following, and is subject to change if necessary due to COVID-19 related regulations :

- One midterm exam (25%) and one final exam (25%). All examinations will be closed book and notes. You will be able to use one page A4 cheat-sheet, handwritten and signed by you.
- Homework assignments (30%).
- A term project (20%).
- There will be a single make-up exam for both the midterm and the final exam, covering the entire semester, will be given after the final exam date. You can take a make-up only if you have a valid health report approved by the University Health Services.

IMPORTANT: One of the following conditions will result in an automatic F or NA regardless of other grades:

1. Average of the homework assignment is below 30.
2. Not submitting a project report.
3. Being absent in a project demo without a medical report.
4. Missing the final exam without a medical report.

*** Not falling in one of the conditions does not guarantee passing the course. If your overall performance is poor, you might fail the course. **No extra homework/exam/project/etc. will be given to increase your grade at the end of the semester**

Homework submissions: Both written and programming. You are expected to program in Python. We will provide submission details.

Homework late day policy (IMPORTANT: Each student will have a total of 4 free late (calendar) days to use for homework assignments. You do not need to explain why you are submitting late and no need to notify us. $<= 24$ hours late counts as 1 day late, etc. Once these total of four late days are exhausted, any assignments turned in late will be penalized and will incur a reduction of 33% in the final score for each day (or **part thereof**) it is late. For example, if an assignment is up to < 24 hours late, it incurs a penalty of 33%. Else if it is up to more than 24 hours and less than 48 hours late, it incurs a penalty of 66%. And if it is 72 or more hours late, it will receive no credit.

Regrade policy: You may object a grade within 14 days after the grades are announced. If you feel that an error was made in grading, please get an appointment to discuss it.

Project

The purpose of the project is to increase your knowledge about data science and get hands-on practical experience. The grade for the project will include a peer grade. We will provide more details on the project content, deliverables and the key dates in the upcoming weeks.

Honor code

Students are expected to comply with Sabanci University Academic Integrity Statement. Any form of academic dishonesty will be penalized with a failing grade and disciplinary actions will be taken.