

Data Science

Instructor

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Course Overview

Data Science (Teams Code: 42sbxhs)

We are going to try to develop practical data science abilities and programming skills for data science projects in this course. Python is preferred as the programming language for the applications of this course.

Required Text

Introduction to Data Science, Springer, *L. Igual - S. Segui*

Data Science Concepts and Practice, Morgan Kaufmann, *V. Kotu – B. Deshpande*

Office Location

Dept. of CENG

Office C233

Office Hours

4 pm – 5 pm, Mondays

Course Materials

- Python 3.x (Anaconda is preferred)
- Jupyter Notebook from Anaconda
- Pycharm from JetBrains / Microsoft Visual Studio Code
- PC with a Linux distro or a Linux terminal in Windows 10/11.

Course Schedule

Week	Subject	Week	Subject
01	Basic Concepts in Python	08	Midterm Project Presentations – Part 1
02	Introduction to Data Science with Python	09	Midterm Project Presentations – Part 2
03	Data Collections and Preprocessing	10	Advanced Machine Learning Techniques
04	Exploratory Data Analysis (EDA)	11	Model Deployment and Visualization
05	Feature Engineering and Selection	12	Real-time Data and Model Updating
06	Introduction to Machine Learning Models	13	Final Project Presentations – Part 1
07	Model Evaluation and Hyperparameter Tuning	14	Final Project Presentations – Part 2