

2025

4Geeks Academy: data science cohort 12

DAY 1: COURSE INTRODUCTION

TOPICS

01 COURSE OVERVIEW

02 OUR DAY-TO-DAY

03 EXTRAS

Introduction & basics

Weeks 1 - 5

Background needed to think like a data scientist

1. Pandas
2. Data visualization
3. Intro to SQL
4. Web Scraping
5. API requests
6. Calculus and L.Algebra
7. Probability
8. Descriptive Statistics
9. Random Variables
10. Hypothesis Testing
11. Algorithm Optimization

Data science tools & techniques

Weeks 6 - 10

Data science concepts & techniques

1. Exploratory analysis
2. Your first ML algorithm
3. Linear regression
4. Decision tree algo
5. Random forest
6. Boosting algorithms
7. Naive bayes algorithm
8. K-nearest neighbors
9. Unsupervised learning
10. Time series forecasting
11. Intro to deep learning
12. Deep learning
13. Intro to NLP
14. Recommendation systems
15. ML web app using Flask
16. ML web app using Streamlit
17. Cloud computing for ML

Final project

Week 11 - 16

End-to-end data science application

1. Small dev teams
2. You pick the topic
3. Build and deploy an application
4. Pitch it on GeekTalk day

Past project topics:

1. Aviation incident prediction
2. Workout assistant
3. Cancer diagnosis
4. Natural disaster forecasting
5. Fantasy sports assistant

DAY TO DAY

10 min	Course business & general questions
15 min	Review previous project
15 min	Introduce new project/topic
end	CODE!

Pace is ~one project per class.

Spend a significant amount of time outside of class!

EXTRAS

Follow tech news	Get and stay current with the field (RSS feeds)
Takes notes	Build your personal knowledge base (logseq)
Build a brand	Post! Talk about what you are doing/reading (linkedin)
Practice	Get comfortable with Python (leetcode/hackerrank)
Build a portfolio	GitHub repo, personal website etc