

Schedule

A week-by-week breakdown of the material.

IMPORTANT: This schedule is revised daily as we move through the material. Notes more than 1 day in the future may be out of date.

Week 1 (09/05-09/09)

- Day 1
 - Introduction, case studies¹
 - Some Python fundamentals²
- Day 2
 - Data Formats³
- Day 3
 - List Comprehensions⁴

Week 2 (09/12-09/16)

- Day 1
 - Reading JSON from Python⁵
 - Assignment 1: Working with JSON data⁶
- Day 2
 - Introduction to Web APIs and Web Services⁷
- Day 3
 - RESTful design⁸

¹[notes/intro.html](#)

²[notes/intro_python.html](#)

³[notes/data_formats.html](#)

⁴[notes/list_comprehensions.html](#)

⁵[notes/json_python.html](#)

⁶[assignments/1.html](#)

⁷[notes/web_apis.html](#)

⁸[notes/rest.html](#)

Week 3 (09/19-09/23)

- Day 1
 - RESTful design, case study⁹
 - Assignment 2: Interacting with a REST API¹⁰
- Day 2
 - Introduction to databases¹¹
- Day 3
 - Relational Databases¹²

Week 4 (09/26-09/30)

- Day 1
 - Introduction to MySQL¹³
- Day 2
 - Joins, functions, updates and deletes¹⁴
- Day 3
 - Joins, functions, updates and deletes (cont)¹⁵
 - Assignment 3: Working with MySQL database tables¹⁶

Week 5 (10/03-10/07)

- Day 1
 - Accessing SQL from other languages¹⁷
- Day 2
 - Accessing SQL from other languages¹⁸
 - Assignment 4: Practice with SQL queries and SQLAlchemy¹⁹
- Day 3

⁹[notes/rest_case_study.html](#)

¹⁰[assignments/2.html](#)

¹¹[notes/databases_intro.html](#)

¹²[notes/databases_relational.html](#)

¹³[notes/databases_mysql.html](#)

¹⁴[notes/databases_mysql_advanced.html](#)

¹⁵[notes/databases_mysql_advanced.html](#)

¹⁶[assignments/3.html](#)

¹⁷[notes/databases_sqlalchemy.html](#)

¹⁸[notes/databases_sqlalchemy.html](#)

¹⁹[assignments/4.html](#)

- SQL Practice²⁰
- Object-Relational Mapping²¹

Week 6 (10/10-10/14)

- Day 1
 - Web Frameworks, and Flask²²
 - Assignment 5: Implementing a simple messaging web service²³
- Day 2
 - Midterm (study guide²⁴)
- Day 3
 - Work on assignment 5

Week 7 (10/17-10/21)

- Day 1
 - Fall Break
- Day 2
 - Indexes, Views, ORM²⁵
- Day 3
 - Work on Assignment 5

Week 8 (10/24-10/28)

- Day 1
 - Emergence of NoSQL databases²⁶
 - NoSQL Data Models²⁷
- Day 2
 - Lab work

²⁰[notes/sql_practice.html](#)

²¹[notes/databases_orm.html](#)

²²[notes/databases_web_frameworks.html](#)

²³[assignments/5.html](#)

²⁴[notes/midterm1_study_guide.html](#)

²⁵[notes/sql_odds_ends.html](#)

²⁶[notes/nosql_start.html](#)

²⁷[notes/nosql_data_models.html](#)

- Day 3
 - Distributed Database Models²⁸
 - Consistency²⁹

Week 9 (10/31-11/04)

- Day 1
 - Introduction to MongoDB³⁰
- Day 2
 - Aggregation Framework in MongoDB³¹
- Day 3
 - More practice with aggregation

Week 10 (11/07-11/11)

- Day 1
 - Assignment 6: More MongoDB practice³²
- Day 2
 - Map-Reduce in general and in MongoDB³³
- Day 3
 - Work on project

Week 11 (11/14-11/18)

- Day 1
 - Case Study: Consumer Expenditure data³⁴
- Day 2
 - Web Scraping³⁵
- Day 3
 - Guest Lecture

²⁸[notes/nosql_distributed.html](#)

²⁹[notes/nosql_consistency.html](#)

³⁰[notes/mongodb.html](#)

³¹[notes/mongodb_aggregation.html](#)

³²[assignments/6.html](#)

³³[notes/mongodb_mapreduce.html](#)

³⁴[notes/mongodb_practice.html](#)

³⁵[notes/web_scraping.html](#)

Week 12 (11/21-11/25)

- Day 1
 - Assignment 7: Web Scrapping practice³⁶
- Day 2
 - Thanksgiving
- Day 3
 - Thanksgiving

Week 13 (11/28-12/02)

- Day 1
 - Work on project
- Day 2
 - Work on project
- Day 3
 - Work on project

Week 14 (12/05-12/09)

- Day 1
 - Security and Authentication³⁷
- Day 2
 - Security and Authentication³⁸
- Day 3
 - Final study guide³⁹

³⁶[assignments/7.html](#)

³⁷[notes/security_auth.html](#)

³⁸[notes/security_auth.html](#)

³⁹[notes/midterm2_study_guide.html](#)