

Schedule

A week-by-week breakdown of the material.

Week 1 (09/05-09/09)

- Day 1
 - Introduction, case studies¹
- Day 2
 - Data Formats²
- Day 3
 - Reading JSON from Python³
 - Assignment 1: Working with JSON data⁴

Week 2 (09/12-09/16)

- Day 1
 - List Comprehensions⁵
 - Introduction to Web APIs and Web Services⁶
- Day 2
 - RESTful design⁷
- Day 3
 - RESTful design, case study⁸
 - Assignment 2: Working more with Twitter API⁹

Week 3 (09/19-09/23)

- Day 1
 - Introduction to databases¹⁰

¹[notes/intro.html](#)

²[notes/data_formats.html](#)

³[notes/json_python.html](#)

⁴[assignments/1.html](#)

⁵[notes/list_comprehensions.html](#)

⁶[notes/web_apis.html](#)

⁷[notes/rest.html](#)

⁸[notes/rest_case_study.html](#)

⁹[assignments/2.html](#)

¹⁰[notes/databases_intro.html](#)

- Relational Databases¹¹
- Day 2
 - Introduction to MySQL¹²
- Day 3
 - Joins, functions, updates and deletes¹³
 - Assignment 3: Working with MySQL database tables¹⁴

Week 4 (09/26-09/30)

- Day 1
 - Accessing SQL from other languages¹⁵
- Day 2
 - Accessing SQL from other languages (cont)¹⁶
- Day 3
 - Web Frameworks, and Flask¹⁷
 - Assignment 4: Tweets via SQL queries and SQLAlchemy¹⁸

Week 5 (10/03-10/07)

- Day 1
 - Guest lecture
- Day 2
 - Web Frameworks, and Flask (cont)¹⁹
- Day 3
 - Assignment 5: Implementing a simple messaging web service²⁰

¹¹[notes/databases_relational.html](#)

¹²[notes/databases_mysql.html](#)

¹³[notes/databases_mysql.html](#)

¹⁴[assignments/3.html](#)

¹⁵[notes/databases_sqlalchemy.html](#)

¹⁶[notes/databases_sqlalchemy.html](#)

¹⁷[notes/databases_web_frameworks.html](#)

¹⁸[assignments/4.html](#)

¹⁹[notes/databases_web_frameworks.html](#)

²⁰[assignments/5.html](#)

Week 6 (10/10-10/14)

- Day 1
 - SQL Practice²¹
- Day 2
 - Midterm (study guide²²)
- Day 3
 - Work on assignment 5

Week 7 (10/17-10/21)

- Day 1
 - Fall Break
- Day 2
 - Indexes, Views, ORM²³
- Day 3
 - Work on Assignment 5

Week 8 (10/24-10/28)

- Day 1
 - Emergence of NoSQL databases²⁴
 - NoSQL Data Models²⁵
- Day 2
 - Lab work
- Day 3
 - Distributed Database Models²⁶
 - Consistency²⁷

²¹[notes/sql_practice.html](#)

²²[notes/midterm1_study_guide.html](#)

²³[notes/sql_odds_ends.html](#)

²⁴[notes/nosql_start.html](#)

²⁵[notes/nosql_data_models.html](#)

²⁶[notes/nosql_distributed.html](#)

²⁷[notes/nosql_consistency.html](#)

Week 9 (10/31-11/04)

- Day 1
 - Introduction to MongoDB²⁸
- Day 2
 - Aggregation Framework in MongoDB²⁹
- Day 3
 - More practice with aggregation

Week 10 (11/07-11/11)

- Day 1
 - Assignment 6: MongoDB from Python via PyMongo³⁰
- Day 2
 - Map-Reduce Philosophy
- Day 3
 - Introduction to Hadoop

Week 11 (11/14-11/18)

- Day 1
 - Authorization and OAuth2
- Day 2
 - TBA
- Day 3
 - TBA

²⁸[notes/mongodb.html](#)

²⁹[notes/mongodb_aggregation.html](#)

³⁰[notes/mongodb_pymongo.html](#)

Week 12 (11/21-11/25)

- Day 1
 - TBA
- Day 2
 - Thanksgiving
- Day 3
 - Thanksgiving

Week 13 (11/28-12/02)

- Day 1
 - TBA
- Day 2
 - TBA
- Day 3
 - TBA

Week 14 (12/05-12/09)

- Day 1
 - TBA
- Day 2
 - TBA
- Day 3
 - Project presentations