Syllabus | STAT 4194 | OSU | Dalpiaz

Course Staff

Instructor: David Dalpiaz

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- Office: 114 Pomerene Hall
- Office Hours: Wednesday 10:00 AM - 11:00 AM, Thursday 5:00 PM - 6:00 PM

Teaching Assistant: Qian Qian

- Email: `li.7230@osu.edu`
- Office: DALC, Pomerene Hall 151
- Office Hours: Monday 10:20 AM - 12:30 PM

Location and Time

The course will consist of two 110-minute lectures for a total of 4 credit hours.

- **Lecture:** Tuesday and Thursday, 12:45 PM - 2:35 AM, Pomerene Hall (PO) 0161

Prerequisites

A grade of C- or better in STAT 4260: Introduction to Statistical Learning, or permission of instructor.

Course Materials

Readings

There is no required textbook for the course. A list of freely available readings will be posted to the course website.

Computing

The `R` programming language (`https://www.r-project.org/`) and RStudio IDE (`https://www.rstudio.com/`) will be used throughout the course. Both `R` and RStudio are free software that you are encouraged to install on your personal machines.

Website

- `https://go.osu.edu/stat4194`
- `https://carmen.osu.edu`

Course Description

A teamwork-based synthesis of the Data Analytics major curriculum through the analysis of data supplied by a partnering institution. Prepares students for the complexity of data analysis they will encounter outside of the university in a mentored setting.

Learning Outcomes

Upon successful completion of the course, students will be able to. . .

1. *Use* statistical models and concepts to analyze data and draw conclusions based on data.
2. *Apply* computer science principles relating to data representation, retrieval, programming, and analysis.
3. *Use* critical thinking skills associated with problem identification, problem solving and decision making, assessing value propositions supported by data, and generating a logical synthesis of information from data.
4. *Apply* knowledge gained from one area to problems and data in another.
5. *Communicate* findings and their implications.

Grading

Assessments and Course Activites

For each individual assignment or project, specific policies and directions will be included with the release of an assignment, or in advance of a project.

- **Participation:** Occasionally there will be in-class activities which are turned-in for a completion grade.

- **Readings:** A number of short readings will be assigned throughout the semester. Short, comprehension quizzes will be completed in Carmen. These readings are intended to help students better understand the larger data science world.

- **Concept Quizzes:** There will be **five** in-class quizzes on high-level course concepts. These quizzes are meant to meant to help prepare students for the type of concept questions seen during an interview process.

- **Programming Challenges:** There will be **five** "programming challenges" meant to help prepare students for the type of technical questions seen during an interview process.

- **Midterm Project:** There will be **two** midterm *group* projects that involve analyzing data provided by a partner institution. Each project will have several smaller assignments including but not limited to: project proposals, EDA reports, progress reports, final reports, peer reviews, and presentations.

- **Final Project:** The final project will be a longer, more in-depth version of the midterm projects.

Grade Components

Type	Percentage
Participation	5
Readings	5
Concept Quizzes	5
Programming Challenges	5
Practice Project	5
Midterm Project I	20
Midterm Project II	20

Type	Percentage
Final Project	35

Grading Scale

A	A-	B+	B	B-	C+	C	C-	D+	D	D-
93%	90%	87%	83%	80%	77%	73%	70%	67%	63%	60%

Course Policies

Email Communications

In order to protect your privacy, all course e-mail correspondence must be done through a valid Ohio State University name.## account. The subject line of the email must begin with [**STAT 4194**] followed by an informative message.

If an email is sent between 9:00 AM Monday and 11:59 PM Thursday, and you follow the above directions, the staff will make an effort to respond within 24 hours. Homework questions sent the same day a homework is due run the risk of not receiving a response before the homework is due. Plan accordingly and consider office hours as a more reliable alternative.

Data Analytics Learning Center

Graduate teaching assistants (GTAs) for STAT 3201, 3202, 3301, 3302, 3303, 4620, and **4194** will hold their office hours in the Data Analytics Learning Center (DALC) in Pomerene 151. The hours during which the GTA and grader for our course will hold office hours in PO 151 can be found at the top of the syllabus. You can meet with the GTAs for our course in the DALC during their office hours to discuss questions you have about the course material, homework assignments, R, etc.

You are welcome to stop by the DALC when it is open even if it is not currently being staffed by the GTA for our course, e.g. if you are looking for a place to study or work on an assignment for one of the supported courses. If the DALC is staffed by a GTA for another Statistics course when you stop by, they will help you if possible, but may not be able to answer all of your questions.

A complete list of hours during which the DALC will be staffed by GTAs for Statistics Department courses can be found at `https://data-analytics.osu.edu/dalc`.

In rare situations due to last minute emergencies, the GTA assigned to the DALC may not be able to attend their office hours. If the DALC is closed when the schedule indicates it should be open, we recommend waiting for a few minutes. If no one shows up in a reasonable amount of time, please email your instructor to let us know about the problem. You can also contact your GTA to see about arranging a make-up time to meet.

Grade Disputes

If you feel a homework, exam, lab, or project was graded incorrectly, you have **one week** from the date it was returned to discuss it with the course instructor. After one week, grading is final except for exceptional circumstances. You may not simply ask for a re-grade, but instead must justify to the staff why the grading was done incorrectly. Also, by disputing any grading, you agree to allow the course staff to review the entire assignment or exam for other errors missed during grading.

Attendence

You are expected to attend all lectures and recitations. Failure to do so may not have a direct effect on your course grade, but will likely have a significant indirect effect. Any known or potential extracurricular conflicts should be discussed in person with the instructor during the first week of class, or as soon as they arise.

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct `http://studentlife.osu.edu/csc/`.

Special Accommodations

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: `slds@osu.edu`; 614-292-3307; `slds.osu.edu`; 098 Baker Hall, 113 W. 12th Avenue.

Policy Changes and Updates

Within reason and with advance notice, the instructor reserves the right to make any changes that are considered academically advisable. Such changes, if any, will be announced in class. Please note that it is your responsibility to attend the class and keep track of the proceedings. These changes are likely to contain minor changes to the schedule, however no changes will be made to the exam dates.

Topics

- Introduction to data subject area
- Exploratory data analysis
- Data ethics
- Computing for data
- Problem identification
- Project scoping and planning
- Statistical modeling and analysis
- Model criticism and refinement
- Report writing
- Presentations