STAT 108 - Foundations of Data Science

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Course Description

The field of Data Science encompasses methods, processes, and systems that enable the extraction of useful knowledge from data. Foundations of Data Science introduces core data science concepts including computational and inferential thinking, along with core data science skills including computer programming and statistical methods. This course presents these topics in the context of hands-on analysis of real-world data sets, including economic data, document collections, geographical data, and social networks. The course also explores social issues surrounding data analysis such as privacy and design.

Assignments and Grading

All major assignments will be submitted via Gradescope and all feedback and grades will be published there. Feedback will not be posted prior to the due date, but students may submit an assignment as early as they wish.

Your success in this course is important. Your instructor has provided several resources and opportunities for you to learn the contents of this course. Some of those include: numerous in-class demonstrations and hands-on activities, lab sessions where you can further practice the content taught during lectures, instructor and teaching assistant (TA) office hours (OHs) where you can seek more help and guidance. These resources are in addition to many other student success resources provided by the college and the University, such as your academic advisor. You are encouraged to take advantage of these resources to ensure you succeed in this course.

Throughout the semester, your instructor will communicate with Student Success & academic advisors regarding your progress in the course. If you are contacted, please consider scheduling appointments such as tutoring or academic advising and talk with your professor. Referrals are not punitive and are meant to assist you in connecting with resources at UMass. Please email academicalert@umass.edu if you have any questions or need assistance connecting with resources.

- **Attendance = 5%**
  Attendance is highly encouraged for this class because most of the material will be learned through hands-on activities. This is especially important for labs where **all work** will be done within the lab hour. Unannounced attendance will be taken when attendance drops.

- **Homework = 30%**
  There are 10 assignments in this course, one for each Module. Please refer to the schedule posted on Moodle for the due dates. Grades of the assignments will be available on Gradescope **within 2 weeks after the assignment due date**. Regrade requests will be

accepted **no later than one week** after grades are released on Gradescope. After that, all assignment grades will be deemed final. **LATE homework will NOT be graded.**

- **Labs = 20%**
  There are 10 labs in this course, one for each Module. During labs students engage in hands-on coding to answer questions on the material taught during lectures. Students will be grouped in 2s/3s each week to work on the lab exercise together. When you submit your labs on Gradescope, make sure to add the names of your groupmates. **Attendance is important** because **all work will be completed during the session**. If you cannot make it to a lab session let your instructor know in advance (at least a day in advance) so that they can make other arrangements for you. **LATE labs will NOT be graded.**

- **Midterm exam = 20%**
  The midterm exam will be **take-home, and open book**. The questions will mostly ask you to write code. It will be open on Gradescope for a week, but once you start, you will have **3 hours** to complete and upload it to Gradescope.

- **Final exam = 25%**
  The final exam will also be **take-home, and open book**. It will be open on Gradescope for a week, but you will have **4 hours** to complete and upload it to Gradescope.

Announcements – Moodle and email will be used for conveying important class announcements.

Accommodation Policy – Students with a documented disability are encouraged to communicate their needs to the instructor at their earliest convenience. If you aren't sure if you qualify for an accommodation, or if you have any questions about your right to accommodations, please contact the office of Disability Services: http://www.umass.edu/disability/students

Cell Phones and other digital devices not used for class discussion– To avoid distracting the class, please put the devices you are not using away or keep them in silent mode. I expect you to use all your devices responsibly so as not to distract yourself or the class from learning.

Inclusion Policy – In this course, each voice in the classroom has something of value to contribute. Please take care to respect the different experiences, beliefs and values expressed by students and staff involved in this course. We support UMass Amherst's commitment to diversity, and welcome individuals of all ages, backgrounds, citizenships, disability, sex, education, ethnicities, family statuses, genders, gender identities, geographical locations, languages, military experience, political views, races, religions, sexual orientations, socioeconomic statuses, and work experiences.

Schedule – Please refer to the schedules posted on Moodle.

I reserve the right to make changes to this syllabus as needed to incorporate current events and to better support positive student outcomes.