MA151 Introduction to Statistics

Seminar Leader: Martin Binder, Marcus Giamattei
Course Times:
Mo and Wed 10:45-12:15 (section A, Martin Binder)
Tue and Thu 10:45-12:15 (section B, Marcus Giamattei)
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Course Description

The goal of this course is to introduce students to quantitative methods in economics and politics. The course covers the basics of descriptive and inferential statistics, including probability theory, hypothesis testing, and an introduction to regression analysis. To facilitate students' ability to understand and critically engage with these methods, examples of quantitative social science research are discussed throughout the course. Classes are complemented with exercises to build students' skills in applying the learned methods independently. Many of these exercises use data from public opinion surveys, which cover a wide range of social, economic, and political topics. Working with this survey data, students will also have the opportunity to explore research questions of their own. At the end of the course, students will be able to read and engage with the majority of modern quantitative research. They also will be well prepared to pursue a variety of more advanced quantitative research courses.

This course also fulfills the mathematics and science requirement for humanities students.

Requirements

Textbook
We will use the OpenSource Textbook "OpenIntro Statistics" by Diez/Cetinkaya-Rundel/Barr, 4th edition, 2019, which can be freely downloaded via openintro.org/os. You can also buy print versions there and via other sources at low cost.

Attendance
Attendance at ALL classes is expected. Absences due to illness or compelling circumstances outside of the students' control are excused if notification is given via email before the course. The instructor may require additional documentation in case of absences or frequent exams/quizzes on the day of absence. Optional non-academic travel, hosting visiting family and friends, or work schedules are not grounds for excused absences.

Academic Integrity
Bard College Berlin maintains the staunchest regard for academic integrity and expects good academic practice from students in their studies. Syllabi should note that, instances in which students fail to meet the expected standards of academic integrity will be dealt with under the Code of Student Conduct, Section 14.3 (Academic Misconduct) in the Student Handbook.

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Grading

Assessment
Assessment will be based on attendance, preparation for classes, regular and active participation, professionalism (see below), quizzes, exercises as well as a midterm (60 minutes) and final examination (90 minutes). The worst-graded quiz and exercise will not count towards the grade.

Policy on Late Submission of Exercises
Exercises that are up to 24 hours late will be downgraded one full grade (from B+ to C+, for example). After that, we will accept late submissions only until the end of the week in which they were due (Sun, 23:59), but these cannot receive a grade of higher than C. Thereafter, the student will receive a failing grade for the assignment.

Grade Breakdown
Seminar preparation, professionalism and participation 20%
Quizzes and exercises 20%
Midterm examination 30%
Final examination 30%

Schedule
Spring 2020 classes start on Monday, January 27 and run until Friday, May 15 with spring break planned from Monday, April 6 – Monday, April 13. Completion week is from May 11 - 15. Students are required to be on campus during completion week and the final exam will be scheduled during this week. Scheduled class times are available online under the relevant course heading:
https://berlin.bard.edu/academics/courses/

The schedule provided is provisional in order to allow for flexibility. It is the students' responsibility to keep themselves informed of any changes to the schedule provided here. An up-to-date schedule will be maintained by the course management on the internet in Google classroom. The password to join google classroom will be handed out in class.

	Topic	Reading
Week 1 Jan 27 to Jan 30	Introduction and Basic Terminology	Ch.1
Week 2 Feb 3 to Feb 6	Description of Data	Ch.2
Week 3 Feb 10 to Feb 13	Probability	Ch.3
Week 4 Feb 17 to Feb 20	Random Variables and Probability Distributions	Ch.4
Week 5 Feb 24 to Feb 27	Random Variables and Probability Distributions	Ch.4
Week 6 Mar 2 to Mar 5	Sampling Distributions/Confidence Intervals	Ch. 5
Week 7 Mar 9 to Mar 12	Hypothesis Testing I	Chs. 5-7
Week 8 Mar 16 to Mar 19	Hypothesis Testing II Midterm exam will be on Mar 17 10:45-12:15	Chs. 5-7, additional readings
Week 9 Mar 23 to Mar 26	Hypothesis Testing III	Chs. 5-7, additional readings
Week 10 Mar 30 to Apr 2	Hypothesis Testing IV	Chs. 5-7, additional readings
Apr 6 to Apr 13	Spring break	
Week 11 Apr 13 to Apr 16	Correlation and Regression	Ch.8
Week 12 Apr 20 to Apr 23	Correlation and Regression	Ch.8
Week 13 Apr 27 to Apr 30	Nonparametric statistics	tba.
Week 14 May 4 to May 7	Review	
Week 15 Completion week	FINAL EXAMINATION: to be scheduled	

Classes missed due to federal holidays will not be rescheduled.

Professionalism

Being a student is your full-time job and with it come a set of responsibilities and expectations, as with any other job. Maintaining a professional attitude towards your course of study is something that also prepares you for later work life. A professional attitude towards your studies is shown by coming to class on time, being prepared, being courteous to your teachers and fellow students. It is exhibited by writing your essays with care, actively participating in class, avoiding distractions (excessive bathroom breaks, using smartphones to check on irrelevant issues during class etc.), not missing classes except

for the most dire of circumstances and in general by adapting to the rules of the course without trying to bargain for personal exceptions.

Ethics/Academic honesty

A core value of the academy is truth and the pursuit thereof. Nothing can shake the foundations of this pursuit as much as academic dishonesty as it undermines the trust that is indispensable to it. This is why I will not excuse any instance of academic dishonesty. Plagiarism, cheating during exams, copying homework assignments (or doing individual assignments with a classmate) all constitute violations of academic honesty and of the clause on "academic integrity" that each student has signed in the student handbook. They can lead to failing the course and will be reflected in the student's record (having a record of academic dishonesty can make obtaining scholarships, achieving a study abroad place or admission to another program difficult if not outright impossible). If students fail to meet the expected standards of academic integrity, this will be dealt with under the Code of Student Conduct, Section III Academic Misconduct.

(version: 05.01.2020)