

## MAT330/681 SPRING 2022

### SYLLABUS

Welcome to MAT330/681!

To help get things started, I have assembled below some important information about this course, including details on Exams, Grades, Homework Assignments, etc. Please **READ CAREFULLY** and in its entirety. This and much more information can be found in the course webpage:

[http://www.lehman.edu/faculty/rbettio1/lehman\\_teaching/2022mat330.html](http://www.lehman.edu/faculty/rbettio1/lehman_teaching/2022mat330.html)

1. **About this course.** As described in the official Lehman College course description, the contents of this course include: “*Basic probability theory, combinatorial problems, distributions, expectation, law of large numbers and central limit theorem, Bernoulli processes, and Markov chains.*” This means we will learn the basic mathematical tools used to model and compute how likely a certain outcome is in experiments where chance is involved. Probability is perhaps the most fundamental tool in modern decision-making, and has become an extremely desirable skill for job applicants in quantitative and STEM fields. I would also argue that having a certain level of proficiency and formal training in how to assess likelihoods and risks is particularly useful to safely and effectively navigate today’s world, to better inform how we make decisions about our health, finance, and much more. This course is cross-listed as a basic graduate course (MAT681).

2. **Classes.** This is a *hybrid course*, which mixes in-person and remote activities. Some classes will be held in-person at **Gillet 305, 11:00am–12:40pm**, and some classes will be held remotely (either synchronously or asynchronously). You can find detailed information on the specific plans for each class in the day-by-day schedule on the course website, which is subject to change but will be always kept updated. Please remember to refresh your browser every time you access the schedule, so that you are sure this is the latest version.

**In-person classes** will be accompanied by explanatory videos and lecture notes posted on the course website, in case you are not able to attend that class in person. However, you are expected to make every effort to attend in-person classes, while also following CUNY’s safety guidelines regarding the pandemic.

**Remote classes** will usually be asynchronous, and consist of a sequence of prerecorded explanatory videos and accompanying lecture notes, posted in the course website, that you are expected to watch and **work through within 1 day** of the time they are scheduled/posted. This is very important, since you will have to keep up with the weekly schedule in order to be able to complete homework assignments, and follow the material presented in subsequent lectures, so please do not postpone working through the asynchronous lectures more than 1 day after they are posted. Remote classes may be conducted live (synchronously) via Zoom at scheduled class times – this includes our first lecture of the semester. These lectures will be recorded and you will receive an email to register and receive an individualized zoom link at the beginning of the semester, on Monday Jan 31, 2022. Your participation in the live lectures is strongly encouraged.<sup>1</sup>

3. **Online.** There are 2 important websites you will use for this course:

(A) Course website:

[http://www.lehman.edu/faculty/rbettio1/lehman\\_teaching/2022mat330.html](http://www.lehman.edu/faculty/rbettio1/lehman_teaching/2022mat330.html)

(B) Blackboard: <https://bbhosted.cuny.edu/webapps/login/noportal>

This is where you will access and submit your homework, and see your grades.

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<sup>1</sup>Disclaimer concerning class recordings: *Students who participate in this class with their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the “chat” feature, which allows students to type questions and comments live.*

4. **Textbook.** There are 2 textbooks that will be used in this course:

- (1) A First Course in Probability, by Sheldon Ross, Pearson (10th edition)
- (2) Introduction to Probability, by D. Anderson, T. Seppäläinen, B. Valkó, Cambridge Univ Press

The main reference is (1), but we will occasionally also discuss some material in (2). Regarding reference (1), the 10th edition is preferred, but you may use previous editions (such as the 8th or 9th), also published by Pearson. You may be able to find electronic versions of the above textbooks or purchase inexpensive used copies. It is indifferent which format of the textbooks you are using, as long as you have access to them (since some complementary reading will be occasionally suggested). Additional references and learning resources are listed on the course website, and this list might be expanded throughout the course.

5. **Homework.** We will have weekly homework assignments due on Wednesdays, that will be posted and conducted entirely via Blackboard (under the “Assignments” tab), according to the day-by-day schedule. **It is your responsibility to stay up-to-date** with the assignments and allow yourself sufficient time to complete them prior to the deadline, taking into account any possible technical or internet connection issues. Blackboard is programmed to shut off access to each assignment at the specified deadline (at 11.59pm, local time in NYC), and there will be no extensions or opportunities to re-take past homework assignments.

6. **Exam.** There is only one (Final) Exam in this course, that will take place *in person* on **May 18, 2022, 11:00am–1:00pm**. There is no alternative opportunity to take this exam remotely or on a different date.

7. **Grades.** Course letter grades will be determined based on **homework (60%) and Final Exam (40%)**.

8. **Office hours.** Weekly office hours will be held **via Zoom**; you will receive an email with details.

9. **Students with disabilities.** Lehman College is committed to providing access to all programs and curricula to all students. Students with disabilities who may need classroom accommodations must register with the Office of Student Disability Services. For more information, please contact the Office of Student Disability Services, Shuster Hall, Room 238, at 718-960-8441.

10. **Academic integrity and class policies.** The highest levels of academic integrity, as detailed in the

- (1) CUNY Academic Integrity Policy

<http://www2.cuny.edu/about/administration/offices/legal-affairs/policies-procedures/academic-integrity-policy/>

- (2) Lehman College Undergraduate Bulletin

<https://lehman.smartcatalogiq.com/2019-2021/Undergraduate-Bulletin/Academic-Services-and-Policies/Academic-Integrity>

must be upheld in all activities related to this course. Students are encouraged to discuss homework problems with each other, but are required to write their solutions independently. CUNY-wide and Lehman College policies and procedures that are in effect regarding academic integrity, attendance, student conduct, secular and religious holidays, reasonable accommodations and academic adjustments, etc will be followed strictly. Identical solutions or solutions copied from online forums and other websites will receive a zero grade and will be referred to the Office of Student Affairs for disciplinary sanctions. Absence from an exam will result in a zero grade for that exam, except in extraordinarily unusual circumstances, with both a valid written excuse and instructor approval. Any requests for grade revision must be submitted in writing (by email).