

American University of Beirut
MATH/STAT 233: Probability
Course Syllabus (2022–2023 Spring)

Summary: Probability theory is the mathematics of reasoning about chance and randomness. This course is an introduction to probability theory. The common mathematical language for describing random phenomena will be developed, and some tools and concepts for reasoning about them will be discussed. These will be complemented with motivating examples and discussions on applications and interpretations.

Time and location:

- MWF 13:00–13:50 (January 20 – May 3)
- Nicely 210

Prerequisite: MATH 201

Textbook:

- Primary: *Understanding Probability* by H. Tijms
- Secondary: *Elementary Probability Theory* by K. L. Chung and F. AitSahlia
- Secondary: *A First Course in Probability* by S. Ross
- Supplementary notes may be posted during the semester.

Note: The electronic versions of the first two books can be accessed via the [university library](#). You may be prompted to login with your AUB account.

Tentative Contents:

- Mathematical language of probabilities
- Counting techniques and their applications in probability
- Dependence and conditional probabilities
- Discrete and continuous random variables; their individual and joint distributions
- Expected value of random variables
- Important classes of random variables
- Generating functions in probability
- Law of large numbers
- Central limit theorem

Instructor: Siamak Taati (Email: st71@aub.edu.lb; Office: Bliss Hall 312B)

Office hours:

- Mondays 14:00–15:00 and Wednesdays 10:00–11:30 (to be updated at the beginning of the semester)

Homework:

- Weekly assignments due on Friday.
- You are allowed to discuss the questions with each other, but you must write your solutions individually. You may be asked to explain your solutions.

Exams:

- Midterm 1: Tuesday, February 21, 17:30 (venue TBA)
- Midterm 2: Tuesday, March 21, 17:30 (venue TBA)
- Final: To be scheduled by the Registrar's office

The exams will be cumulative.

Grading Policy:

- 5% Active participation
- 10% Homework
- 35% or 50% Midterms
- 50% or 35% Final

Unique Learning Needs of Students with Disabilities: AUB strives to make learning experiences as accessible as possible. If you anticipate or experience academic barriers due to a disability (including mental health, chronic or temporary medical conditions), please inform your instructor so that we can privately discuss the options. In order to help establish reasonable accommodations and facilitate a smooth accommodation process, you are encouraged to contact the [Accessible Education Office](#) (Email: accessibility@aub.edu.lb; Phone: +961-1-350000 ext. 3168; Location: West Hall 304).

Academic Integrity: Please refer to AUB [Student Code of Conduct](#), in particular to Section 1.1, which concerns academic misconduct including cheating, plagiarism, in-class disruption, and dishonesty. Please be aware that misconduct is vigorously prosecuted and that AUB has a zero tolerance policy. The course policy is that credible evidence of cheating will result in failure in the course and referral to the disciplinary committee.

Non-Discrimination: AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by [Title IX](#). The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at [<https://www.aub.edu.lb/president/titleix>]. To report an incident, contact the University's Title IX Coordinator Trudi Hodges at +961-1-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via EthicsPoint at [<http://www.aub.ethicspoint.com>].