

## Syllabus

ISyE 6650, Probabilistic Models, Sections A and MSA  
Fall 2026

**Catalog Description** An introduction to basic stochastic processes such as Poisson and Markov processes and their applications in areas such as inventory, reliability, and queueing.

**Course Objectives**

1. Review of probability
2. Discrete-time Markov chains
3. Poisson processes
4. Continuous-time Markov chains
5. Queueing theory
6. Reliability theory
7. Brownian motion

**Required Textbook** Sheldon M. Ross, *Introduction to Probability Models*, Thirteenth Edition, Academic Press, 2023, ISBN 978-0443187612.

An electronic copy of the textbook is available for free via the Georgia Tech library at [library.gatech.edu](http://library.gatech.edu).

**Final Grade**

Midterm 1	25%
Midterm 2	25%
Final Exam	35%
Assignments	15%

To be certain of receiving a final grade of A, B, C, or D for the course, your cumulative score needs to be above 90.00, 80.00, 70.00, or 60.00, respectively.

If the course is taken on a pass/fail basis, then the final grade will be either S (if your standing is in the C range or higher) or U (if your standing is in the D range or lower).

**Class Attendance** *This is a residential class.* All lectures will be delivered in the classroom. *Class attendance is strongly recommended.* Should you miss class, it is your responsibility to remedy the situation (e.g., to find out what material was covered, obtain copies of handouts, etc.).

The use of electronic devices (including laptops and phones) is prohibited in class. *Tablets may only be used for taking lecture notes.*

*All examinations will be administered in class and must be taken in person.*

*Midterm examinations will only be rescheduled for individual students when required by Georgia Tech.* Please refer to [catalog.gatech.edu/rules/4](http://catalog.gatech.edu/rules/4) for Institute policies regarding absences. Institute policies regarding final examinations are provided at [registrar.gatech.edu/info/exam-guidelines](http://registrar.gatech.edu/info/exam-guidelines).

When Georgia Tech policy does not apply, special arrangements for a missed examination will only be made at the discretion of the Instructor. Special arrangements for a missed midterm examination involve placing additional weight on the final examination to compensate.

### **Honor Code**

Students in this class are expected to abide by the Georgia Tech Honor Code and avoid any instances of academic misconduct, including but not limited to: (i) possessing, using, or exchanging improperly acquired written or verbal information in the preparation of homework or for examinations, (ii) substitution for, or unauthorized collaboration with, a student in the commission of academic requirements, and (iii) submission of material that is wholly or substantially identical to that created or published by other persons or entities (including AI tools). The complete text of the Honor Code may be found at [osi.gatech.edu](http://osi.gatech.edu).

### **Expectations**

This course will operate according to the student-faculty expectations available at [catalog.gatech.edu/rules/22](http://catalog.gatech.edu/rules/22). A homework assignment will be due on the final instructional class days, see [catalog.gatech.edu/rules/12](http://catalog.gatech.edu/rules/12).

### **Disability Services**

If you are a student with learning needs that require special accommodations, please contact the Office of Disability Services at 404-894-2563 or [disabilityservices.gatech.edu](http://disabilityservices.gatech.edu) to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also contact the Instructor to set up a time to review your accommodations and discuss your learning needs. Students with testing accommodations should schedule all exams with the Disability Services Testing Center.