Course Information

Course Description
This is an introductory course in stochastic models. It builds upon a basic course in probability theory and extends the concept of a single random variable into collections of random variables known as stochastic processes. The course focuses on discrete-time Markov chains, Poisson process, continuous-time Markov chains, and renewal theory. It also discusses applications to queueing theory, risk analysis and reliability theory.

Contact Information
Instructor:
Mariana Olvera-Cravioto
Office: Mudd Building, Room 306
Email: molvera@ieor.columbia.edu

Teaching assistants: TBD
Course assistants: TBD

Prerequisites
An introductory course in probability, such as SIEO 3600, IEOR 3658, STAT 4105 or SIEO 4150.

Lectures and Office Hours
Lectures: Mondays and Wednesdays, 1:10 - 2:25 pm, Room TBD

Instructor’s Office Hours:

<table>
<thead>
<tr>
<th>Days</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesdays</td>
<td>4:00 pm - 4:55 pm</td>
<td>Mudd 306</td>
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<tr>
<td>Thursdays</td>
<td>11:00 am - 12:00 pm</td>
<td>Mudd 306</td>
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Teaching Assistants’ Office Hours: TBD

Required Text

Homework
There will be weekly assignments due every Wednesdays, in class. Students are encouraged to collaborate with other students in the class, as long as each person writes his/her own solutions. Copying homework from another student (past or present) is forbidden.

Graded assignments will be returned in class. Assignments not picked up in class can be picked up from the TA, who will keep them only for two weeks. After two weeks any abandoned homework will be recycled.
Exams
There will be two midterms during the semester and one final exam. All three exams will be open book/notes/homework. You will be able to use a calculator if needed, but no lending/borrowing of calculators will be allowed. You may not use laptops or smartphones during the exams.

First Midterm: Wednesday, February 18th, in class.
Second Midterm: Wednesday, April 1st, in class.
Final: TBD

Grading

20% Homework
40% Midterms
40% Final