

Syllabus for Discrete Mathematical Modeling

Math 381 A - Autumn 2017

Lecturer: Dr. Matthew M. Conroy

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(always specify Math 381 in the subject line)

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My office hour times can be found at the web page above. Office hours are times when you can speak to me without making an appointment - just stop by. If you can't make those hours, let me know and we can find other times to meet.

Course topics: This course will introduce you to a number of mathematical modeling concepts and methods including:

- linear and integer programming
- graph theory
- markov processes
- multidimensional scaling
- monte carlo simulation
- queuing theory

Text: There is no required text for this course. There will be readings listed on the course website as the course progresses.

Lectures: There are lectures each Monday, Wednesday and Friday.

All cell phones, laptops and tablets should be put away during lectures, unless you are presenting or taking notes.

Homework: Homework assignments will be listed on the class website.

You are encouraged to work with other students to complete the homework assignments. However, the work you turn in must be your own. **Do not copy another student's work, and do not allow your work to be copied.**

Late homework will not be accepted. However, you are allowed to miss *one* homework assignment, for any reason, without penalty to your grade. This is implemented by dropping each student's lowest homework score when calculating each student's homework average. It is always to your advantage to turn homework in rather than not.

Graded homework must be picked up no later than the end of the next class day after the day that homework is returned. Failure to do so will result in a significant reduction of points to your homework.

Participation: It is essential that you come to every class meeting. Attendance is **mandatory** at every student presentation.

Exams: There are no exams in this course.

Projects: There will be two course projects, each of which will culminate in a paper. You will work in groups on these projects. I will assign groups by the second class meeting.

Each student will get a separate project grade based on the quality of the paper, and the student's contribution to the paper, as determined by the other members in the group.

Groups will also present their papers. The quality of the presentations will be part of the project grade. The presentations must be no more than 10 minutes long.

Important Dates:

| | proposal due | project due | project presentations |
|----------------|--------------|-------------|---------------------------|
| First project | October 13 | October 27 | October 30, November 1, 3 |
| Second project | November 15 | December 1 | December 4, 6, 8 |

To have your project proposal approved, at least two group members must together discuss the proposal with Dr. Conroy in office hours on or before the proposal due date.

Grading: Your course grade will be made up of the following:

| | |
|----------------------------------|------|
| office visit, no later than 10/6 | 1 % |
| homework | 21 % |
| first paper | 39 % |
| second paper | 39 % |

Note: I may introduce “pop” quizzes, which will be unannounced and will make up no more than 10 percent of your course grade. If I do, the percentages shown above will be adjusted proportionally.

If you feel that an error in grading has occurred, you have **one week** after the graded material is returned to bring it to Dr. Conroy’s attention. You should stop by Dr. Conroy’s office hours to discuss it.