

# Mathematics 102, Section 1 – Spring 2011

## Applications of Mathematics without Calculus

**Instructor:** Robert Winters  
**Email:** [rwinters@wellesley.edu](mailto:rwinters@wellesley.edu)

**Office and Phone:** SCI 373, x3495 (e-mail preferred)  
**Office Hrs:** Mon, Wed, Thurs 12:30pm – 1:30pm  
and at other times to be determined

**Course web site:** <http://math.rwinters.com/102>      **TA/grader:** Shuyu Gao

**Text:** *Finite Mathematics for the Managerial, Life, and Social Sciences*, 8th Edition, by S.T. Tan, published by Thomson/Brooks-Cole, ISBN 978-0006-99194-6 (or 0006-99194-7). A 9th edition (and earlier editions) is also available, but HW exercises will be taken from the 8th edition. Time permitting, all assigned homework will also be made available as printable PDF documents on the course website. Data relevant to the assigned homework will also be available at the course website as necessary.

**Calculators, computers, software:** There is no required software or technology for this course, but it will be very useful if you familiarize yourself with readily available tools like Microsoft Excel or any equivalent spreadsheet program. You may also wish to have access to a calculator for routine calculations, especially on exams where you will not have access to software. We will provide necessary tutorials on the use of software either in class or individually as the need arises.

**Description:** This course explores several areas of mathematics which have application in the physical and social sciences, yet which require only high-school mathematics as a prerequisite. The areas covered will be chosen from systems of linear equations and matrix methods, linear programming, mathematics of finance, basic probability and statistics, game theory, social choice and other topics of interest. We plan to explore topics ranging from medical testing to economics to voting methods, with the results demonstrating the value of mathematical reasoning. We may also modify the syllabus to incorporate topics based on other interests and backgrounds of students in the class.

**Homework assignments,** solutions, data files, and course supplements will be distributed electronically and not on paper. All course materials and a day-by-day description of topics covered will be posted on the **Course Calendar**, so it's a good idea to bookmark it. A Sakai conference is also available for the purpose of discussion and collaboration among students in the course.

Late homework will not generally be accepted, except in unusual circumstances beyond your control and always with advance notice. However, please don't hesitate to talk to me if you believe your circumstances merit an extension. Please let me know if you need any special arrangements with any aspect of the course because of religious observances or disabilities.

As in any math course, the best way to learn the material is to participate in class and to do the assignments regularly. I encourage you to work together, but what you hand in should be your own calculations and in your own words. **If you're not sure what collaboration is permissible, please check with me.**

Another resource for you is the **Math Help Room** (SCI 362). If you need help with the concepts or techniques of the course, if you're stuck on the homework, etc., you can go to the Help Room and the teaching assistants (TA's) there. The Help Room is open Sunday through Thursday evening from 7pm to 9pm. Our Math 102 TA (Shuyu Gao) is there on Sunday evenings and will know the most about your assignment. The other TA's may also be able to help you depending on the courses they've taken.

**If you need additional help,** please be sure to see me during office hours, or else talk to me after class or make an appointment for other times. The best way to contact me is by email.

One key to doing well is to read the textbook; don't just use it for finding examples that are similar to the homework questions. If you read the text, it will give you another way to look at the concepts of the course as well help you do the homework and prepare for the exams.

**Course requirements** (this may be adjusted slightly):

**60% 3 hour exams:** Your lowest exam grade will only count half as much as the others.

**20% Homework:** It is essential that you do all the homework assignments and turn them in on time even if your work is imperfect.

**20% Final Exam:** This will be a comprehensive self-scheduled exam covering topics throughout the course.