Syllabus for MA 111-009
Introduction to Contemporary Mathematics
Fall 2009

Course: MA 111-009, MWF 9:00–9:50, CB 341

Instructor: Carl Lee

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Office Hours: MWF 10:00–10:50, and by appointment.

Text: Tannenbaum, *Excursions in Modern Mathematics*, seventh edition, second custom printing for UK, Pearson.

Course Web Page: www.ms.uky.edu/~lee/ma111fa09/ma111fa09.html

Course Description: This course explores mathematical methods in a series of applied areas, such as the mathematics of social choice; management science; shape, growth and form; and basic statistics. The course is not available to persons who have received credit in any mathematics course of a higher number with the exception of MA 112, MA 123, MA 162, MA 201, and MA 202. The course does not serve as a prerequisite for any calculus course. Credit is not available on the basis of special examination.

Prerequisites: Two years of high school algebra and a Math ACTE score of 19 and above, or MA 108R, or math placement test.

Expected Course Outcomes: For most of the students, this course will be an introduction to some modern mathematical methods in application to real life problems. It is expected that by the end of the semester, the students will acquire an informal understanding of a variety of new mathematical methods and will be able to appreciate their power and beauty.

Schedule: The following constitutes an approximate schedule (subject to adjustments) for the course:

Unit 1: The Mathematics of Voting, August 26 to September 11, with the Unit Exam on September 11.

Unit 2: The Mathematics of Touring, September 14–28, with the Unit Exam on September 28.

Unit 3: The Mathematics of Symmetry, September 30 to October 14, with the Unit Exam on October 14.

Unit 4: The Geometry of Fractal Shapes, October 16–30, with the Unit Exam on October 30.

Unit 5: The Mathematics of Money, November 2–16, with the Unit Exam on November 16.

Unit 6: Descriptive Statistics, November 18 to December 11, with the (partial) Unit Exam on December 4.

Attendance: Attendance is required. If you miss a class for any reason, please explain your absence in writing as soon as possible (at least two weeks in advance for scheduled excused absences). Your absence will be excused if it is due to serious reason (such as illness, death in the family, or travel organized by UK — see the official list of excused absences in the "Student Right and Responsibilities," Section 5.2.4.2, www.uky.edu/StudentAffairs/Code/part2.html). Students absent due to an excused absence bear the responsibility of informing the instructor about their excused absence within one week following the period of the excused absence (except where prior notification is required) and of making up the missed work. The instructor shall give the student an opportunity to make up the work and/or the exams missed due to an excused absence.

Homework: There will be weekly homework assignments. It is expected that you regularly read in detail the relevant sections in the textbook and work on all assigned problems. However, sometimes only part of the problems will be graded. It is fine to work together on homework, but you must write up your own solutions in your own words.

Quizzes: There will be approximately one quiz per week. Quiz problems will be either taken directly from your homework problems or very similar to them. Occasionally you will

be asked to define a notion or state a theorem. Make sure you read the text carefully and know all the main definitions, formulas, and results.

Exams: There will be six in-class exams, one following each unit, together with an optional final exam (see further explanation below). Students with officially recognized special needs, in particular those who need extended time for the tests, will have their exams scheduled at different dates. If this is your case, please inform the instructor and provide supporting documentation as early as possible during the semester.

Optional Final Exam: Monday, December 14, 10:30 am, in our regular room, CB 341. See further explanation below.

Grading Policy: You will receive a score (out of 100) for each unit, based on the following percentages:

5%	Attendance
35%	Homework
20%	Quizzes
40%	Unit Exam

Your final course score will be the average of these six Unit scores. Your letter grade will be determined according to the standard 10% scale:

90–100%	A
80–89%	B
70–79%	C
60–69%	D
0–59%	E

The optional Final Exam will provide you the opportunity to select and try to improve up to two of your Unit Exam scores.

Cheating: Students are encouraged to work together on the course material. Part of the work in class will be group work that will provide ample opportunity to exchange ideas and learn from each other. As mentioned above, working together on the homework assignments is permissible, but you must write up your solutions in your own words, and not simply copy someone else's work. Any kind of communication with other students during a quiz or an exam will be considered cheating and prosecuted according to university regulations.

Cheating and plagiarism can lead to significant penalties. See Sections 6.3 and 6.4 of *Student Rights and Responsibilities*, www.uky.edu/StudentAffairs/Code/part2.html.

Calculators: For part of the course you will need a scientific calculator. Using the calculator during a test for any reason other than performing the required calculations (for example, to recall a previously stored formula) will be considered cheating.

Help and Conflicts: Occasionally, you may need extra help. Feel free to visit me during my office hours, or, if inconvenient, contact me for an appointment. In case you disagree with one of my decisions and feel that an outside intervention is necessary to resolve the conflict, the first person to contact is Dr. Serge Ochanine (MA 111 Course Coordinator, POT 837, 257-8837), or Dr. Jakayla Robbins (Director of Service Courses, POT 767, 257-4802).

Important Dates:

August 25 — Tuesday — Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees.
September 1 — Tuesday — Last day to add a class for the 2009 Fall Semester.
September 1 — Tuesday — Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund.
September 7 — Monday — Labor Day - Academic Holiday.
September 16 — Wednesday — Last day to drop a course without it appearing on the student's transcript.
September 23 — Wednesday — Last day to officially withdraw from the University or reduce course load and receive a 50 percent refund.
October 19 — Monday — Midterm of 2009 Fall Semester.
November 6 — Friday — Last day to withdraw from the University or reduce course load. Students can withdraw or reduce course load after this date only for urgent non-academic reasons.
November 25–28 — Wednesday through Saturday — Thanksgiving — Academic Holidays.
December 14 — Monday — Final Exam, 10:30 am.