## CONTEMPORARY MATHEMATICS

MA111 SYLLABUS Section 009 Spring 2011

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Schedule: MA111 meets from 11:00am-11:50am Mondays, Wednesdays, and Fridays. Dr. Schmidt holds office hours in the Mathskeller (CB63) on Mondays and Wednesdays from 3:00pm-4:00pm and Fridays from 9:00am-10:00am.

Five exams are given during our normal class meeting. The final exam is Monday May 2, 10:30am-12:30pm and includes a take-home/project portion as well as a typical written exam. We will continue to have take-home quizzes during the last week of class.

**Policies:** Behave professionally in class, and address your peers in the classroom courteously. If you need to make an emergency call or text, please quietly excuse yourself and handle the emergency outside of the classroom. Please inform your instructor before January 19th of any special accommodations needed for religious reasons, and as soon as possible for disability or extra-curricular reasons.

Please inform your instructor in writing or email in advance of any absences. Absences not reported in writing or email within one week are not excused. Excused absences will not lower your grade, but unexcused absences result in no credit for that day's attendance and recitation points. Excused absences may be subject to verification according to university policy.

**Content:** We will cover two main themes of mathematics: strategy and beauty. The textbook, Excursions in Modern Mathematics by Peter Tannenbaum (Second custom edition for UK; ISBN 9780558384425), will be required. In the first half of the course, we will cover democratically choosing between several alternatives (Chapter 1; Voting), fairly dividing the wealth amongst strangers (Chapter 3; Sharing), and the mysterious ebb and flow of wealth (Chapter 10; Money). In the second half of the course we will wander the streets of an imaginary city (Chapter 5; Getting around), classify some classical ideas of beauty (Chapter 11; Symmetry), and examine microscopic versions of symmetry (Chapter 12; Fractals).

**Grading:** Each chapter counts as one sixth of your final grade. Each chapter is assessed in three ways: class participation (25%), a chapter project (25%), and a chapter exam (50%). Class participation is primarily measured by take-home quizzes: relatively short and straightforward problems corresponding to "walking" exercises from the text. Chapter projects will correspond to a few "jogging exercises" or a single "running exercise" due on the day of the chapter exam. The chapter exams will be in class, and will consist primarily of "walking" type questions. The final chapter's project and exam will act as the final exam. During the final exam time, you may also try to improve at most one previous chapter's grade by taking a new version of the chapter's exam, but you must notify your instructor in writing of your intention to do this by Monday, April 25.

**Collaboration:** Collaboration is encouraged. Any work turned in for grading will be individually assessed and should represent an individual's work, but it is assumed that that work was done in a collegial atmosphere. Plagiarism is a serious academic offense. Your ideas are valuable; please present your own ideas after having listened to the ideas of your colleagues. Ideas are meant to be shared, understood, and reshaped, not simply copied. Cheating on quizzes or tests will be handled in accordance with university policy, and can result in a failing grade for the entire course and even more serious consequences.

**Other instructors:** You may find it useful to know the other instructors of similar sections. They may be particularly helpful during our first four chapters. Other sections will be less similar, but you are welcome to chat with them as well.

Section	Instructor	Email	Office Hours	
001,002	Bryan Sandor	$\langle bryan.sandor@uky.edu \rangle$	Tue	12:00-12:50
$004,\!006$	Kayla Blyman	$\langle kayla.blyman@uky.edu \rangle$	Mon	11:00-11:50

**Tentative weekly schedule:** The weekly schedule is subject to change, but should be similar to the following (with the bold dates being expected exam dates). You are responsible for all announcements made during class, including changes to exam dates.

- Chapter 1 Voting: Jan 12 Jan 28
- Chapter 3 Sharing: Jan 31 Feb 16
- Chapter 10 Money: Feb<br/> 18 Mar ${\bf 4}$
- Chapter 5 Paths: Mar 7 Mar 28
- Chapter 11 Symmetry: Mar 30 Apr 18
- Chapter 12 Fractals: Apr<br/> 20 May 2
- Last day to drop: Feb 2
- Midterm grades: Mar 11
- Spring break: Mar 12-Mar 20
- Last day to withdraw: Apr 1
- Final: Monday May 2

**Tentative chapter projects:** The following are problems similar to the chapter projects (and may even be the chapter projects). Chapter projects will be announced at least a week before they are due. If you want to start early, make sure to check with your instructor.

- Chapter 1: Either exercise #75 or #79 on page 40.
- Chapter 3: Either exercises #77 and #78 on page 119 or #82 or #83 on page 120
- Chapter 10: Either exercises #81 and #82 on page 396 or #93 on page 397
- Chapter 5: Either exercises #49 and #53 on page 197 or #67 (and #68a) on page 199
- Chapter 11: Either exercises #63 and #66 on page 431 or Project A.1 or "Snowflakes"
- Chapter 12: Either exercises #59 and #60 on page 470 or the "art project"