

**MA 111: Intro to Contemporary Mathematics, Section 008**  
College of Arts & Sciences (A&S)  
Department of Mathematics (MA)  
Spring 2011

*Please read this syllabus carefully. It contains essential information about the course organization, grading, tests, etc. If you need any additional explanation, please don't hesitate to ask your instructor.*

**Instructor Information:**

*Instructor:* Laura Steil

*Office:* Patterson Office Tower 802

*Phone:* 257-6816

*Email:* laura.steil@uky.edu (preferred contact method)

*Office Hours:*

Monday 1:00-2:00pm in POT 802

Wednesday 1:00-2:00pm in the Mathskeller

Friday 1:00-2:00pm in POT 802

Other times available by appointment

**Course Web Page:** <http://www.ms.uky.edu/~ma111/>

**Homework Web Page:** The homework website is different for each section of MA 111. Make sure that you use the correct link at:

<http://www.ms.uky.edu/~ma111/webhomework.html>

**Class Time and Location:** MWF, 10:00 am - 10:50am, CB 335

**Required Course Materials:**

*Textbook:* *The Heart of Mathematics 3E for University of Kentucky with WileyPLUS Set*, Edward B. Burger and Michael Starbird, Wiley, ISBN: 9781118032275

*Calculator:* For part of the course you will need a scientific calculator. While graphing calculators are allowed, they are not necessary. More affordable calculators, like those in the TI-30X series or the TI-BAII series, will be sufficient. 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.

You may use any calculator that is allowed by ACT including graphing calculators that ACT allows. (See <http://www.actstudent.org/faq/answers/calculator.html>.) Note that **you will not be allowed to use the calculator on a cell phone**, or any other communication device. Furthermore, you may not use any calculator that has a computer algebra system (CAS) or a QWERTY keyboard. In particular, you may **not** use the TI-Nspire CAS, any TI-89, any TI-92, the HP 48GII, any HP 40G, any HP 49G, any HP 50G,

the Casio Algebra fx 2.0, the Casio ClassPad 300, the Casio ClassPad 330, or any Casio CFX-9970G.

**Overview of the Course:** An introduction to concepts and applications of mathematics, with examples drawn from such areas as voting methods, consumer finance, graph theory, number theory, geometry, topology, and game theory. This course is not available for credit to persons who have received credit in any mathematics course of a higher number with the exceptions of MA 112, 123, 162, 201 and 202. This course does not serve as a prerequisite for any calculus course. Credit not available on the basis of special examination. Prereq: Two years of high school algebra and a Math ACTE score of 19 or above, or MA 108R, or math placement test.

**Course Goals:**

- To expose students to a variety of mathematical topics, many of which they would never see in a traditional Algebra class.
- To encourage students to persist in solving problems.
- To develop students who can appreciate the beauty of mathematics.
- To develop students who recognize the value of mathematics in solving a variety of fun and practical problems.

**Student Learning Outcomes:** 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, students will acquire an informal understanding of a variety of new mathematical methods and will be able to appreciate their power and beauty.

**Course Content:** We will begin the semester by investigating some fun puzzles and games that will be related to material we will study later in the semester. Next, we will investigate numbers. We will count, estimate, and see why pigeons and pigeonholes are interesting to mathematicians. Then we will see how prime numbers and clock arithmetic can be used to protect your privacy. After that, we will study infinity. Or should we say infinities? Then we will use geometry to talk about security cameras. After that, we will discover that a square and a circle are basically the same thing. We will also investigate some very interesting objects that appear to be two-sided at first glance. We will need to take a second glance. Next we will walk on the bridges at Königsberg and explore graph theory. Then we will discuss money matters. We will conclude the semester by discovering that the democratic process is not as straightforward as you might think.

## Grading:

Attendance and Participation	20%	160 points
Homework	30%	240 points
Exam 1	12.5%	100 points
Exam 2	12.5%	100 points
Exam 3	12.5%	100 points
Exam 4	12.5%	100 points

Your grade will be based on the following point system:

A	720-800 points
B	640-719 points
C	560-639 points
D	480-559 points
E	0-479 points

*Attendance and Class Participation:* The Attendance and Class Participation portion of your grade will be calculated as follows:

Half of your attendance (80 points) will be based on the number of classes in which you are participating (see the note below about participation in class), this works out to about 2 points per class period.

**Participation in class:** If you are late to class, if you leave class early, if you are disruptive, if you are sleeping, reading the newspaper, surfing the internet, texting, working on other homework, or for any other reason are not actively engaged in activities related to this class, you will not receive credit for participating in class that day.

The other half of your attendance will be based on occasional quizzes containing problems similar to examples from class or problems on the homework. I will drop your two lowest quiz scores.

*Homework:* You will have both online homework assignments through WileyPLUS and written assignments. All written assignments will be posted as announcements in WileyPLUS. You must check WileyPLUS at 5pm each day after lecture for new online and written assignments. The link you need to use for WileyPLUS can be found at:

<http://www.ms.uky.edu/~ma111/webhomework.html>

**Exams:** We will have three midterm exams and one final exam. The three midterm exams will be given during class. The final exam will be given on (**Thursday, May, 5, 2011 at 8:00am**). The final exam is not cumulative.

**Excused Absences:** University Senate Rule 5.2.4.2 defines the following as acceptable reasons for excused absences:

1. serious illness;
2. illness or death of family member;
3. University-related trips;

4. major religious holidays;
5. other circumstances your instructor finds to be "reasonable cause for nonattendance".

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day for adding a class. It is almost always possible to notify your instructor of an excused absence before class. Students who have excused absences due to University-related trips or major religious holidays must inform the instructor prior to the absence and must complete all work prior to the absence. Students who are ill must inform the instructor of their absences as soon as they return to class and they must provide documentation to demonstrate that the absences was excused. Students who have excused absences due to illness or the death of a family member will be allowed to make up any missed work in a timely manner. These arrangements must be made with the instructor on a case by case basis.

**Academic Integrity, Cheating, and Plagiarism:** You should feel free to study with friends, but any work you submit for a grade should be your own work. This applies to all exams, quizzes, and writing assignments, with the exception of any assignment that is specifically designated as a group assignment.

Academic dishonesty, in any form, will not be tolerated. This includes, but is not limited to copying a classmate's work, allowing a classmate to copy your work, modifying an exam after it has been handed back in an attempt to deceive the instructor into believing the assignment was graded incorrectly. A student found guilty of academic dishonesty will receive an automatic E on the assignment, and in some cases the offense may lead to an E for the course, academic probation, or even expulsion. See sections 6.3.1 and 6.3.2 at [www.uky.edu/StudentAffairs/Code/part2.html](http://www.uky.edu/StudentAffairs/Code/part2.html) for more information regarding academic integrity.

**Disability Accommodations:** If you have documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 859 257 2754, email address [jkarnes@email.uky.edu](mailto:jkarnes@email.uky.edu)) for coordination of campus disability services available to students with disabilities.

**Suggestions:** Constructive suggestions for this course are welcome at any time. I welcome suggestions that will improve the course both this semester and in semesters to come. If you have any concerns, please bring them to my attention first. Further recourse is available through the office of the Department Ombud and the Department Chair. Both the Ombud and the Chair can be reached from the main office in POT 715.

**Classroom Behavior, Decorum, and Civility:** I expect that you will not only attend class, but that you will participate in class. I expect that you will be respectful of yourself and others. Please turn off your cell phones when you enter class. Please do not work on other classes during class. Please do not surf the internet during class. Please do not read

the newspaper during class, work on Sudoku, etc. during class. Please do not talk or whisper during lecture unless the instructor has given you the floor. In a classroom it is difficult for other students and the instructor to hear if there are several little conversations taking place at the same time.

The university, college and department has a commitment to respect the dignity of all and to value differences among members of our academic community. There exists the role of discussion and debate in academic discovery and the right of all to respectfully disagree from time-to-time. Students clearly have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students (S.R. 6.1.2). Equally, a faculty member has the right – and the responsibility – to ensure that all academic discourse occurs in a context characterized by respect and civility. Obviously, the accepted level of civility would not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin or other such irrelevant factors. Students who are not respectful, not civil, or disruptive in any way may be asked to leave the class.

