MA 111-004
Introduction to Contemporary Mathematics
Fall 2018
MWF 11:00–11:50 pm — CB334

Instructor: Carl Lee.

Office: 967 Patterson Office Tower.

Mailbox: 715 Patterson Office Tower.

Email: lee@uky.edu (preferred method for reaching me).

Phone: 257-1405 (or 257-3336 to leave a message).

Office Hours: MF 10:00–10:50 am in my office, W 10:00–10:50 am in the Mathskeller, and by appointment, since I realize that this time may not be convenient for everyone.

Course Web Page: I will use the UK Canvas course site and also post materials here: `http://www.ms.uky.edu/~lee/ma111fa18/ma111fa18.html`.

Course Goals:

- To expose students to a variety of mathematical topics, many of which they would never see in a traditional algebra-based math class.
- To encourage students to persist in solving problems and to develop an appreciation for the beauty of mathematical solutions.
- To recognize the value of mathematics in solving a variety of practical (and fun!) problems in society and culture.

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. By the end of the semester,

students should be able to demonstrate a proficiency in the application of mathematical knowledge for modeling solutions to questions drawn from real life.

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

Required Materials: Textbook: A textbook is not required. Suggested Textbooks: If you would like to have references beyond the notes provided in class, the following are worth a look. Keep in mind that notation and terminology might differ from what we use in class, but the explanations and examples can still be helpful!

- Math in Society by David Lippman; this is available free online at `http://www.opentextbookstore.com/mathinsociety`.
- For All Practical Purposes by COMAP; old editions are fine!
- Excursions in Modern Mathematics by Peter Tannenbaum; old editions are fine!

Grading: Your course score will be based on on the following percentages:

8%	Participation
7%	Project
15%	Homework
25%	Three best mini-exams
45%	Three best exams

Your letter grade will be determined according to the common 10% scale, rounded to the nearest percent:

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

Participation: Almost every class day that we dont have an exam, we will have a worksheet or brief quiz that contributes to your participation grade; the amounts will vary, but around

three points a day. Once you accumulate 75 points, you have a perfect participation grade (there is no bonus).

Project: This portion of your grade will be earned by completing a written project. I will go into more detail about the project in the middle of the semester.

Homework: This portion of your grade will be earned by completing individual assignments outside of class. These assignments will be mainly online using a link in Canvas. Homework deadlines will be announced in class and posted on the course website.

Mini-Exams: We will have a mini-exam midway through each of the four topics. They are designed more to give you an idea of the progress that you are making with the material. We will spend 20–25 minutes on mini-exam days, then cover new material. Your best three scores will count towards your course grade.

Exams: We will have four exams throughout the semester, one for each of the topics we cover. For each exam there will be a review worksheet provided and before each exam we will have time for in-class review (at least half of a class). The fourth exam occurs during Finals Week, Monday, December 10, 10:30 am –12:30 pm, in our regular classroom.

Here is the tentative schedule:

- Mini-Exam 1 — September 5
- Exam 1 — September 19
- Mini-Exam 2 — October 3
- Exam 2 — October 17
- Mini-Exam 3 — October 31
- Exam 3 — November 9
- Mini-Exam 4 — November 28
- Exam 4 — December 10

Note on Calculators: Please see this page for a description of permitted calculators which may be used on exams and mini-exams: `http://www.act.org/content/dam/act/unsecured/documents/ACT-calculator-policy.pdf`. You do not need a graphing calculator for this course; you will only need a basic calculator that can do addition, subtraction, multiplication, and division. You may NOT use your cell phone (or anything else that communicates) as a calculator during an exam.

Course Help: If you find that you need help in the course, then you should see me right away! If the posted office hours do not work with your schedule please ask about an appointment. Free tutoring can be found in the Mathskeller, CB 063, M–F, 9–5, `https://math.as.uky.edu/mathskeller`. Other resources (like The Study, your math major roommate, etc.) can also be good, but not nearly as good as the resources listed above.

Rules and Regulations

UK Core: This course satisfies the Quantitative Foundations requirement of the UK Core General Education program, `http://www.uky.edu/registrar/content/uk-core`.

Excused Absences: See `https://www.uky.edu/ombud/excused-absences` for what is considered an excused absence and official requirements. If you are participating in something planned, please inform me before you miss a class. If something unexpected happens, please inform me as soon as possible. You must provide appropriate documentation within a week of the missed day, and earlier for planned activities.

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 assignments that are specifically designated as group assignments. 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, using cell phone during an exam. 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 `http://www.uky.edu/ombud/academic-offense-information-students` 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, `https://www.uky.edu/DisabilityResourceCenter`, (Suite 407, Multidisciplinary Science Building, 859-257-2754, email address drc@uky.edu) for coordination of campus disability services available to students with disabilities.

Non-Discrimination Statement and Title IX Information: The University of Kentucky faculty is committed to supporting students and upholding the University's non-discrimination policy. Discrimination is prohibited at UK. If you experience an incident of discrimination we encourage you to report it to Institutional Equity & Equal Opportunity (IEEO) Office, `http://www.uky.edu/eeo/`, 13 Main Building, (859) 257-8927.

Acts of Sex- and Gender-Based Discrimination or Interpersonal Violence: If you experience an incident of sex- or gender-based discrimination or interpersonal violence, we encourage you to report it. While you may talk to a faculty member or TA/RA/GA, understand that as a "Responsible Employee" of the University these individuals MUST report any acts of violence (including verbal bullying and sexual harassment) to the University's Title IX Coordinator in the IEEO Office. If you would like to speak with someone who may be able to afford you confidentiality, the Violence Intervention and Prevention (VIP) program and Bias Incident Support Services (Frazee Hall — Lower Level), the Counseling Center (106 Frazee Hall), and University Health Services are confidential resources on campus.

Suggestions and Other Course Issues: Suggestions for improvement are welcome at any time. Any concern about the course should be brought first to my attention. Further recourse is available through the course coordinator, Dr. Nicholas Nguyen, the Mathematics Director of Undergraduate Studies, Dr. Alberto Corso, and the Department Chair, Dr. Uwe Nagal, all accessible from the Main Office in 715 Patterson Office Tower.

Important Dates:

August 22 — Wednesday — First day of classes

September 3 — Monday — Labor Day — Academic Holiday

October 15 — Monday — Midpoint of 2018 Fall Semester

November 21–24 — Wednesday through Saturday — Thanksgiving — Academic Holidays

December 7 — Friday — Last day of classes

December 10 — Monday — Final exam, 10:30 am –12:30 pm, in our regular room