

Math 100 – Survey of Mathematics

Spring 2015 Syllabus

PLEASE READ THIS DOCUMENT CAREFULLY. IT SETS OUT THE POLICIES BY WHICH THIS COURSE WILL BE RUN, AND ALL STUDENTS WILL BE ASSUMED TO HAVE READ AND AGREED TO THEM.

1 Professor and contact information

Professor: David Ross

Office: 319 Physical Sciences Building

Main Email ross@math100.info

Secondary Email ross@math.hawaii.edu

Email warning The email given for me at the MyUH site for this course is wrong.

Course Website www.math100.info

Professor Website www.math.hawaii.edu/~ross

Office Hours See website

Phone 956-4673

Phone Warning The telephone is *not* a good way to reach me, best is always email. For Math 100-related questions, ross@math100.info is the better of the two addresses, as it will not get lost in all the other email I receive. I will try to respond to all email within 2 weekdays.

Prerequisites Matriculation at UHM assumes you have had a normal K-12 mathematics education. For this class I will assume you can do basic 10th-grade algebra, including using and understanding algebraic formulas and solving basic algebraic equations. I'm NOT going to assume you can solve quadratic equations in your heads.

Text Print or e-book: *Mathematical Ideas*, 12th edition, by Miller, Heeren and Hornsby. There are two ways to purchase course materials:

1. at the bookstore (hard copy and electronic version)
2. online at the MyMathLab web site (electronic version only)

If you purchase at the UH bookstore you will receive a hard copy of the book (probably in binder form) and access to the online electronic version of the book. If you purchase online, you will not receive a hard copy.

You will need the online electronic version of the book to complete the homework assignments.

Clickers We will be using clickers/i-clickers rather heavily in this class, so you need to buy one (assuming you don't have one already from your other classes). Instructions for registering your clicker in this class will appear on the course web page.

Coverage We will look at a variety of topics in mathematics, including some logic, set theory, number theory, probability and statistics, as well as some topics on the role of mathematics in society such as security and social choice. Some of these topics are in the text, notably in Chapters 2-6, 11-12, and 16. Some are not, and we will have outside readings (or videos). We will include or sacrifice topics as necessary or convenient.

Warning! Math 100 is not a pre-requisite for any other course in the math department. It will not prepare you for Math 135 or Math 140 or Calculus. If you have taken a Math course numbered 215 or higher, you will not get credit for this course. If you plan to take a Math course numbered 140 or higher, then this course is superfluous as far as the UH Symbolic Reasoning core requirement is concerned. If you are a BA science major, especially in Botany or other life science and are taking this course because you don't need to take Calculus for your major, well, that depends on your definition of 'need': if you plan graduate work in any science, then at some point you will need to learn Calculus, which is the single greatest intellectual achievement of the last millenium. Better to do it while you are relatively young and receptive, before your brain follicles all dry up and fall out.

Math 100 is what we in the trade call a "terminal math course," which does not, however, mean that it will kill you. Probably.

2 Policies

Attendance Is mandatory. I will monitor attendance using the clicker. Attendance is worth altogether 5 percentage points of your total grade. You will earn 0 points if you miss more than 25% of the classes in unexcused absences.

Homework I will give homework almost every class; the assignments will appear on the web page. In the creation of exams I will always make the assumption that you have mastered the homework, and a fraction of the

examination problems will come directly from the homework assignment. Homework will include exercises from the text, readings or videos to be done by the next class, and other work.

Exercises from the text: To view and complete these assignments, you will need to login to the MyMathLab web site and do the work online. I WILL NOT BE COLLECTING THE TEXTBOOK HOMEWORK. The web site will report your homework scores directly to me. I will use this report to make sure that you are making a serious and continuous effort to work the assignments. TO EARN A C OR HIGHER IN THIS CLASS YOU MUST MAKE A SERIOUS ATTEMPT on at least 50% of questions on 50% of the assignments, spread through the semester.

Readings and videos: I will usually assign some readings and/or short video viewings due the next class period (often just the next section of the text). I don't necessarily expect you to fully understand it before we discuss it at lecture, but I do expect you to make an effort.

Other work: I will occasionally give other work – long videos to watch, or outside readings – together with a set of questions to answer.

Quizzes Almost every period will begin with a short quiz (by clicker) designed to make sure you have done the assigned reading or viewing for the day.

Quizzes and Homework Quizzes plus homework will be worth approximately 30% of your grade.

Examinations There will be four 50-minute midterm examinations and one two-hour final examination. The worst of the midterm examinations will be dropped. The grade cutoffs will not be higher than 85 for A, 75 for B, 60 for C and 50 for D.

Important notes:

- The exams will all be multiple choice or short answer.
- **THERE WILL BE NO MAKE-UP EXAMS OR QUIZZES UNDER ANY CIRCUMSTANCES.** With an adequately-documented excuse, ONE midterm can be replaced by the Final Exam score. Only a documented medical excuse, or a documented family emergency, will qualify for this replacement. (For athletic events, see below.)
- Exams are open book, open notes, and calculators are OK. Cell phones, smartwatches, Google glass, etc. are prohibited, as is anything involving headphones or earphones.
- You must bring an ID to every exam.
- The FINAL EXAMINATION is May 11, 2:15-4:15. Keep this in mind when making your summer plans. The other exam days will be posted on the website.

Website The student is responsible to check the course web page (above) regularly for urgent information.

Academic Expectations The Mathematics department has a document you should read concerning our academic expectations. A link to this document will appear on the course web page, as well as on the departmental web page. Please read this.

Cheating Cheating is not permitted, and will not be tolerated. This includes copying from the papers of others, allowing one's paper to be copied, using material without attribution, and so forth.

Excused absences - regular classes If you know that something is coming up – a wedding, a conference, a medical appointment – you must let me know as soon as possible. If you let me know about an absence after it happens, I need very strong documentation.

Excused absences - exams MAKE-UP EXAMS AND QUIZZES WILL NOT BE GIVEN UNDER ANY CIRCUMSTANCES. If you will be away for University business – especially athletic events – then you need to let me know sufficiently in advance so that your faculty supervisor and I can arrange for you to have your exam remotely proctored at your event.

Extra Credit There is no extra credit.

Classroom decorum Students are expected to show respect for the other students, for the course, and for the University. Please come on time, do not leave early, do not talk in class except in the context of classroom discussion. **No laptops, cellphones, radios, iPods, noisy newspapers, snoring.**