

MATH 100-2 Survey of Mathematics Fall 2008

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Office hours. Monday 9:00 – 10:00, Thursday 10:30 – 11:30 and by appointment.

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Office hours.

One on one consultation: MT 10:30 – 11:30am, WThF 10:30am – 1:30pm

Help sessions in groups: Th 1:30 – 2:45pm, F 1:30 – 2:20pm

Note: By signing up for Hon 190-002, CRN 75407, (*Honors Tutorial*) students of Math 100 can earn an additional credit hour. This requires approval of the Department of Mathematics and entails an additional hour (scheduled for MWF 1:30-2:20, Keller 401) and some additional work. Students who want to add Math 100 should go to Keller 419 for approval and see Evan Yoshimura for the particulars of the Honors Tutorial. The deadline for adding the honors course is September 3.

Course Content. The general goal is to survey the nature, content and uses of modern mathematics. More specifically I plan to cover Equation solving and number; Euclidean geometry and axiomatic mathematics; number theory; representation of numbers, the decimal system and the binary system; analytic geometry; logic and set theory; probability and statistics; calculus.

This schedule may change somewhat during the semester depending on the development and progress of the course.

In addition to the traditional development and discussion of the mathematical topics above there will be a series of **one-hour survey lectures on selected topics**. These will not require technical skills but will concentrate on general ideas and principles.

TextBook. No textbook will be used. Instead Notes and Exercises will be made available on the internet. Visit my webpage

<http://www.math.hawaii.edu/~mchyba/academics/index.htm>

and you will find links to the Notes, assignments, solutions to exercises, sample exams, and other relevant information.

Exams and Grading. There will be four 50-minute **exams** and the **final**. The exams will be worth 50 points each while the final will be worth 80 points. You are required to submit a one to two page report of each of the survey lectures. These will be evaluated and given up to 10 points. The five best of these will be counted as a fifth exam (again up to 50 points). **Make-up exams will not be given**, instead the least favorable of the four class room exams will be deleted and not counted towards the final score. If you miss an exam, it will be the one that will be deleted. Thus there will be 280 possible *exam points* that will determine your grade. You may use **calculators** in the exams but the exams will be such that no calculators are needed.

Homework will be assigned regularly but not collected. The homework is essential and will prepare you for the exams. You should look at the assigned exercises as *sample exams*.

Exam #1	Tuesday, September 16
Exam #2	Tuesday, October 14
Exam #3	Thursday, October 30
Exam #4	Thursday, November 20
Final exam	Thursday December 18, 9:45-11:45 am

Survey Lectures for credit; reports of one to two pages due at the next class meeting.

Lecture #1	Thursday, August 28	<i>The treasures of Mathematics Island</i>
Lecture #2	Tuesday, September 9	<i>Formal Logic</i>
Lecture #3	Tuesday, September 23	<i>Euler and the Konigsberg Bridge</i>
Lecture #4	Thursday, October 9	<i>Robotics I</i>
Lecture #5	Tuesday, October 21	<i>Rene Descartes and Analytic Geometry</i>
Lecture #6	Thursday, November 13	<i>Robotics II</i>
Lecture #7	Tuesday, December 2	<i>Georg Cantor and Set Theory</i>

Questions and Help. You are encouraged to see me or the TA to clear up uncertainties. Asking and answering questions in such a large class is difficult. It is not necessary that you can follow every computation or argument on the spot; rather you should concentrate on the ideas involved and verify the technicalities later. You may submit questions by writing them down and placing your note on the desk in the lecture hall.