Calculus for Business and the Social Sciences, Math 203 (3) – Course Information

INSTRUCTOR: Professor Karl Heinz Dovermann

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OFFICE Hours: MWF 9:30–10:20i, TR 9:00–10:00 and by appointment.

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HOMEPAGE: http://www.math.hawaii.edu/~heiner/

Catalogue Description: Basic concepts; differentiation and integration, applications to management, finance, economics, and the social sciences.

Prerequisite: Two years high school algebra, one year plane geometry, and assessment exam.


You will also need an i-clicker for taking attendance and quizzes. To register your clicker go to iclicker.com/registration.

Approximate Timeline:


2. Differentiation (9 hours). Average rate of change, the derivative, differentiation rules, differentials, implicit differentiation. Application to cost, revenue, profit, elasticity of demand.

3. Curve Sketching (5 hours) Increasing and decreasing functions, concavity, extreme values, optimization, inventory control.

4. Exponential and Logarithm Functions (6 hours) Functions, derivatives, applications involving earnings per share, growth, compounded interest.
5. **Integration** (7 hours) Antiderivatives, areas, Fundamental Theorem of Calculus, integration by substitution, consumers’ and producers’ surpluses, continuous cash flows.

6. **Functions in several variables** (6 hours) Functions in two variables, partial derivatives, relative maxima and minima, applications.

**Exams:** There will be two in-class midterms (the dates will be announced in class) and a cumulative final (see the university calendar for the date and time). Make-up exams will be given only under excruciating circumstances such as serious illness or family emergencies. Proof may be required. If you are a student athlete, or you need to travel for academic reason, then you must make arrangements in advance to take tests at an alternate time, possibly early.

**Homework:** Homework assignments and due dates will be published on the online homework page. You are expected to consult the page regularly and stay up-to-date.

**Grading:** The final will be scaled to 30 points, each midterm to 20 points, homework to 15 points, and attendance and in–class quizzes to 15 points. I will keep you up-to-date on the cut-offs for letter grades.

**Course Objectives:** Upon successful completion of Math 203 the student will have a basic understanding of differentiation and integration with applications to business and the social sciences, be able to solve routine problems, understand applications of the principal ideas of calculus, and be able to apply the ideas.

**Program objectives:** This course is a service course for business and social science majors, and students will learn how to apply calculus concepts to real world problems.

**ABSENCES:** It is expected that you attend every lecture and recitation session. If you are absent, then you are responsible for the material covered. Arrange to copy another student’s notes and be informed of any announcements.

**ACADEMIC EXPECTATIONS:** Please read the statement about the academic expectations on the Mathematics Department webpage. Go to http://www.math.hawaii.edu, pick ‘Undergraduate’ and click on Academic Expectations.
CALCULATORS: Use of calculators will not be permitted on exams.

ACADEMIC HONESTY: No student shall claim or submit the work of another as one’s own. No dishonesty will be tolerated.

IMPORTANT DATES: It is your responsibility to know about the important dates, such as deadlines to drop or withdraw from a course, holidays, final exam, etc.