Course Information for MATH 151H-01[4638]

Calculus I

Fall 2012

Instructor's web page	`http://www.math.umbc.edu/~kogan/`
Lectures: Time and location	TuTh 2:30-3:45PM, Performing Arts & Humanities 108
Instructor	Dr. Jacob Kogan
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Office hours	TuTh 4:30 pm-5:30 pm
Discussion class	TuTh 1-1:50, LH II, 101
TA	Hye Park
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TA Office hours and location	TBA
Textbook	Single Variable Calculus, Early Transcendentals (7th edition). James Stewart with Webassign.

1. Course overview and syllabus.

   Calculus is the study of continuously varying quantities which requires the notion of the infinitely small and the infinitely large. Differential and integral calculus was instrumental in the understanding and advancement of the physical sciences and engineering over the past several centuries.

   The honors Calculus I class covers the same topics as the regular course but the problems solved are at a more advanced level. In addition the course involves group projects where the students work in groups to solve a problem and write a report. The projects include analytical as well computer projects using MATLAB (a special purpose software for mathematical calculations.) In addition the course covers some extra topics including approximate integration, differential equations and the Euler method.

2. Topics.

   This class introduces the students to the notions of limits, differentiation and integration.

   (a) Chapter 1: Functions, exponential functions, inverse functions, loga- rithmic functions.

   (b) Chapter 2. Limits, continuity and derivatives.

   (c) Chapter 3. Rules for derivatives. Chain rule, implicit differentiation, related rates.

(d) Chapter 4. Applications of differentiation. Optimization. Curve sketching. Mean value theorem. Newton's method. Antiderivatives.

(e) Chapter 5. Integrals. Definite integrals. Fundamental theorem of calculus. Indefinite integrals. Substituition rule.

(f) Chapter 6. Applications of integration.

(g) Chapter 7, Section 7. Approximate integration.

3. Grading Policy

Letter grades are based on total score from homework problems, quizzes, two in-class midterm exams, and a final comprehensive exam. Homeworks carry 10%, quizzes carry 15%, projects carry 10%, two midterm exams each carry 20% and the final exam carries 25%.

If the total score is S then the grades are roughly determined as follows:

A	$90 < S \leq 100$
B	$80 < S \leq 90$
C	$70 < S \leq 80$
D	$60 < S \leq 70$
F	$S \leq 50$

However factors such as the overall distribution of scores S as well as consistency in homework and quizz performace also may affect the final letter grade.

4. Homeworks, quizzes and projects

Homeworks are assigned through Webassign, an online tutoring program. You can access Webassign via blackboard. Online home works with Webassign are due as described.

Late homeworks are not acceptable.

It is important that you should try on your own to solve the homework problems and seek the TA's help if needed. Quizzes will be given once every week during the discussion sections.

There will be no make-up quizzes.

Two or Three projects will be assigned during the course of the semester and you may work in groups of three or four. You will be required to submit a report written in a professional manner. These projects will include MATLAB assignments.

5. Exams

   The tentative dates for the two in-class mid-terms are

   (a) Tuesday, October 2, 2012

   (b) Tuesday, November 6, 2012

   There will be no make-up exams.

6. Calculators

   No calculators will be needed or are allowed during any of the exams or quizzes.

7. Learning goals and objectives

   After completing the course the student must have grasped the core concepts of limits, differentiation and integration as well as must be able to apply these concepts to solve problems.

8. Academic Misconduct

   Plagiarism and aiding others in plagiarism are considered forms of academic misconduct. This applies to exams as well as homeworks. For instance copying parts of someone elses homework and submitting as your own work would constitute academic misconduct. Such academic misconduct could result in disciplinary action which may include suspension or dismissal. Please consult the UMBC's Student Academic Conduct Policy for detailed information.

Wish you all a productive and pleasant experience with MATH 151H!