

MA 122 – Fall 2012 (2012F2)

Course Overview and Policies

Overview

Starting this semester the Calculus I course is split into two half-semester modules, MA 121 and MA 122. Each module is two credits with four contact hours per week. A final grade will be given at the end of the first module (approximately Oct 22). Those that pass will continue to MA 122 for the second half of the semester. Students that fail MA 121 will immediately retake the module in the second half of the semester.

Required Course Materials for MA-122.

1. James Stewart, “Calculus: Concepts & Contexts, 4E”, Cengage.
2. Access code for Enhanced WebAssign.
3. NXT clicker from Turning Technologies

The first two are available as a bundle through the campus bookstore. Visit the bookstore for further information on buying the components separately.

Course Structure

The course is structured with two lecture hours on Monday and Wednesday, a workshop on Tuesday, and a problem session (recitation) on Friday. A Thursday lecture hour also appears on your schedule. This will be used from time to time, particularly in the second half of the semester, to make sure we have a sufficient number of class meetings. The dates that we will hold a Thursday lecture are noted on the syllabus.

The work requirements include online assignments (WebAssign), written assignments, a web-based module for precalculus review (ALEKS), participation in the problem-solving workshops and lectures, and written exams. The goal is to help students acquire a deeper understanding of mathematics, achieve mastery of the most essential calculus skills, and acquire experience in the application of calculus techniques to problems in science and engineering.

Lectures

Lectures are where the main theoretical concepts and techniques are developed and discussed. To improve the learning experience of lectures we expect students to develop the practice of preparing in advance of lecture by reading the upcoming material in the textbook, viewing related videos available through the course site in moodle, and answering related questions through the online assignments. The questions that preview the new material are due prior to the start of lecture. Instructors will use clickers as a means of polling the class on questions related to the new material and gauging how well the concepts are being understood.

Workshops

The role of workshops is to develop problem solving skills; a collection of best practices, methods, and reasoning skills that enable one to formulate a mathematical solution from a problem described in words. Students will collaborate in small groups on more complex open-ended problems. A typical scenario will be for students to spend about 10-15 minutes on a problem, interacting with and receiving hints from the instructor, as needed, followed by a discussion of possible solutions. Students develop a better understanding of how to apply mathematical reasoning in solving problems and acquire practice working in groups and communicating technical ideas to others.

Recitations

These are problem sessions where students can get additional help with mastering the material from lecture and for asking questions related to the online and written assignments. Students should come to these classes prepared to ask specific questions of the Teaching Assistant (TA). These are expected to be hands-on help sessions with students actively working on problems and some examples presented at the board by the TA.

Online Assignments (WebAssign)

The main goal of online exercises is to develop the routine skills necessary to carry out computations in calculus. There are two types of assignments:

WebEx Assignments: There is one WebEx assigned with nearly every lecture and typically due before the start of the following lecture. Check the syllabus for the precise due dates for all assignments. These are typically 4-12 questions per assignment, most of which are reviewing topics from recent lectures. In most WebEx assignments, the last one or two exercises will be based on new material for the upcoming lecture. The grade for WebEx will be the total accumulation of WebEx points as a percentage of the total points available over the duration of the course.

Gateway Assessments (Gates) are scheduled prior to each of the two midterm exams. These serve as a review for the upcoming exam and the grading is done as Pass/Fail with 80% set as the passing mark.

Written Assignments

Written assignments will focus on more complex open-ended problems similar to what is done in workshops. As with the workshops, the goal is to facilitate the application of calculus techniques and mathematical reasoning in subsequent science and engineering courses. Written assignments are to be turned in on the due dates noted in the syllabus. Solutions will be made available in moodle.

Exams

The written exams will include questions that cover routine skills, theoretical concepts and applications. Do not expect that every exam question to match closely one or more homework or lecture problems previously practiced. Answers on written exams require sufficient supporting work to receive full credit.

Three exams are scheduled, including the final exam. See the syllabus for the exact dates and times.

Exam Rules: Exams are closed book and closed notes; the use of electronic devices (calculators, cell phones) is prohibited. All cell phones and calculators are to be stored out of sight during the exam; rules governing *exam seating* are to be observed. All exams are scheduled for 5:00-6:05 p.m. on Thursday evenings. Room assignments posted on the registrar's website are subject to change and will be announced by email closer to the first exam date.

Excused Absences: Missed exams may be made up if you have a valid excuse, typically a note from the Stevens Health Service or your family physician. Documentation must be presented to your instructor immediately after you return to class. If you know of a conflict in advance, contact your instructor prior to the exam date to arrange a make-up time. Excuses are governed by the conditions of the Stevens Honor Code.