

Math 113, Calculus I, Spring 2015

MWF 10:55-12:00 (Section 01), 12:15-1:20 (Section 02), OWS 250

Professor: Amy DeCelles

Email: adecelles@stthomas.edu

Webpage: <http://personal.stthomas.edu/dece4515/>

Office: OSS 203

Office phone: 2-5695

Office hours: MWF 9:45-10:30, Tu 2-3, Th 4-5, and by appointment

Course Prerequisites: Satisfactory UST placement - either via ACT, AP or the UST placement exam. Prerequisite material includes knowledge of functions and trigonometry.

Credits and Workload Expectations: 4 credits: 8-10 hours per week outside the classroom.

Course Materials and Resources:

- Textbook: *Single Variable Calculus: Early Transcendentals*, 7th Edition, by James Stewart.
- WebAssign: online practice problems, etc. You will need to register using your class key.
- *Mathematica* Software: <https://www.stthomas.edu/irt/students/desktopsupport/software/>
- Blackboard: course materials will be posted on our blackboard site
- **Math Resource Center (MaRC, OSS 235)** : free drop-in peer tutoring, group study areas, solution manuals, WebAssign tutorials, *Mathematica* help, ...

Overview: Calculus is the mathematics of continuously changing phenomena. In this course we will learn to describe such phenomena mathematically, identify and apply the methods of calculus to analyze these phenomena by hand and with technology, and present conclusions in plain English. The mathematical concepts and techniques include: the limit as a description of the local behavior of a function, the derivative as a measure of rate of change, the integral as a measure of accumulated change, differentiation techniques and applications, antiderivatives and the fundamental theorem of calculus, and basic integration techniques.

Course Objectives:

- Gaining factual knowledge (terminology and methods: limit, derivative, differentiation rules, integration techniques etc.)
- Learning fundamental principles, generalizations, and theories (local behavior of functions, rates of change, accumulated change, etc.)
- Learning to apply course material (rates, optimization, etc.)
- Developing skill in expressing myself orally or in writing (clear written and oral explanations of concepts and examples)

Regular Homework: To prepare for class you will be assigned reading, along with **preparatory exercises** related to the reading. You will also be assigned online **practice problems** related to material that we have already discussed in class. Online assignments are typically due one hour before class starts. You are permitted five attempts for each problem. For each topic, you will also write up one **quality solution** to a problem from the book, after you have had a chance to practice similar problems.

Additional Assignments: About once a week **challenge problems**, requiring more care or depth of inquiry, and *Mathematica exercises* will be assigned. Occasionally, in-class participation or presentations will be graded.

Late Work: Late written work is not accepted, but written work may certainly be submitted before the due date, if arrangements have been made with the professor in advance. If there is a serious, unforeseeable reason for missing class, it is the student's responsibility to contact the professor as soon as possible; in such a case, a written assignment may be excused, if the student brings the completed work in person to the professor in office hours as soon as possible upon returning to classes. Extensions on WebAssign homework may be granted if requested before the assignment is due.

Missed Exams: Make-up midterm exams or quizzes may be given to students with legitimate excuses such as serious illness, university sponsored events, etc., as long as the make-up exam can be taken within a reasonable time frame. If it is not possible to schedule a make-up exam within a reasonable time frame, the grade for the midterm may be prorated from the final exam. Written documentation may be required. Rescheduling the final is not possible except under very extreme circumstances.

Incompletes: Grades of I are normally not given in this course. However, they may be permitted due to extenuating circumstances if (i) the majority of the course work has been completed at a level of C or better and (ii) the student demonstrates the ability to complete the remaining coursework outside of the classroom. In such cases, a well-documented petition must be submitted before the last day of classes. Please see the university policies on [withdrawals](#) and [incomplete grades](#).

Final Course Grade: The overall score for this course will be computed as outlined below. Final letter grades will be assigned based on the overall score, with the two major components, written solutions and quiz/exams also being considered separately. In particular, the final letter grade will not be higher than one letter grade above the level of the work on written solutions or the work on exams. Exceptional performance on the final may also be taken into account.

- Homework and Presentations (40%): preparatory worksheets (5%), WebAssign practice problems (5%), and written quality solutions and oral presentations (30%)
- Quizzes (15%): three major quizzes, each half the length of an exam, and one short quiz
- Midterm Exams (20%): tentatively scheduled for Wed Mar 25 and Fri May 8
- Final Exam (20%): cumulative; **1:30-3:30 pm Thurs May 21**
- Best Exam (5%): at the end of the semester the score for the best exam will contribute an extra 5% towards the overall score

Disability Accommodations: Qualified students with documented disabilities who may need classroom accommodations should make an appointment with the Disability Resources office. Appointments can be made by calling 651-962-6315. You may also make an appointment in person in Murray Herrick, room 110. For further information, you can locate the Disability Resources office on the web at <http://www.stthomas.edu/enhancementprog/>.