Instructor: Emily Gunawan (egunawan@gustavus.edu)
Office: Olin 306, x7466
Office Hours: M,Tue,F 12:30-1:20pm, when my door is open, and by appointments (egunawan.youcanbook.me)
Course website: egunawan.github.io/fall16/mcs118.html

Text: *Calculus I (with precalculus)*, by Larson, Hostetler, and Edwards, second edition

Course Overview

This course is an introduction to *rates of change* and other applications of *derivatives*.

- In order to use the tools of calculus to solve a problem, the problem has to be translated into the language of *functions*. So in the first two weeks, we will concentrate on all the ways you can read, write, and interpret functions (Chapters 1-2).
- Chapter 3: limits
- Chapter 4: differentiation
- Chapter 5: rates of change and other applications of differentiation

Goals

After completing this course, you will be able to:

- improve your understanding of topics such as fractions and functions (especially polynomials)
- recognize models for "real world" problems
- use algebra and calculus tools to solve these problems
- explain the basic ideas of calculus to others

Prerequisites

Familiarity with the material from Chapter P ("Prerequisites") of the textbook, even if you need some brushing up on those topics.

Tips for how to succeed

Learning is not easy! It is exercise for the mind, and like exercise, when you're doing it, it can feel uncomfortable. Here are some tips to help you succeed academically (getting the grade you want) and intellectually (learning the most you can).

- Ask questions to your instructor and your classmates if you don't understand something and cannot figure it out on your own.
- Do the assigned reading and daily (recommended) HW *before* class. In class we will work on problems that we haven't gone over before. If you expose yourself to the concepts prior to class, you'll get a lot more out of it.
- Exchange contact information and form a regularly-meeting study group of 3-4 people. Having others studying around you will help you study, and having someone to talk about confusing problems with will help you both productively struggle (struggling with others is how real-world problems are solved).
- Visit the calculus tutors at Olin 329. They are available Sunday through Thursday 6:30-9:30pm.
- Expect this class to be challenging! Really! You should plan for eight hours per week outside of class time as a minimum, and be flexible enough to add to that when it's needed.

Grades

You will earn up to 600 points, distributed as follows.

240	Midterm tests (4 tests)
90	Cumulative final exam
270	Graded assignments (exercises, problem sets, quizzes) and Classwork points

Letter grades are assigned as follows:

	B+: 525-539	**C+:** 465-479	**D+:** 415-419	
A: 555-600	**B:** 495-524	**C:** 435-464	**D:** 360-414	**F:** below 360
A-: 540-554	**B-:** 480-494	**C-:** 420-434		

Points will be recorded on moodle.gac.edu

Schedule and deadlines

Daily assignments and problem sets will be posted on the course website:

egunawan.github.io/fall16/mcs118.html.

I will only use moodle.gac.edu to upload grades.

Tests

We will have four tests during the term, plus a cumulative final exam.
Expected (in-class) midterm test dates:

MT1 Mon, Sept 26
MT2 Tues, Oct 18
MT3 Fri, Nov 11
MT4 Tue, Dec 6

Optional cumulative test: Tue, Nov 22

If you take the optional cumulative test, then I will have five test grades for you, and I will use your best four of five. It is also good preparation for the final exam. It cannot be rescheduled - if you want to take it, you need to be in class on Tuesday the 22nd.

Final exam: **8-10am on Saturday, December 17** (not in our usual classroom). The final is cumulative.

Daily HW (at-home reading and exercises)

It is best to complete the daily HW reading and exercises prior to each class. They will be posted on the course website and are strongly recommended.

Classwork points (in-class activities)

Very frequently, there will be a very, very short in-class assignment/quiz (worth 1 point each) related to either recent or confusing topics. These will be graded *only on effort and completion, not on correctness.* Some will be an individual quiz, some will be done in groups. Some will be open-book and some will be closed-book. These daily quizzes will help inform me how well the class is doing with some of the concepts.

For example, on a Thursday I may ask you to write down something about a new concept that was covered the previous Tuesday. Because you are only graded on effort, if you have no idea how to answer this, you shouldn't write down a random answer just for the sake of writing something. You also shouldn't write down your neighbor's answer (even for group assignment) if you don't understand it. Instead, you should write, for example: "I don't remember but I know where to look this up on my notes/textbook" or "I don't know how to answer this, so I will go to calculus tutoring tonight/ ask my friend/ go see my instructor during office hour". If you have a guess but you are not sure, you should write: "This is my guess, and I am only 50% (or 90%) sure."

Problem sets

I will assign 12 or fewer problem sets. Each problem set contains a small number of problems, and the grader will grade a portion of it.

- You should first make a real effort to solve each problem by yourself. After that, I encourage you to study and discuss your problems with your classmates. You are also welcome to ask for help and hints from me (during office hours) and the `calculus tutors`.
- If you work with other students or `tutors` on these problems, be sure to give them credit on the front of the page.
- Your problem set should be well organized and neatly written on standard sized paper, and with all of the pages stapled together. The sections and problem numbers should be clearly labeled. If the first-draft of your problem set is disorganized, difficult to read, or contains your scratch work, you should rewrite it on new pieces of paper.

- Please let me know about any errors in grading. This should be done during office hours so that I can make the change in front of you. You have one week after the assignment/test is handed back to the class to let me know about the the grading mistakes.

Late Work Policy

Every assignment will be given with a due date and time. Late problem received before the graded assignments are returned will be graded for a maximum grade of 70% - if you miss the due date, get in touch with me ASAP. After the assignment has been returned, no credit is possible. Serious and *well-documented* emergencies will be handled on a case-by-case basis.

Attendance

You are responsible for content and announcements in all class meetings, even if you cannot attend a class. Poor attendance habits will affect your Classwork points and other aspects of the course. However, it is OK if you have to miss a few days of class this semester due to sports/school activities, illness, or any reasons. You are welcome to email me to let me know what you are doing to make up the work, but you don't have to.

Office Hours

My office is in Olin 306. In addition to the regularly scheduled office hours given above, any time the door is open (which is frequently), you're welcome to come in and ask questions. To save time for both of us, you may schedule an appointment here: egunawan.youcanbook.me

Academic Integrity

I expect you be familiar with, and abide by, the Academic Honesty Policy – you can read it in full online in the Gustie Guide (which I've linked to) or in the printed course catalog. On tests and certain written assignments, I will ask for your signature to indicate your pledge. But you are always expected to uphold the academic honesty policy and honor code, even when no signature is required.

With the exception of tests, I generally encourage students to work together. The work that you personally submit, however, needs to reflect your own understanding of the problems. That means you may *discuss* how to solve a problem with a group or tutor, but I expect you to *write* your solution on your own, without referring to anything written by your fellow students. This takes time! Remember that your job is not finished when the group finishes discussing a problem; you must then write it on your own. If you are copying anything that has been written by someone else, then you are violating this policy.

If you're ever uncertain about the boundary of what's acceptable, just talk to me. Open communication is the easiest way to make sure everything stays in the clear.

Work that clearly violates the spirit of the honor code will result in a grade penalty for the assignment, or for the course, at my discretion, and I will report the incident to the office of the provost. Severe violations of the honor code may warrant further disciplinary actions.

Disability Services

Gustavus Adolphus College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or you think you may have a disability of any nature) and, as a result, need reasonable academic accommodation to participate in class, take tests or benefit from the College's services, then you should speak with the Disability Services staff for a confidential discussion of your needs and appropriate plans. Course requirements cannot be waived, but reasonable accommodations may be provided based on disability documentation and course outcomes. Accommodations cannot be made retroactively. Therefore, to maximize your academic success at Gustavus, please contact Disability Services as early as possible. Disability Services (`http://www.gustavus.edu/advising/disability/`) is located in the Academic Support Center (Johnson Student Union 204), phone number: 507-933-7027.

Disability Services Coordinator `Kelly Karstad` (x7138) can provide further information.