

Instructor name: Dr. Harry S. Mills (The 'S' is for 'Steve,' which most folks call me, but I'm not particular.)

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Class: 11:15 – 12:05, MTWRF, Ed Beaty Hall BH 131

**Standard Syllabus Policies:** (<http://www.aims.edu/inside/policies/standard-syllabus/>), unless otherwise stated, below. We generally won't be worried about those Standard Policies, as long as we show each other common courtesy and exercise common sense.

**Student Conduct Statement:** <http://www.aims.edu/student/conduct/code-of-conduct?expanddiv=item1#expectations>.

This lays it all out. For my purposes, common sense, common courtesy, and academic integrity covers everything.

### **Required Course Materials and Resources:**

**Text:** Calculus by Stewart, 8th Edition

**E-Mail:** Use E-Mail tool on Course Website (The "D2L"), by clicking on "Classlist" link and then clicking on my name in the listing. Emergency e-mail: [steve.mills@aims.edu](mailto:steve.mills@aims.edu)

### **Course Website:**

1. Go to <http://www.aims.edu/>
2. Login using the MyAims button on the right.
3. Click on My Courses tab.
4. Select this Calculus from the list.

Please see the Course Website for this syllabus, course schedule, assignment list, lecture notes, practice tests, homework and test solutions, and links to video and other information.

**Unlined Paper for homework:** This is important for my ability to read your work and for most students' math writing to refine to the next level. Don't worry about writing too big or too pretty. Just write clearly, leave lots of room, and don't write too small. When I give tests, it'll be much the same, with unlimited paper provided, and you use what space you need.

**Catalog course description and prerequisites:** Introduces single variable calculus and analytic geometry. Includes limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals. Trigonometric functions are included. Prerequisite: "C" or better in MAT 121 and MAT 122, 80 or above on Accuplacer College Math Test, or 28 on the math portion of the ACT test, or 740 on the math portion of the SAT test. Five credits.

### **Grades:**

**Chapter Tests:** At the end of each of Chapters 2 – 5, there will be an in-class Chapter Test. Your Test Grade is the average of your Test Scores (as a percent). I will drop your lowest Test Score. All tests will be comprehensive, with main themes *and problem areas* showing up, time after time.

**Final Test:** The last week of school, everybody will get a chance to re-take one test, to improve their grade, so there will be 2 tests that last week. One the normal Test 5, and one makeup. It can also be thought of as a safety valve if you miss a test for some silly "alarm didn't go off" sort of reason.

**Makeup Tests:** See the remarks under **Final Test** for how most of it will be handled. That being said, a documentable illness or other reason for absence that the college generally excuses occurs, special arrangements can be made. The last-week makeup is for unexcused/undocumented missing of a test.

**Homework:** I'm mostly looking for how you write things up, and want you to develop a solid, no-nonsense short report *style*, that combines completeness with efficiency. As far as getting the answers correct is concerned, I typically give the solutions away, because I think it helps learning. It's up to you to apply yourself to the work in such a way that you are *learning* the concepts, and can apply them to similar questions on tests. The best way to do homework is to use 2 drafts:

1<sup>st</sup> draft: where you figure things out, that can be as messy as you want;

2<sup>nd</sup> draft: where you write up what you turn in, including the question (context) and a solid narrative of what you did.

The re-write, for most, is where you go from jumping through a hoop for points to the stuff really imprinting on your brain. It's unnatural, to students, at first, to use 2 drafts, but the bigger and more advanced, the work gets, the more you're going to want the writing-to-learn separate from the writing-to-communicate. When it becomes habit, you'll find other courses, like physics and engineering, get a lot easier, because of the chops you build in Calculus.

From personal experience, my first pass, on the "Grunt" pages, got better and better, over time, understandably. This is sort of bad, because students see me writing-up a problem, start-to-finish, because it's old hat, for me, and I *can* and I want to get through as much as possible in the face time we have available. So, in the early going of the semester, I want to emphasize the 2-stage process, which I used throughout my college career, from Calculus I, on.

To understand the kind of writing-to-communicate I'm looking for, you should check out written solutions from the [Spring, 2015 homework resources](#). As you see, from the linked site, the 7<sup>th</sup>-edition questions are provided, and you may use those questions for your Section 1.1 and 1.2 homework, and we'll talk about how to proceed from there. I've already put a lot of work into solutions from the 7<sup>th</sup> Edition, and with e-copy of those questions freely available, we might work something out.

Virtually every day, you will submit (well-)written homework.

Each assignment is worth 10 points. No late assignments will be accepted.

The idea is to make learning this stuff as efficient as possible, which means being able to look up complete solutions on any problems I assign. It's up to you to assure yourself that you can work similar problems without a net, and there are all kinds of versions of questions out there.

Make sure that your homework...

- ... is on unlined paper (copier paper, or the back of already-printed-on pages).
- ... is written on one side of each page (I won't even look at the back of any page.)
- ... is clear (What's being asked for and your work to provide it.)
- ... has your printed name, "MAT 201," and the relevant section, e.g., "S 1.1" at the top. Don't put 2 sections together as one submission, without stapling them, separately, or paper-clipping them, separately.
- ... submitted with problems in the proper order. I won't go hunting for missing problems. If they're not where I expect them, I won't find them.

**Before Class:**

- Learn to "survey" a section, by reading or skimming it, zeroing-in on any major formulas, theorems or definitions, and writing them down, on your first pass through new material. You don't have to understand to copy it down. Writing it, the first time, is the first step in understanding and retaining the new knowledge.
- Get rolling on the exercises, to see what you're up against.
- Watch the homework videos I produced. I will have one for each exercise, so the help/explanation is on-demand.
- Homework will be collected at the end of the period. (New, Fall, 2017).
- Homework will be due, according to the schedule.

**Grading:**

4 Chapter Tests: 70%, with one re-take of the student's choice.

Homework: 20%

Attendance: 10%

**Grading scale:**

Until someone kicks up a fuss, I'm a 90-80-70-60 guy, when it comes to A-B-C-D cut-offs.

**General Education Competencies:** This course satisfies the following State GE categories: Critical Thinking, Technology, and Mathematics.

**Learning Outcomes:**

1. Solve selected algebraic and trigonometric problems.
2. Identify limits of Algebraic, Trigonometric, and Composite Functions
3. Solve for the derivatives of Algebraic, Trigonometry, and Composite Functions
4. Solve for the derivatives of selected functions.
5. Use the appropriate algorithm(s) (including product, quotient, and chain rules) to find derivatives of algebraic,
6. trigonometric, and composite function.
7. Find derivatives of implicitly defined functions.
8. Use the first and second derivatives of functions to find extrema, points of inflection, sketch the graph of functions.
9. Set-up and solve applied problems selected by the instructor.
10. Find indefinite and definite integrals - Algebraic
11. Read, analyze, and apply to problems, written material related to the study of calculus
12. Write and speak clearly and logically and essays about topics related to calculus.
13. Demonstrate the ability to select and apply contemporary forms of technology to solve problems or compile information in the study of calculus.

**Students with Disabilities:** We really want everyone to have access to an education, here, and our Disability Access Services is one of the best. For any kind of needful accommodation, they are the people to talk to:  
<http://www.aims.edu/student/das/>.