

This is the syllabus I would write. I will have an official syllabus for the bureaucrats in a few days that I will share with you. The official syllabus is a lot longer and more confusing. This one has too much boilerplate, as it is. They want more.

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: 8:15-9:05 a.m., MTWRF, Ed Beaty Hall BH 131

Standard Syllabus Policies: (<http://www.aims.edu/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. ISBN: 978-1-285-74062-1

**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:** I have extra paper to share, at least to get us started. The kinds of manipulations we do in calculus, the sprawling nature of math expressions, and the eyesight of your poor teacher all argue for unlined paper. I hope and expect you'll convert to this very rapidly. Anything that's 8.5" x 11" and printed on one side is good for math. Learn to write on unruled media, not just paper, but also screens and whiteboards. Sadly, there are no chalkboards.

**Catalog course description:** Introduces single variable calculus and analytic geometry. It includes limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals and some applications. This is a statewide Guaranteed Transfer course in the GT-MA1 category.

**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 1 – 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, and hope that one drop takes care of any makeup tests you require.. All tests will be comprehensive, with main themes *and problem areas* showing up, time after time.

**Final Test:** This will be a comprehensive test, spread out over 2 class meetings.

**Makeup Tests:** Excluding the Final, I hope to be able to just drop your lowest test. Your first test missed will be that lowest 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 students be more efficient. You can always work an extra type-problem once someone shows you the trick. 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. When I was a student I called these my grunt pages. I kept 2 folders, one for my "grunt" work, organized the same way as my handed-in (and graded) homework.

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. I'd jot down the question, here, first, grab a stack of grunt paper and work until I knew how to write it up, and then proceed to the writeup in the 2<sup>nd</sup> draft. If you're unable to finish a problem and decide to skip it and move on, start a fresh sheet of paper for the next problem on this draft. It doesn't have to be perfect, and I'm fine with a line through mistakes.

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 short-report-writing 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. Points vary, so I use a percentage system, with each assignment weighing the same as all others.

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. If you don't understand what you're writing, leave the rest of the page blank, for explanations (and extra pages as needed).
- 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.
- Homework will be due the day after the material is covered in the schedule. We will try to stay away from Friday hand-ins, pushing things to Monday. I'd rather have you have extra time to wipe it out than for me to take it and not grade it until Monday, anyway.

Grading: Tests are the main category

4 Chapter Tests: 50%, with one drop of the student's choice.

1 Final Test: 20%,

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, Writing, 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/>.