Instructor name: Dr. Harry S. Mills (The 'S' is for 'Steve,' which most folks call me, but I'm not particular.)
Office: Ed Beaty Hall, 134K
Phone: (970) 339-6238 or 1-800-301-5388x6238 (or Cell: 970-290-0550)
Class: 11:15 – 12:05, MTWRF, Ed Beaty Hall BH 131

MAT 202 is a Guaranteed Transfer (GT-MA1) Course:
The Colorado Commission on Higher Education has approved MAT 202 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-MA1 category. For transferring students, successful completion a minimum C– grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to http://highered.colorado.gov/academics/transfers/gtpathways/curriculum.html.

Course Criteria for GT-MA1:
Students should be able to:

- Demonstrate good problem-solving habits, including:
  - Estimating solutions and recognizing unreasonable results.
  - Considering a variety of approaches to a given problem, and selecting one that is appropriate.
  - Interpreting solutions correctly.
- Generate and interpret symbolic, graphical, numerical, and verbal (written or oral) representations of mathematical ideas.
- Communicate mathematical ideas in written and/or oral form using appropriate mathematical language, notation, and style.
- Apply mathematical concepts, procedures, and techniques appropriate to the course.
- Recognize and apply patterns or mathematical structure.
- Utilize and integrate appropriate technology.

Standard Syllabus Policies: Follow the link: http://www.aims.edu/inside/policies/standard-syllabus/. We generally won't be worried about those Standard Policies, as long as we don't cheat, and 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 "E-Mail" link and then clicking on my name in the listing. Emergency e-mail: 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: Continuation of single variable calculus which will include techniques of integration, polar coordinates, analytic geometry, improper integrals, and infinite series. This course is a state guaranteed transfer course GT

Prerequisite(s): MAT 201 with grade of C or better, or assessment. Five credits.

Grades:
Chapter Tests: There are 6 tests, more or less one per chapter. One re-take. One drop.

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:

1st draft: where you figure things out, that can be as messy as it takes.
2nd draft: where you write up what you turn in, including the quesion (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.

Most days, 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 material 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 202," and the relevant section, e.g., "S 1.1" in the top left corner. 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.

 Homework will be due, according to the schedule.

Grading:

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.

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/.

Learning Outcomes:

I. Write and state clearly the definitions and properties, differentiate, and integrate logarithmic and exponential functions.
II. Set up and solve applied problems involving logarithmic and exponential functions as selected by the instructor.
III. Differentiate and integrate the inverse trigonometric functions.
IV. Define, differentiate, and integrate hyperbolic functions as selected by the instructor.
V. Use the appropriate algorithm(s), including integration by parts, trigonometric substitutions, partial fractions, numerical methods, etc., to integrate algebraic, logarithmic, exponential, trigonometric, and composite unctions.
VI. Use various limit theorems to evaluate improper integrals.
VII. Determine the convergence or divergence of various sequences and series.
VIII. Use Taylor and Maclaurin series to express selected functions.
IX. Use Taylor's formula with remainder to approximate selected functions.
X. Identify and graph equations involving a variety of conic sections.
XI. Convert between Cartesian and polar coordinates.
XII. Graph and determine the area of regions defined by polar equations.

XIII. Read, analyze and apply written material to new situations.
XIV. Demonstrate the ability to select and apply contemporary forms of technology to solve problems or compile information.