

Calculus and Analytic Geometry MATH 2414

Coordinates: MATH 2414.04, MWF 12:20-1:10, L118, T 11:00-11:50, L113, Jan 10 - May 11, 2011. Resources at <http://www.math.lamar.edu/faculty/maesumi/list.html>

Disclaimer: Dates, number of tests, and other information are subject to change. Attend all classes, check your emails, and course web site, to get the latest information.

Instructor: Dr. Maesumi, Ph.D., Lucas 206, main contact form: maesumi@gmail.com, (phone 8766 is for last minute check, follow up with an email. Phone and other email addresses are not monitored regularly).

Text: Introduction to Calculus and Analytic Geometry, 4th edition, Philip Gillett, ISBN: 9781602299818.

Office Hours: MWF 11:10-12:05 TR 1:50-2:30. I am usually on campus 8:30-2:30. Feel free to drop in. If door is closed knock and wait 30 seconds. If you are coming to office it may be better if you bring exams, notebooks and other supporting material. If you are sending e-mail include your full name and use a heading that makes your e-mail stand out, e.g. Calculus. Keep a copy and e-mail it again if you do not get a reply within one business day. The preferred contact form is through email given above, however if you want to leave a message on phone make it brief, speak clearly, and resend same information by email.

Tests and Grading: Test dates (subject to change) are on Mondays Jan 31, Feb 28, April 4, May 9. Tests are sectional and focus mostly on the recent items. But certain techniques will be present on more than one test. Tests should be returned to me after you view it. Resolve grading issues within one week of tests. Tests will cover class material, all assigned homework, problems done in class, examples in text, and occasionally other problems similar to the ones in the text. Final grades are given according to $A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F$ or better.

Course Evaluation / Curving the Grades:

- 1) You may have a one-page, one-side formula sheet on each test or quiz.
- 2) There will be several quizzes. Up to 5 points for quizzes will be added to your average. The date for these are to be announced in a prior class and they conducted at the beginning of a class. There will be no make up quiz for any reason. If you arrive late you will have only the remaining time. The lowest quiz grade will be dropped.
- 3) Students who complete the course evaluation and return the completion form by the assigned deadline will get 5 point added to their lowest test grade. When you finish evaluating a course a page comes up saying so. Print just that page and give it to me (not your private answers!).
- 4) No cumulative test.

Absence, Grade Appeals: If you are absent from an exam let me know as soon as possible and be prepared to show proof of emergency. If you have an issue with your grade let me know as soon as possible. At the end of semester you have two weeks to request an appeal of your grade.

Calculator Policy: Only basic scientific calculators (typically costing less than \$20) are allowed on exams. Advanced graphic calculators (e.g. high-end TI), wireless devices, and computers are not allowed on tests. You need to purchase and learn your calculator early on.

Students Learning Outcomes and Objectives:

Students will learn to:

1. Use a variety of techniques to compute integrals.
2. Acquire an understanding of definite integral and use the knowledge to compute physical properties such as arc length and surface area.
3. Understand the coordinate systems in 2-D and 3-D spaces; use them appropriately in different contexts. Convert one to another as needed.
4. Work with numerous series, gain knowledge of the different tests, and use them to determine if a series converges or diverges.
5. Explore the possibility of writing a function in terms of series. For example, write a Taylor or Maclaurin series for a function.
6. Gain an understanding of vectors, compute numerous vector operations, and use vectors to find equations of a line and a plane in 3-D space.

Pre-requisites and Audience: MATH 2413 with a grade of C or better. This course is intended for majors in math, engineering, computer science, and math-education. However students in other disciplines (e.g. hard sciences, physics, chemistry, econometrics) may also benefit. This course prepares for Math 3301, 4315, and 4330.

Additional Resources: Check <http://www.math.lamar.edu/faculty/maesumi/list.html> for review of calculus 1 and trig, as well as software links for calculus.