

Math 27 (Calculus I)

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Office Hours: Monday: 2:20-3:20 PM, Wednesday: 10:20-11:20 AM and 2:00-3:00 PM, Friday: 10:20-11:20 AM, Tuesdays by appointment

Text: *Calculus, Concepts and Contexts Single Variable* (4th edition) by James Stewart

Course Web Site: Moodle page: go to *my.stmarys-ca.edu*, log in, and click on “Gael-Learn (Moodle)”

This site will have course handouts available for downloading. It will be updated with other information as the semester progresses.

Goals of Course: By the end of the course, you will be able to

- Clearly and correctly express the fundamental theory and applications of differentiation and integration orally and in writing.
- Calculate derivatives of elementary functions easily, understanding the interaction between the various derivative rules.
- Discuss and solve a variety of problems involving the concept of rate of change of one variable with respect to another, both in mathematics and in related disciplines, such as physics, engineering, biology, and economics.
- Connect the concepts of area of a planar figure with that of antiderivatives.
- Calculate integrals of elementary functions using substitution and integration by parts.
- Appreciate the Fundamental Theorems of Calculus.
- Reason mathematically and understand/use appropriate logical arguments.

Expectations:

- I expect every person in this class to treat every other person in this class with respect.
- I expect the team homework to be completed in the manner described in the handout.
- I expect each person in this class to check their e-mail regularly.

Grading Policy: We will have 3 Midterm exams, 1 final exam, 1 Gateway, WebAssign homeworks, and Team Homeworks. The break-down is as follows:

Each of the 3 Midterms	100 points
Final Exam	200 points
Gateway	n/a
WebAssign Homeworks	100 points
Team Homeworks	100 points
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Total:	600 points

Exams We will have three tests throughout the semester. These will take place in the evening on Wed/Thur Sept. 21st/22nd, Mon/Tues October 24th/25th, Mon/Tues November 21st/22nd. Each test will be worth 1/6th of the final grade and the final will be worth 1/3rd. You will be able to drop either one test or half the final exam (which is why the points above don't add up precisely) The tests will be taken in class without the use of notes and without the use of a calculator.

WebAssign Homeworks: After *every* class period where new material is covered, you will find a new homework available on the WebAssign webpage:

<http://www.webassign.net/>

The assignment will be due *one day after* it appears (so that you will have two full days). For each problem, you will have 5 tries to submit a correct answer. There is a document describing how to log in to WebAssign on the moodle website.

Team Homeworks: You will have written homework that is handed in once a week on Wednesday. These homeworks will be done in groups of about 3 students. An additional document describing how the team homeworks are to be done is available on the course webpage.

Gateway: Being able to differentiate is a fundamental requirement of this course. The Gateway exam allows us to ensure that anyone passing the class can differentiate basic functions, while also giving us the freedom to test *applications* of the derivative on the midterm exams.

Each gateway exam has 10 differentiation problems. A passing grade on the Gateway is a 8/10 or better score. You will have one chance to take the gateway in class. If you pass the gateway in class, you will receive an extra 5 points on your final exam score. If you do not pass the gateway in class, you will have several additional chances during the semester to take another gateway exam outside of class. If you do not pass the gateway, you will not be able to earn a grade better than a D+. There will be practice gateway exams available on the moodle course site.

Late Work Policy: Team Homework will be turned in at the beginning of class on the day that it is due. I will not accept late Team Homework, and I will not accept

late WebAssign homework. As the homework is group homework, if one person in a group must be gone the day it is due, another student can hand it in.

If for some reason you are unable to attend an exam, I expect to be notified by email or phone call as soon as possible. Most likely, the missed exam will be your dropped exam.

Technology: You are welcome and encouraged to use a graphing calculator on your homework to check your answers and to give you a graphical perspective on what are often algebraic problems. You will also be introduced to Wolfram Alpha and Geogebra, which are free computer resources for mathematics. This may save you the expense of buying a calculator. In either case, you will need to make sure the technology you are using is enhancing your understanding of the material, rather than being used as an alternative to understanding. Remember that since you are not going to be allowed technology on exams you will ultimately be responsible for knowing the material.

Student Disability Services: Student Disability Services extends reasonable and appropriate accommodations that take into account the context of the course and its essential elements for individuals with qualifying disabilities. Students with disabilities are encouraged to contact the Student Disability Services Office at (925) 631-4358 to set up a confidential appointment to discuss accommodation, policies, guidelines and available services. Additional information regarding the services available may be found at the following address on the Saint Marys website: <http://www.stmarys-ca.edu/academics/academic-advising-and-achievement/student-disability-services.html>

Honor Code: SMC has established an academic honor code that asks students to pledge to do their own work in their own words, without seeking inappropriate aid in preparing for exams or assignments. The pledge reads as follows: "As a student member of an academic community based in mutual trust and responsibility, I pledge: to do my own work at all times, without giving or receiving inappropriate aid; to avoid behaviors that unfairly impede the academic progress of other members of my community; and to take reasonable and responsible action in order to uphold my community's academic integrity." This course operates under the premises of the academic honor code, including the expectation that you will work to uphold high standards of integrity. I am available to discuss issues of academic integrity and any questions you might have about the relationship between the policy and this course. To understand the academic honor code in full, please see the most recent Student Handbook.

Free Math Tutoring: Student Math Center in Galileo 110, Sunday - Thursday, 7pm - 9pm

Some Additional Thoughts and Suggestions

- I strongly recommend that you do all of the WebAssign homework on paper, and then enter your final answers into the website. Keep a notebook with all of your homework notes in it.
- You must show all work on the group homework; please show all work on the exams as well. This helps me in being able to give you partial credit!
- In general, in college you can expect to spend at least two hours doing work outside of class for each hour that you are in class. Thus, since our class meets 3 hours per week, you should expect to spend at least 6 hours doing work outside of class per week for this course.
- Studying is all about efficiency; using your time optimally in order to learn the material as completely as possible. To do this, you will need to know what you don't know. Once you understand which parts of the material you do and don't know, you will need to focus on what you don't know until you eventually know it. This means spending a lot of time with material that you don't know, which can feel uncomfortable. This is the secret to studying mathematics: becoming more comfortable with being uncomfortable. We need to spend time on topics we don't yet understand in order to understand them.
- I highly encourage you to talk with your peers and with me about mathematics. It can be fun, invigorating, and useful to discuss mathematics from different vantage points. But don't let someone's beautiful explanation of a homework problem trick you into thinking that you know how to do that problem. Until you can come up with that beautiful explanation on your own, you don't yet know it and thus must continue to learn that topic.
- Technology can be an extremely useful tool. It can help you to gain an intuition for the material, it can help you to check your work, and it can make the material more fun. But again, don't let technology trick you into thinking you understand something that you don't. It's your responsibility to use technology as a tool to help you gain understanding and not as a crutch to aid you in avoiding understanding.
- I love to talk math, and in general I love to talk! Please come to see me if you'd like to chat!