Analytic Geometry & Calculus II

Math 193
Sections 1285

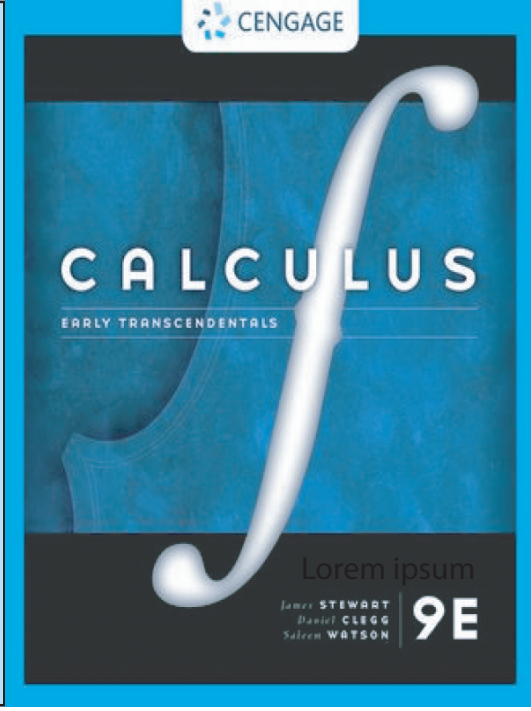
Tue & Thu
12:45PM - 3:15PM
Room: MA 109

Servando Pineda-Carranza (he/him/el)

Office MA 122

spineda@dvc.edu

(925) 969-2684



Student Office Hours

Tue: 4:00-5:30pm in Math&Eng Student Center

Wed: 1:00-2:00 on Zoom

Thu: 10:00-11:30 in MESA center

Course Description

This course is a continuation of MATH-192. Techniques and applications of integration in geometry, science and engineering will be explored. Work with algebraic and transcendental functions will be continued. Other topics will include numerical methods in evaluation of the integral, infinite series, solving differential equations, applications of differential equations, polar coordinates, parametric equations, and conic sections.

Servando's Class Principles

1. I am aware of the cultural and academic challenges associated to mathematics. Know that no matter your background, you are in this class because you are capable of doing the work and learning the material.

2. Make this class a positive mathematical experience by collaborating with your peers and learning from one another.

3. If you let me, I will help you become a stronger student by supporting you and challenging you.

Course Materials

1. **Prerequisite:** Math 192 or equivalent
2. **Text:** Calculus III Early Transcendentals 9ed by James Stewart
3. **Calculator:** Acces to graphing device or computer graphing tool is recomended

Course Description

Grade Distribution	
WebAssign	10%
Quizzes	15%
Participation	10%
Math Exams	40%
Final Exam	25%

Grade Percentages	
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

• I will drop the lowest two WebAssign assignments.

• All homework will be penalized 5% for every day late.

•The lowest exam will be dropped OR replaced by the final exam score.

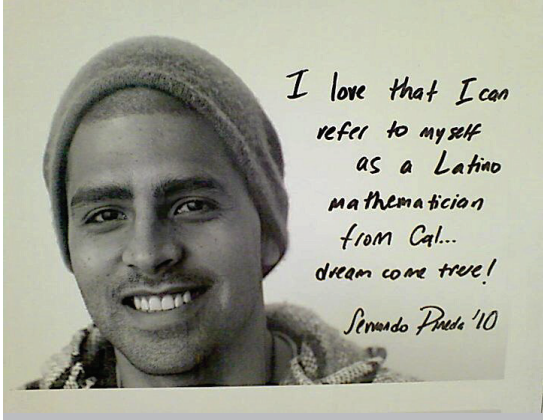
Course Structure: This is an in-person class with required class meetings every Tuesday and Thursday from 12:45pm to 3:15pm. I will be recording our class lectures, which will be posted on our Canvas course.

Attendance: You should consistently come to class and take notes. You are allowed to miss at most 2 classes. If you miss more than that, you may run the risk of being dropped from the course since you will be below the hours of instruction needed for completing this course.

WebAssign Homework: WebAssign comes with an e-book of our required textbook, so you are not required to buy a hardcopy. The bookstore sells a textbook + access code bundle. You will be doing your homework online on WebAssign which will be assigned weekly. You have an unlimited number of attempts to try each problem. **Late homework will be permitted, with only one WebAssign extension allowed per assignment. You will be allowed to request an automatic extension within 1 day late to allow 12 additional hours past the due date but this will deduct 5%. If you need more time, you can request a manual extenion with a 5% reduction per day late. Manual extensions require my approval while automatic extensions do not.** It is recommended that you keep an organized notebook of all your work. You should treat these problems as if you were going to turn in paper copies.

Quizzes: There will be quizzes every other Monday covering concepts from the previous week. Quizzes will be given at the beginning of class, so make sure you're not late.
You will be allowed to correct any failed quizzes and change your score to a 70%. Come to my student office hours and correct your incorrect problems with me. **You will only be allowed to correct one quiz per visit.**

Participation: This part of your grade covers your class participation (warm-ups, handouts, class activities, etc.). You will be be doing a Math-Art Project to help you better understand a topic we've covered in class. More information about the project is posted on Canvas.



Meet Your Professor

I was born in Guadalajara, Jalisco Mexico and came to the US when I was seven years old. I grew up in the Bay Area (Newark, Berkeley, Hercules). I have been married for sixteen years and I'm a father of two girls, Zelda Anahi and Selena Quetzali.

I started my college journey at Chabot Community College in Hayward, Ca. Being a first-generation, undocumented, low-income student and working two jobs I struggled to identify myself with college. I initially started as a drawing and composition arts major, then switched to photography, then to architecture, and finally after working as a math tutor, I decided to major in math. Through much support from my instructors and STEM community, I decided to pursue a degree in Pure Mathematics at UC Berkeley. My dream was always to become a community college math professor to help empower students following my footsteps.

For more visit:
https://spineda6239.wixsite.com/dvc-

Tentative Exam Dates
- Exam 1 - Thursday 2/27
- Exam 2 - Thursday 4/3
- Exam 3 - Thursday 5/1
- Final Exam - Thursday 5/22

Important Dates
- Last Day to Drop with a refund: 2/7
- Last Day to Add/Drop: 2/9
- Last Day to Withdraw: 4/25
- Holidays: 2/17, 3/24-3/28

Mathematician Spotlight

Dr. Federico Ardila received his Ph.D. in 2003 from MIT with a focus on algebraic combinatorics. He is a professor at San Francisco State University and an adjunct professor at the Universidad de Los Andes in his native Colombia.

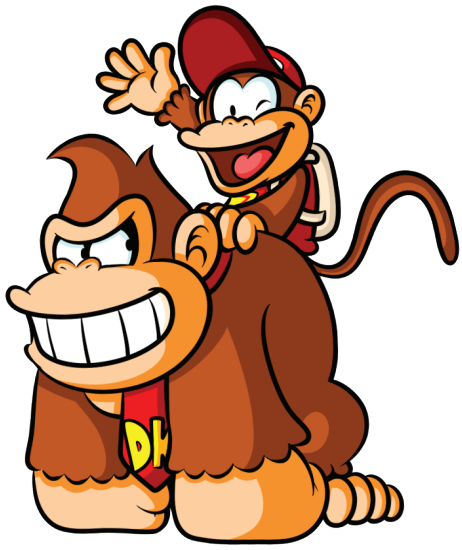
He is strongly committed to helping build and support an increasingly diverse, engaged, and positive community of mathematicians that serves the needs of all. He has advised 40 thesis students, including 17 women and 27 members of underrepresented groups.

When he is not at work or playing music he is probably on the soccer field, or treasure hunting in little record stores and sharing what he's found with La Pelanga DJ Collective.

More Info: A Mathematician Who Dances to the Joys and Sorrows of Discovery

Math Exams: There are three written exams with a weighted average worth 40% of your grade and one final written exam worth 25% of your grade. **All written exams will be held on campus and due at the end of class. For each exam you will be allowed one 4x6 in. note card of notes (front and back).**
The three exams are noncumulative, but the final exam will cover the major topics of the entire course. All exam dates are on the Canvas class calendar.
If you have an emergency that prevents you from taking a math exam, you must send me an email by 11:59 pm that same day, or no makeup will be allowed.

Advice: I highly suggest you come early to your exam so that you can begin to calm yourself and be mentally ready. If you use a pencil, it's also a good idea to bring a big eraser and extra pencils. You want to be as prepared as possible so your main focus are the problems and nothing else. Lastly, bring a water bottle to keep yourself hydrated. Math exams drain you mentally and can feel like you're running a marathon.



Student Help Services

Math & Engineering Student Center

The Math Lab is now the new Math & Engineering Student Center. Math tutors will be available on campus and on Zoom. In addition to tutoring, there is a large and comfortable study area, many outlets, snacks, computers and helpful staff. Please visit the center's website for hours and tutoring information. **Students who spend 32 hours or more in the M&E center by the end of the semester will receive an extra 1% on their total class grade.**

Net Tutor

Free online math tutoring is available every day for DVC students when our tutoring center is closed, even on the weekends! You can connect with a live tutor or drop off a question or paper and receive feedback from a tutor. You can access a NetTutor through our Canvas page.

Academic Support Center (ASC)

ASC offers one-on-one tutoring services for all DVC students taking a variety of classes. If you have a quick question, you can also use the chat button at the bottom of the ASC page to talk to their program assistant.

Useful Links

- Tutoring services are also offered! https://www.dvc.edu/academics/student-centers
- EOPS: https://www.dvc.edu/student-services/eops-care/
- Scholarship: https://www.dvc.edu/student-services/financial-aid/scholarships/applyscholarships.html
- Food Pantry: https://www.dvc.edu/student-services/student-life/food-pantry.html
- Mental Health: https://www.dvc.edu/enrollment/counseling/resources.html

You should definitely utilize these resources! They are here to help you succeed in your college career. If you have any questions about any of them you can always ask!

Mathematician Spotlight

Dr. Stephanie Somersille is the 3rd African-American woman to earn a PhD in Math at UC Berkeley. She works with mathematicians, lawyers and political scientists around issues of fairness in our democracy by working on the mathematics of redistricting and gerrymandering.

DSS Support: Any student with a documented disability is welcome to contact DSS as early in the semester as possible, so that we can arrange reasonable accommodations. As part of this process, please be in touch with DSS at Student Services Center Room 240 or call 925-969- 2176. https://www.dvc.edu/-student-services/disabilitysupport-services/index.html

Academic Integrity Policy:
I follow the DVC Academic Integrity Policy (DVC Procedure 4001.04: Academic Dishonesty). Acts of academic dishonesty include, but are not limited to, the following:

Cheating: Unauthorized copying or collaboration on a test or assignment, or the use or attempted use of unauthorized materials, including prohibited calculators on exams.

Assisting: Assisting another student in an act of academic dishonesty, such as taking a test or doing an assignment for someone else, changing someone's grades or academic records, or inappropriately distributing exams to other students.

Students who commit an act of academic dishonesty will receive a score of zero on the assignment or exam. Students who commit repeated or multiple violations of the DVC Academic Integrity Policy will receive an "F" in the course.

Student Learning Outcomes

1. Evaluate definite and indefinite integrals using a variety of integration formulas and techniques.
2. Apply integration to areas and volumes, and other applications such as work or length of a curv
3. Evaluate improper integrals.
4. Apply convergence tests to sequences and series.
5. Represent functions as power series.
6. Graph, differentiate, and integrate functions in polar and parametric form.

Course Content

1. Areas between curves
2. Volume, volume of a solid of revolution
3. Additional techniques of integration including integration by parts and trigonometric substitution
4. Numerical integration; trapezoidal and Simpson's rule
5. Improper integrals
6. Applications of integration to areas and volumes
7. Additional applications such as work, arc length, area of a surface of revolution, moments and centers of mass, separable differential equations, growth and decay
8. Introduction to sequences and series
9. Multiple tests for convergence of sequences and series
10. Power series, radius of convergence, interval of convergence
11. Differentiation and integration of power series
12. Taylor series expansion of functions
13. Parametric equations and calculus with parametric curves
14. Polar curves and calculus in polar coordinates