Math 1B: 5088
Calculus, Second Course
Spring 2021

Instructor Information

Name: Justin Davis
Office: Office Hours Zoom Link
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Office Hours: MW 1:00 - 1:30pm, T 3:30 - 5:00pm, Th 10:00 - 12:30pm

Class Information

Dates: 1/20 – 5/20 (+ Finals week!)
Time: MW 9:00 - 10:30am, TTh 9:00 - 10:00am
Location: Class Meeting Zoom Link

Prerequisites

Completion of MATH 1A or higher (MATH)

Course Description, Link to Course Outline of Record

Topics include methods of integration, conic sections, polar coordinates, infinite sequences and series, parametric equations, solid analytic geometry, and vectors.

Student Learning Outcomes

- Evaluate proper and improper integrals.
- Define and apply topics from plane analytic geometry including polar and parametrically defined graphs, conic sections, and vectors.
- Define and apply topics from solid analytic geometry including quadric surfaces, lines and planes in space, and vectors.
- Determine convergence of sequences and series, and compute and use power series of elementary functions.

Course Objectives

After this course, you should be able to. . .

- Apply methods of integration, including integration by parts, integrals of inverse functions, trigonometric substitutions and partial fractions, to calculate proper and improper integrals.
- Define and discuss conic sections as equations, as geometric intersections and as loci.

- Apply differentiation and integration to parametric representations of graphs, including polar graphs.
- Use three dimensional rectangular coordinates.
- Determine convergence of sequences and series.
- Compute power series of functions, their derivatives and integrals.
- Compute Taylor and Maclaurin series and demonstrate applications to elementary functions.
- Determine radii and intervals of convergence of power series.
- Compute and use determinants, dot products, cross products, and projections.
- Determine lines and planes in space.
- Describe velocity and acceleration of particles in the plane and in space using vector functions.

Textbook, Calculators, & Software

Textbook: *Calculus: Early Transcendentals*, 8th edition, Enhanced WebAssign Edition, by Stewart, Brooks/Cole Cengage Learning Publishing Co (**Most importantly, you need WebAssign Access**)

Calculator: You will need a calculator to do the computations that will arise throughout the course. No specific calculator is required; you may use a TI if you please. I prefer using online calculators like DESMOS and Geogebra.

Homework

You will access the WebAssign homework assignments *directly in our Canvas course*. Most of the time they will be due weekly by 11:59pm on Friday night. **THERE ARE NO EXTENSIONS OR MAKE-UPS!! BECAUSE OF THIS, YOUR LOWEST 3 HOMEWORK ASSIGNMENTS WILL NOT COUNT TOWARD YOUR FINAL HOMEWORK GRADE.**

*Note: You will most definitely encounter exercises during homework that are more difficult than examples we have seen in class. This is good. It is extremely important for your learning to focus on these (and even struggle a bit). Of course, I am here to support you in class and in office hours. The SRJC Math Lab is also a great place to get help.

Challenge Exercises, & In-Class Assignments

There will be several other assignments during the semester that consist of exercises that I think are engaging and challenging. It will be useful to work with others on these. For the sake of promoting participation and attendance (and for learning obviously), I also assign graded classwork randomly throughout the semester. **Again, there are no make-ups or extensions for these assignments, so I will drop the lowest score in this category.**

Exams

There will be 3 timed midterm exams in Canvas, and these will be worth half of your overall grade. **THERE ARE NO MAKE-UPS OR EXTENSIONS.** If you take all 3 midterms, the percentage on your final exam will replace your lowest midterm percentage (given that it is better).

The final will consist of thoughtful problems that encompass what we have learned throughout the semester. You will have a week or two to complete these. This will be worth 20% of your overall grade.

Class Attendance and Participation

It is essential to your success in this course that you attend each lecture and participate in the discussions. There will be In-class group activities. Therefore, you are expected to attend each lecture and to show up on time. You are responsible for any material covered, any work assigned, or any course changes made during the lecture.

Grading

The course grade is determined by the following components:

Canvas Exams (3 of them)	50%
Final	20%
Homework	15%
Challenge Worksheets & Classwork	15%

Final grades will be assigned according to the following scale:

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

*Note: If you are <1% away from the next letter grade up, I do round this up.

Important Dates

- January 31: Last day to drop semester length class and be eligible for a refund.
- February 7: Last day to drop a semester length class without “W” symbol.
- April 25: Last day to drop a semester length class with “W” symbol.
- May 26: Final Due

Getting Help

Be proactive about your success in the course! If you need help, there are many resources available to help you. Your first primary contact for help is me, the instructor. If you are struggling, attend office hours or send an email. Do not wait to bring issues, course related or otherwise, to my attention. If you cannot attend office hours, send me an email (preferably through Canvas) to try to make other arrangements.

Tips for Success

- Be proactive about your success in the course.
- Do not procrastinate! Begin your assignments and begin studying early!
- Attend every class meeting.
- Ask questions whether it is during class, recitation, office hours, at the math clinic or via email to your instructor.
- Form a study group! Working together will help you and others better understand the course material as you can work through different difficulties and offer each other clarifications on concepts.
- Do problems! Reading through your notes is not enough. Seek out new problems and work through them carefully. When you are done, check your answer. If you are wrong, examine carefully what misunderstanding occurred and how to avoid it in the future.
- Every time you approach a new concept, carefully think how it could be applied in your own field of study.

Special Needs

If you believe that you may need an accommodation based on the impact of a disability, please contact Disability Resources as early in the semester as possible, in order to discuss your specific needs and to determine a reasonable accommodation plan. You may contact Disability Resources Office in Bertolini Student Center, 3rd Floor (disabilityinfo@santarosa.edu, phone: 707-527-4278).

Academic Honesty

Academic honesty and integrity is expected at all times. Cheating will not be tolerated.Cheating includes plagiarism of any sort, as well as receiving or providing unauthorized assistance on any type of assignment. Minimum consequences for cheating will be a grade of zero for the assignment or exam with possible consequences of an F in the course or expulsion from school. Furthermore, any incidence of cheating will result in a note of explanation being placed in your disciplinary file. Please carefully read the full policy on academic integrity in the Santa Rosa Junior College catalog. All course materials for Santa Rosa Junior College courses are the exclusive property of the individual(s) who created them. It is illegal to share or sell any course materials you may obtain as a student in this class, whether on paper or in digital form. Unauthorized reproduction and distribution of SRJC course materials may be grounds for disciplinary and/or legal action.

Student Conduct

We will conduct ourselves in a manner which reflects our awareness of common standards of decency and the rights of others. All students are expected to know the Student Conduct Policy and adhere to it in this class. Students who violate the code may be suspended from 2 classes and may be referred to the Conduct Dean for discipline.

Remote Learning Etiquette & Expectations

- Stay focused. Please stay engaged in class activities. Close any apps on your device that are not relevant and turn off notifications.
- Turn on your video when possible. It is helpful to be able to see each other, just as in an in-person class.

  **Exceptions: If you have limited internet bandwidth or no webcam, it is ok to not use video. If you're unable to find an environment without a lot of visual distractions, it is also ok to turn off your video.*
- Keep it clean. Don't share anything you wouldn't put up on the projector in class!
- Mute your microphone when you are not talking. This helps eliminate background noise.
- Use a headset when possible. If you own headphones with a microphone, please use them. This improves audio quality.
- Be in a quiet place when possible. Find a quiet, distraction-free spot to log in. Turn off any music, videos, etc. in the background.
- Stay on topic. Use the chat window for questions and comments that are relevant to class. The chat window is not a place for socializing or posting comments that distract from the course activities. If you fill it up with random comments, I will be unable to sort through the information quickly to address students' real questions/concerns about the course.
- No disrespect or hate speech. Just like in our in-person class, respectful behavior is expected. Consider Zoom a professional environment, and act like you're at a job interview, even when you're typing in the chat