MATH 1C— CALCULUS, THIRD COURSE —FALL SEMESTER 2023
Section 3233, Kunde 203, 6:00pm-8:00pm TTh, 4 Units

Instructor: **Mark Ferguson**. Office: Kunde Hall, Room 211. Email: ***mferguson@santarosa.edu***

Important Notes:

- Office Hours: 7:50 pm – 8:30 pm, TTh in Kunde 203
- Canvas is not used in our class.
- Email will be checked on normal class days.
- Unauthorized use of smart device/computer during class → points deduction.
- Give yourself the best chance of succeeding by:

    - Meeting the prerequisites
    - Providing a good faith effort
    - Working on all homework exercises
    - Communicating often and taking the time to formulate good questions
    - Having patience
    - Exhibiting academic integrity
    - Visiting Office Hours
    - Striving to be "impossible to be misunderstood"
    - Realizing that your work will be graded in accordance with a college-level, STEM-based class

Also:

- Our classroom is a place reserved for learning. Being kind, open-minded, respectful, patient, and tolerant are qualities conducive to learning. It is expected that you will be prepared to learn and exhibit these behaviors.
- It is critical that students work on homework frequently throughout the semester.
- No active (ear, cell, smart) devices or computers are allowed during class. Please turn them off and put them away.
- This syllabus is intended to give the student guidance to what/how/when topics will be covered and assessed during the semester and will be followed as closely as possible. However, I reserve the right to modify, supplement, or make changes to the syllabus as needed. Continued registration in this course means that you agree to the policies and procedures outlined in this syllabus.
- Students are expected to frequently use technology to explore mathematics throughout our course; therefore, a graphing calculator/computer algebra system is required. You are welcome to choose any that works sufficiently for our course, however TI graphing calculators/computer algebra systems will likely be used in class. Graphing calculators will not be used in traditional testing settings. Let me know if you have questions regarding technology.
- Students are required to have a text for our course. Our text is available nowadays in many different forms; e.g., as a traditional textbook, in electronic format, etc. You are welcome to choose the one that works best for you; you may have a preference or there may be cost savings with one format versus another.
- I will be teaching the course with the 8th edition of our textbook. If you choose an earlier/different version, it is up to you to reconcile the differences between editions.

Academic Integrity—All written work is to be original; plagiarism of any kind will result in a failing grade on that assignment. Students who plagiarize or cheat may be suspended [for one or two class meetings] and referred to the Vice President of Student Services for discipline, in cases of egregious violation.

Attendance—Attending class greatly increases the likelihood of success in our course, however I believe that adult college students know this (or, are learning this), and will make their own choice regarding attendance. There are no points associated with attendance. I am required to follow College Policy regarding attendance: A student may be dropped from any course when that student's absences exceed ten percent (10% constitutes an "excessive" number of absences for this course) of the total hours of class time. Students who fail to attend the first class meeting may be dropped from the course. Students who enroll in the course and do not attend the first two class meetings are declared "No-Show" and will be dropped from the course.

Course Description

Calculus, Third Course: Multivariable calculus including partial differentiation and multiple integration, vector analysis including vector fields, line integrals, surface integrals, and the theorems of Green, Gauss and Stokes.

Course Outline of Record

This is available online: go to the SRJC homepage and search for MATH 1C under the course outlines link.

Prerequisites, Required and Optional Materials

Prerequisite: Successful completion of MATH 1B, Calculus 2, or qualifying placement.

Required Materials: The textbook (below) and a graphing calculator/access to a CAS.

TEXT: Calculus, Early Transcendentals, Eighth Edition by James Stewart, Cengage Learning, 2016.

Study Guides/Student Solutions Guides are helpful to many, but are optional

***Our text is on reserve at the Doyle Library at the Reserve Desk. Bring your SRJC ID to check out the text.**

Class Structure/Content

- We will cover topics from chapters 14-16 out of our text (I will try to keep you apprised of any changes). With a few exceptions, we will cover one or two sections per day.
- My goal is to have a typical day in class go as follows: We will discuss a new topic for a while, and then, time permitting, work on some exercises together. We'll take a break and then do the same thing for the remaining time. You will likely need a pencil and paper every day in class. You are expected to work on homework outside of class almost every day—as often as you need—in order to succeed in the class. Your success depends greatly on the amount of work that you put into the class.
- The exams and final will be comprised of topics we discuss in class AND the assigned homework so, PLEASE COME TO CLASS AND KEEP UP WITH THE HOMEWORK (including readings).

Activities & Points—Keep Track of Your Grade

Activity	Points Possible	Your Points	Your Cumulative Points	Cumulative Points Possible	Your Cumulative Percentage
Homework Check 1 Thursday of Week 5	20			20	
Exam 1 In Class Thursday of Week 5	100			120	
Homework Check 2 Thursday of Week 10	20			140	
Exam 2 In Class Thursday of Week 10	100			240	
Homework Check 3 Tuesday of Week 15	20			260	
Exam 3 In Class Tuesday of Week 15	100			360	
Homework Check 4 Tuesday of Finals Week	20			380	
Final Exam on Tuesday, Dec. 12, 6:00pm-9:00pm	220			600	

Activity Details

Homework Checks (Four at 20 points each) no late work and no makeup

Your homework will be checked four times throughout the semester. Record your homework in a **Homework Notebook** (spiral, or three ring binder):

1. The only documentation in this notebook will be the bookwork homework.
2. Homework must be in pencil.
3. Each homework section from the Stewart Text should be labeled in the upper right-hand corner on each page.
4. Proper homework etiquette includes writing down the problem number, showing supporting work, using correct notation, and using a box or circle around your solution (except in the cases of graphs, pictures, paragraphs, etc.). Include units if applicable.
5. Your homework should include correct mathematical notation, mathematical process, mathematical supporting work, and solution.
6. Individual problems should be worked vertically, not horizontally.
7. Horizontal lines should separate problems. If two columns are used on one sheet of paper, a vertical line should separate the columns.
8. Work should be legible and organized.
9. Each problem needs to follow the mathematical process shown in class. This is in preparation for the exams, and final.
10. The sections included in each homework check will be specified in an exam outline given one week prior to the homework check.
11. For Homework Check 1: sections x through y; Homework Check 2: sections y+1 through z, etc.

Exams (3 at 100 points each) can only take early

These will be taken in our classroom. You will be notified of the exam topics and the materials you can use on the exams about one week prior to each exam. These exams may only be taken at a different time with advanced notice and must be taken prior to the original scheduled date. Exams are usually graded and returned no later than one week of the exam date. Students are asked to review their graded exams and wait at least 48 hours to discuss questions and ask for further feedback on graded exams.

Note 1: You may replace your lowest exam score (as long as your score is at minimum a 50% score on original exams 1, 2, and 3, taken during original exam time) with the final exam percentage.

Note 2: in case of an emergency immediately before (only) one of these exams that causes you to miss an exam, it is possible to use a portion of your Final Exam score to count as your score for the missed exam (only the topics on the Final Exam, as determined by me, that are associated with the exam that you missed), provided that:

- Sans the exam you miss, you have a passing grade going into the Final Exam.
- You have regular attendance and have been providing a good faith effort in our class, as determined by me.
- The distribution of points according to topics may be different on your Final Exam as opposed to the Standard Final Exam (below).

Standard Final Exam (220 points)

Be prepared for a mostly cumulative final exam. It will be written to take about 2.5 hours and will be given at the College-designated time. You will be notified of the exam topics and the materials you can use on the final prior to the final. The final exam can only be taken at a different time with advanced notice and must be taken prior to the original scheduled date. Final exams are not returned to the students; however, you are welcome to come by during the following semester to review your final exam.

Note: in case of an emergency immediately before the Final Exam, it is possible to take an Incomplete Grade for the class, provided that you have a passing grade going into the Final Exam, and take the Final Exam during a subsequent semester.

Grading Policy

Graded exams may be discussed at least 48 hours after they have been returned to you. Letter grades will be assigned on a scale no stricter than the following:

Letter Grade	Percentage
A	90 to 100
B	80 to 89
C	70 to 79
D	60 to 69
F	0 to 59

Tutoring and Ways to Find Help with Math

Provided by the SRJC Math Lab; Link: https://mathematics.santarosa.edu/tutorial-resources

Accommodations for Students with Disabilities—If you need disability related accommodations for this class, such as a note taker, test taking services, special furniture, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to me as soon as possible. You may also speak with me privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. DRD is located in the Bertolini Student Center, Third Floor, Room 4844 on the Santa Rosa campus. Also, DRD's link: https://drd.santarosa.edu

Ideal Schedule and List of Text Homework Exercises

(Note that the ideal schedule is just that—ideal. Our actual pace may cause us to run a little behind or ahead of the ideal schedule throughout the semester… hopefully we stay ahead more often than behind!)

Week Number	Date (Week Beginning Monday…)	Section Number and Title from Our Text Read these sections before they are covered	Homework Exercises—Work these exercises after we've covered the section in class
1	August 14	14.1: Functions of Several Variables 14.2: Limits and Continuity	14.1: 1-21 odd, 22, 32, 34, 35, 39, 45-51 odd, 61-66, 75, 76 14.2: 1-41 odd, 42, 43
2	August 21	14.3: Partial Derivatives 14.4: Tangent Planes and Linear Approximations	14.3: 1-45 odd, 46, 47-67 odd, 73-77 odd, 81, 82, 83, 90, 92, 94, 99 14.4: 1-43 odd
3	August 28	14.5: The Chain Rule 14.6: Directional Derivatives and the Gradient Vector	14.5: 1-37 odd, 41, 43 14.6: 1-17 odd, 21, 23, 29, 31, 32, 33, 41, 43,55
4	September 4	**Monday No Classes** 14.7: Maximum and Minimum Values 14.8: Lagrange Multipliers	14.7: 1-35 odd, 41-53 odd, 58 14.8: 1-13 odd, 17-23 odd, 31-39 odd
5	September 11	**Exam 1 on Thursday** **Homework Check 1 on Thursday** 15.1: Double Integrals over Rectangles	15.1: 1-43 odd
6	September 18	15.2: Double Integrals over General Regions 15.3: Double Integrals in Polar Coordinates	15.2: 1-57 odd 15.3: 1-31 odd
7	September 25	15.4: Applications of Double Integrals 15.6: Triple Integrals	15.4: 1-31 odd 15.6: 1, 5, 7, 13, 19, 21,27-37 odd,49-53 odd
8	October 2	15.7: Triple Integrals in Cylindrical Coordinates 15.8: Triple Integrals in Spherical Coordinates	15.7: 1-23 odd, 29, 30 15.8: 1-27 odd, 28, 41, 43
9	October 9	15.9: Change of Variables in Multiple Integrals	15.9: 1-25 odd

Week Number	Date (Week Beginning Monday…)	Section Number and Title from Our Text Read these sections before they are covered	Homework Exercises—Work these exercises after we've covered the section in class
10	October 16	**Exam 2 on Thursday** **Homework Check 2 on Thursday** 16.1: Vector Fields	16.1: 1, 3, 5, 11-18, 21, 29-34
11	October 23	16.2: Line Integrals	16.2: 1-27 odd, 31-34, 37, 39-42
12	October 30	16.3: The Fundamental Theorem for Line Integrals	16.3: 1-19 odd, 23, 25, 29-35
13	November 6	16.4: Green's Theorem	16.4: 1-17 odd, 19-23
14	November 13	16.5: Curl and Divergence 16.6: Parametric Surfaces and Their Areas	16.5: 1-11 odd, 12, 13-21 odd, 25, 31 16.6: 1-11 odd, 13-18, 19-25 odd, 29, 30, 32, 33, 35, 37-49 odd
15	November 20	**Exam 3 on Tuesday** **Homework Check 3 on Tuesday** **Thursday No Classes**	
16	November 27	16.7: Surface Integrals 16.8: Stokes' Theorem	16.7: 1-31 odd, 39-48 16.8: 1-17 odd, 18, 19
17	December 3	16.9: The Divergence Theorem	16.9: 1-9 odd, 10, 11,13, 17, 18, 23, 24
Finals	December 10	**Final Exam Tuesday, Dec. 12, 6:00pm-9:00pm** **Homework Check 4 on Tuesday**	