



## Calc Analytic Geom II

MAT231 18821 Spring 2025  
 Start Date: Feb 10, 2025  
 End Date: May 23, 2025  
 Credits: 4  
 Modality: In Person

## Instructor Information

**Name:** Steven Felling B.S.E.E., M.A.Ed.

**Contact Information:**

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 Phone: 480-706-7900 ext 70556

**Location:** C-105

**Office Hours:** 3:40pm-4:40pm Monday, Tuesday, Thursday, Friday and 8:00-8:30am Monday through Friday

**Website:** [www.mrfelling.com](http://www.mrfelling.com)

## Course Competencies

## Official Course Description

Techniques of integration for both proper and improper integrals with applications to the physical and social sciences, elements of analytic geometry, and the analysis of sequences and series.

## Official Course Prerequisites

Prerequisites: A grade of C or better in MAT220, or MAT221, or equivalent.

## Official Course Competencies

1. Evaluate indefinite, definite and improper integrals using various algebraic, trigonometric and numerical techniques. (I, II)
2. Solve applied problems taken from the sciences using integration. (I, II)
3. Analyze curves in the plane described using parametric and polar equations. (III)
4. Define, classify, and analyze conic sections. (III)
5. Determine the convergence or divergence of sequences, series of constants, and power series. (IV, V)
6. Compute polynomial approximation and power series representation of elementary functions using derivatives and integrals. (V)
7. Compare alternate solution strategies, including technology. (I, II, III, IV, V)
8. Communicate process and results in written and verbal formats. (I, II, III, IV, V)
9. Justify and interpret solutions to application problems. (I, II, III, IV, V)

## Course Materials

## Required Course Materials

Title	Edition	Author	ISBN
Calculus for AP	1st	Larson, Ron and Battaglia, Paul	9781305674912
Graphing Calculator TI-83 or TI-84			

## Standards and Expectations

This dual enrollment course follows a college-level curriculum. High school policies may differ from the policies that apply to dual credit.

## Time Requirement

You will need to dedicate significant time to this college course. For each credit hour, plan to spend at least two hours a week on homework in addition to class presentation time.

## Course Calendar

Weeks	Lessons
(since we teach MAT221 and MAT231 together, some MAT231 is taught in 1st semester)	Techniques of Integration (integration by parts, trigonometric integrals, trig substitution, integration by partial fraction expansion) and Differential Equations (solving by separation of variables, modeling with differential equations including interest, unrestricted population growth, radioactivity, and logistic growth models).
21	Unit 7: Infinite Series (sequences and series, Integral, p-series, direct and limit comparison convergence tests)
22	Unit 7: Infinite Series (alternating series, ratio and root tests, absolute vs conditional convergence and error for alternating series)
23	Unit 7 review ** Unit 7 Part 1 Test (infinite series convergence tests) Unit 7: Infinite Series (Power series)
24	Unit 7: Infinite Series (Power series, representing functions with power series, Taylor/Maclaurin Polynomials, Lagrange error) Unit 7 review
25	** Unit 7 Part 2 test (Taylor/Maclaurin Polynomials and Power Series) Unit 8: Parametric Equations, Polar, Vectors (Plane curves and parametric equations)
26	Unit 8: Parametric Equations, Polar, Vectors (calculus with parametric equations) Unit 8 review ** Unit 8 Part 1 Test (Parametric equations)
27	Unit 8: Parametric Equations, Polar, Vectors (Polar coordinates, area and arclength in polar) Unit 8 review

	Unit 8 review
29	** Unit 8 Part 3 Test (Vectors)
	Spring Break
31	AP Exam and entire course review (with an emphasis on using topics from throughout the course together) During this review, we include a number of very small less formal assessments, mainly based upon working problems from previous year AP Calculus BC Exams.
32	AP Exam and entire course review
33	AP Exam and entire course review
34	AP Exam and entire course review
35	AP Exam and entire course review
36	AP Exam and entire course review
37-38	AP and Final Exams

## Grading Standards

Grade	Percentage
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	Below 60%

Grades will be comprised approximately from:

Tests: approximately 90% of the quarter grades

Homework assignments/practice work: approximately 10% of the quarter grades

Semester grading policy = 40% for each quarter and 20% for the semester exam

## Attendance Standards

Regular Attendance is important. Students are allowed 10 absences (excused or unexcused) per semester for in-person instruction. The 11th total absence may result in loss of credit unless there are extenuating circumstances. School related absences do not count toward your student's total absences. For more information refer to the [Desert Vista Attendance Policy](#).

*Be prepared to take missed tests/quizzes immediately upon your return to class unless you have made prior arrangements with the instructor.*

## Late Policy

All assigned work must be completed by the designated due dates as stated in unit assignment calendar.

***Be prepared to take missed tests/quizzes immediately upon your return to class unless you have made prior arrangements with the instructor.***

## Equipment Use Policy

You may be assigned a computer for classroom use. You are to only use the computer in the designated websites. You are not to add or make any changes to the computer. Failure to abide by these policies will cause you to lose your computer privileges.

## College Policies

### Extra Credit Policy:

There are no extra-credit assignments for this class. The scheduled assignments and exams are sufficient to test understanding of the materials presented in the course.

### Academic Misconduct:

Academic Misconduct includes cheating, conspiring to cheat, soliciting to cheat, attempting to cheat, plagiarism, fabrication on an assignment, or other forms of dishonest presentation.

Posting assessments on an unauthorized web site, soliciting assessment answers and the unauthorized acquisition of assessments, assessment answers, or other academic material is cheating. Unless approved by the instructor, turning in content created by essay generators or other types of artificial intelligence platforms is also academic misconduct.

Plagiarism includes, but is not limited to, the use of paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling or sharing of term papers or other academic materials. Information gathered from the Internet and not properly identified is also considered plagiarism.

We expect every student to produce his/her original, independent work. Any student whose work indicates a violation of the [MCCCD Academic Misconduct Policy](#) (including cheating and plagiarism) can expect sanctions as specified in the college catalog.

Rio Salado College uses software that uncovers plagiarism from student to student and other data sources on the Internet. If a student is found to have plagiarized content, grade consequences will be applied in accordance with departmental policies.

### Civility Policy:

The faculty of Rio Salado place a high value on the importance of general ethical standards of academic behavior and expect that communication between students and instructors or among students shall maintain the level of formality and mutual respect appropriate to any college teaching/learning situation. Language or behavior that is rude, abusive, profane, disruptive, or threatening will not be tolerated. Activity of this type is Academic Misconduct as defined in MCCCD Policy AR 2.3.11. Student engaging in such behavior will be removed from the course with a failing grade. Additional sanctions may be applied pursuant to AR 2.3.11.

### Refund Policy:

Refunds are not automatic. Students who drop courses within the refund period are eligible for a reimbursement of appropriate tuition. Deadlines and details are available online at <http://www.riosalado.edu/cashier/Pages/refund.aspx>.

### Classroom Accommodations for Students with Disabilities

In accordance with the Americans with Disabilities Act, the Maricopa County Community College District (MCCCD) and its associated colleges are committed to providing equitable access to learning opportunities to students with documented disabilities (e.g. mental health, attentional, learning, chronic health, sensory, or physical). Please work with your high school accommodations team to provide approved and appropriate accommodations in dual enrollment courses. For more information please feel free to reach out to the college's disability services at 480-517-8562 or [Disability.Services@riosalado.edu](mailto:Disability.Services@riosalado.edu)

### Addressing Incidents of Sexual Harassment/Assault, Dating/Domestic Violence, and Stalking

In accordance with Title IX of the Education Amendments of 1972, MCCCDC prohibits unlawful sex discrimination against any participant in its education programs or activities. The District also prohibits sexual harassment—including sexual violence—committed by or against students, District employees, and visitors to campus. As outlined in District policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual Misconduct" prohibited by District policy. Visit <https://district.maricopa.edu/mandatory-drs-title-ix-syllabus-statements> for more information.

### Tuition Assistance

Tuition Assistance is available to students enrolled in a Rio Salado College dual enrollment courses who demonstrate financial need. Details are available online at <http://www.riosalado.edu/dual/>

### Student Responsibility

In addition to being responsible for the information outlined in this syllabus, students are responsible for familiarizing themselves with the Rio Salado College policies in the college catalog and student handbook, which are available online at <https://www.riosalado.edu/student-resources/student-solution-center/student-policies>

### Disclaimer

Course content and syllabus may vary from the course calendar listed above in order to meet the needs of the particular group in this course section.

### Change of Address

Please notify Admissions, Records and Registration at (480) 517-8540 of any changes in contact information or log into your Student Center to update your address.

## Acknowledgement Form

Signature: \_\_\_\_\_ Date: \_\_\_\_\_