

## Math 226: Calculus II – 5 credits – Spring 2023 Syllabus

<b>Professor Robert Kreczner</b> Office: D 357 Science Building Email: rkreczne@uwsp.edu www.uwsp.edu/mathsci	<b>Office Hours</b> D 357 Sci and in Zoom (check Canvas for Zoom link) 12:00 pm-12:50 pm, Monday to Friday <i>or by appointment</i>	<b>Class meets</b> Mon., Wed., Friday 1:00 – 1:50 pm A208 Science building
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### Text:

Calculus, Early Transcendentals, Eighth Edition.

James Stewart

**Prerequisite:** Math 225, Calc I

### Description:

Techniques of integration for algebraic and transcendental functions and additional applications; improper integrals; introduction to first-order differential equations; parametric equation and polar coordinates; infinite sequences and series.

**Prerequisites:** Math 225, Calculus I

Chapter 7 Techniques of Integration

7.1 (Review) Integration by Parts

7.2 Trigonometric Integration

7.3 Trigonometric Substitution

7.4 Partial Fractions

7.5 (Optional) Strategy for Integration

7.6 (Optional) Integration Using Tables and Computer Algebra Systems

7.7 (Optional) Approximate Integration (including Simpson's Rule)

7.8 Improper Integrals

### Chapter 8 Further Applications of Integration

8.1 Arc Length

8.2 Area of a Surface of Revolution



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- 8.3 Applications to Physics and Engineering
- 8.4 (Optional) Applications to Economics and Biology
- 8.5 (Optional) Probability

## **Chapter 9 Differential Equations**

- 9.1 Modeling with Differential Equations
- 9.2 Direction Fields and Euler's Method
- 9.3 Separable Equations
- 9.4 Models for Population Growth (including the Logistic differential equation)
- 9.5 Linear Equations

## **Chapter 10 Parametric Equations and Polar Coordinates**

- 10.1 Parametric Equations
- 10.2 Calculus with Parametric Equations
- 10.3 Polar Coordinates
- 10.4 Areas and Lengths in Polar Coordinates
- 10.5 Conic Sections
- 10.6 (Optional) Conic Sections in Polar Coordinates

## **Chapter 11 Infinite Sequences and Series**

- 11.1 Sequences
- 11.2 Series
- 11.3 The Integral Test and Estimates of Sums
- 11.4 The Comparison Tests
- 11.5 Alternating Series
- 11.6 Absolute Convergence and the Ratio and Root Tests
- 11.7 (Optional) Strategy for Testing Series
- 11.8 Power Series



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11.9 Representations of Functions as Power Series

11.10 Taylor and Maclaurin Series

11.11 Applications of Taylor Polynomials

## Chapter 12 Vectors and the Geometry of Space

12.1 Three-Dimensional Coordinate Systems

12.2 Vectors

12.3 Dot Product

12.6 Cylinders and Quadratic Surfaces

**Course Communication:** Announcements, homework assignments, grade information, and other course information will be in Canvas. To access Canvas, go to <https://www.uwsp.edu>, choose Canvas from the “Logins” dropdown menu, and use your regular campus login ID and password. Email is a good way to contact me (rkreczne@uwsp.edu)

**Support is available:** Ask questions as they occur to you. Come to see me before or after class, stop by during my office hours or join via Zoom, or schedule an appointment with me for another time.

*One of the great parts of my job is working with conscientious students!*

Talking with others about your work also helps you understand concepts or helps you understand what questions to ask, so try talking with other students, professors, etc.

Unless specified otherwise, the use of **calculators** (including most graphing calculators) will be permitted during quizzes and the final exam. *However, any calculator, phone, smartwatch, or other device with any connectivity must be stowed away, silenced, and not used during exams.*

### Evaluation:

- A homework assignment will be given every week. It will be posted every Monday and will be due the following Monday. The problems will be taken from the covered sections in the textbook.
- **After each chapter, there will be an exam.**

### Grading Policy:



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Homework Assignments 25%, Chapter Exams 70%, and attendance classes 5%

Name:	Range:	
A	100%	to 94 %
A-	< 94%	to 90 %
B+	< 90%	to 87 %
B	< 87%	to 84 %
B-	< 84%	to 80 %
C+	< 80%	to 77 %
C	< 77%	to 74 %
C-	< 74%	to 70 %
D+	< 70%	to 67 %
D	< 67%	to 64 %
F	< 64%	to 0 %

I reserve the right to exercise discretion in raising a student's grade if the final weighted average does not appear to reflect the quality of a student's work (for example, because of low performance one week due to illness). I will not use discretionary judgments to lower a student's final grade.

**Attendance Policy:** Attendance is expected at every class meeting when you are well, but we are all expected to take extra care to not spread germs. If you have a fever or symptoms such as coughing or sneezing, please stay home and email me as soon as you realize that you will not be in class. It is the student's responsibility to make prompt



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arrangements for finding out what was missed and for making up any assigned work in the case of an absence, but I am very willing to work with you to find solutions. Canvas is also a great resource at these times. If you miss class, check there first for things you need to know. Quizzes and exams may only be made up in special circumstances, and normally only if arranged with me ahead of time. If a medical emergency occurs, contact the Dean of Students or the Disability Resource Center as soon as possible (\* contact info. below \*). Then we can see if an exception is in order.

We will all be checking the university's COVID website as it is updated throughout the semester: <https://www.uwsp.edu/coronavirus/Pages/default.aspx> .



**Inclusivity Statement:** It is my intent that all students from diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity brought by everyone in this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity. I encourage you to make suggestions to this end. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

If you have experienced a bias incident (an act of conduct, speech, or expression to which a bias motive is evident as a contributing factor regardless of whether the act is criminal) at UWSP, you have the right to report it using this [link](#). You may also contact the Dean of Students office directly at [dos@uwsp.edu](mailto:dos@uwsp.edu).



UWSP is committed to providing reasonable and appropriate **accommodations** to students with disabilities and temporary impairments. If you have a disability or acquire an impairment or injury during the semester and you need assistance, please contact the \* Disability Resource Center as soon as possible, in room 108 of the Collins Classroom Center (CCC), at 715-346-3365, or at [drc@uwsp.edu](mailto:drc@uwsp.edu) . You may also want to visit their website, [Disability Resource Center \(DRC\) - University of Wisconsin-Stevens Point \(uwsp.edu\)](#).

All students are expected to know the UWSP student **responsibilities** found on the Dean of Students webpage. Information on Academic Concerns is available at <https://www.uwsp.edu/dos/Pages/stu-academic.aspx>. Information on Conduct Concerns and on Personal Concerns are also available on the Dean of Students site.

**Incompletes:** A grade of incomplete may be given when circumstances arise which are beyond the student's control, and which result in the student being unable to



complete the course. A grade of incomplete will only be used if the student is passing when the circumstances arise.

