

Syllabus for Math 225, Fall 2021

Welcome

I am delighted to welcome everybody to Math 225, Calculus I, a face-to-face course. I am Dr. Robert Kreczner, and I will be your teacher. I am confident you will enjoy learning the course material, and I am also sure you will complete the course successfully.

What is Expected from You

What is Expected from You:

1. Attend all the classes unless you experience medical problems or serious personal issues. In such cases, you will be excused. While in class, you are required to comply with the current UWSP mask policy.
2. Do all the assignments posted in Canvas, read the textbook, do homework assignments, and take practice exams.
3. Be able to convert your handwritten assignments to pdf files, for example, using your phone.
4. Check Canvas at least once a day, Monday through Friday.

Contacts and Information about the teacher

- Name: Dr. Robert Kreczner
- To contact me please use only this email: rkeczne@uwsp.edu
- Important: When sending me an email, please include Math 225 in its subject line.
- My office is D351, in Science Building

Office Hours

Monday to Friday, 9:00 am to 9:50 am, in my office, D351, Science Building.

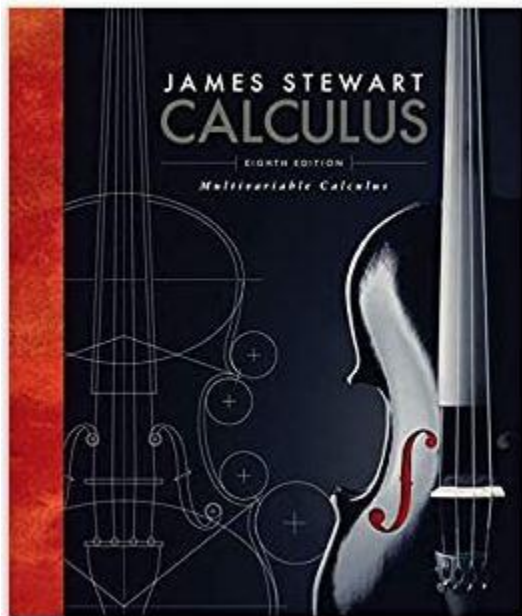
Available Help

STEM Tutoring – Fall 2021

What	Location	Schedule	Cost
STEM Drop-In Tutoring	CBB 190	No appointment needed – stop by when tutors are available: https://www.uwsp.edu/tlc/Pages/dropInTutoring.aspx .	Free
STEM One-on-One Tutoring	ALB 018	By appointment. Visit ALB 018 (library basement) to make a request or complete online request form here: https://www.uwsp.edu/tlc/Pages/request-math-science-tutoring.aspx	Free

Textbook

Calculus, Eighth Edition, Multivariable Calculus, James Stewart, Cengage Learning



Description:

Introduction to limits; differentiation and integration of algebraic and transcendental functions; applications of differential and integral calculus.

Prerequisites:

[MATH 118 \(Links to an external site.\)](#); [MATH 119 \(Links to an external site.\)](#) or concurrent enrollment in an 8-week section of [MATH 119 \(Links to an external site.\)](#); or suitable placement

Syllabus for Math 225 Calculus I

Stewart's 8th edition (Single-Variable), Early Transcendentals

Chapter 2 Limits and Derivatives

2.1 (*Optional*) The Tangent and Velocity Problems

2.2 The Limit of a Function

2.3 Calculating Limits Using the Limit Laws

2.4 (*Optional*) The Precise Definition of a Limit

2.5 Continuity

2.6 Limits at Infinity; Horizontal Asymptotes

2.7 Derivatives and Rates of Change

2.8 The Derivative as a Function

Chapter 3 Differentiation Rules

3.1 Derivatives of Polynomials and Exponential Functions

3.2 The Product and Quotient Rules

3.3 Derivatives of Trigonometric Functions

3.4 The Chain Rule

3.5 Implicit Differentiation (*Including Derivatives of Inverse Trigonometric Functions*)

3.6 Derivatives of Logarithmic Functions

3.7 (*Optional*) Rates of Change in the Natural and Social Sciences

3.8 (*Optional*) Exponential Growth and Decay

3.9 Related Rates

3.10 Linear Approximation and Differentials

3.11 (*Optional*) Hyperbolic Functions

Chapter 4 Applications of Differentiation

4.1 Maximum and Minimum Values

4.2 The Mean Value Theorem

4.3 How Derivatives affect the Shape of a Graph

4.4 Indeterminate Forms and l'Hospital's Rule

Omit Sections 4.5 Summary of Curve Sketching & 4.6 Graphing with Calculus and Calculators.

4.7 Optimization Problems

4.8 (*Optional*) Newton's Method

4.9 Antiderivatives

Chapter 5 Integrals

5.1 (*Optional*) Area and Distance

5.2 The Definite Integral

5.3 The Fundamental Theorem of Calculus

5.4 Indefinite Integrals and the Net Change Theorem

5.5 The Substitution Rule

Chapter 6 Applications of Integration

6.1 Areas between curves

6.2 Volumes

6.3 Volumes by Cylindrical Shells

6.4 Work

6.5 Average Value of a Function

Learning Outcomes: Upon completion of the course you should be able to:

1. Compute limits of elementary functions at finite points and at infinity
2. Determine horizontal and vertical asymptotes of elementary functions
3. Determine the derivative of a function by using the definition

4. Compute the derivative of any function by using the basic rules
5. Determine the main geometric features, tangent lines, monotonicity intervals, relative extrema, inflection points, of elementary functions of one variable
6. Apply the derivative to solve problems about velocity, acceleration, related rates, and optimization
7. Determine antiderivatives and indefinite integrals
8. Compute Riemann sums
9. Compute Riemann integrals by using the Fundamental Theorem of Calculus and the Substitution Rule
10. Apply the Riemann integral to compute areas, net changes, volumes, work, and average value

Homework Assignments and Exams

- A homework assignment will be given every week. It will be posted every Monday, and it will be due Sunday. The problems will be taken from the covered sections in the textbook.
- Weekly practice exams will be due Wednesday.
- Exams in class: Exam 1, after Week2; Exam 2, after Week5; Exam 3, after Week8; Exam 4, after Week 11; Exam 5, during final exam time.

Grading Policy

- Attendance 5%
- Homework Assignments 20 %
- Practice quizzes 25%
- Exams 50%

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	%

Calculators-2

I recommend that you should have a graphing calculator. TI-83 or TI-84, any version, these are the most frequently used models by students. You can use these calculators during exams.