

# Syllabus for Math 227, Fall 227

## Welcome

I am delighted to welcome everybody to Math 227, Calculus III, 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

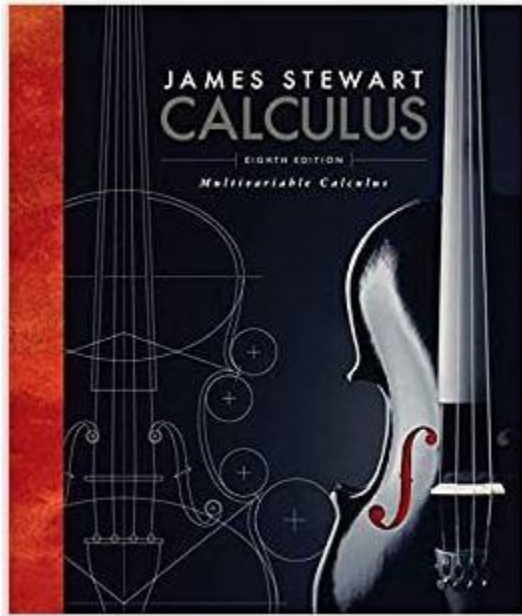
- Name: Dr. Robert Kreczner
- To contact me please use only this email: [rkeczne@uwsp.edu](mailto:rkeczne@uwsp.edu)
- Important: When sending me an email, please include Math 227 in its subject line.
- My office is D351, in Science Building

## Office Hours

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

# Textbook

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



## What We will Study

**Course Description:** Introduction to solid analytic geometry; parametric and polar equations; vectors; limits and differentiation of functions of several variables; multiple integrals using different coordinate systems; applications pertaining to covered topics.

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

1. Use vectors in the plane or space to solve geometric problems about points, lines, and planes
2. Compute derivatives and integrals, and provide their interpretations for vector functions in space
3. Solve problems regarding motion, velocity, and acceleration, in space
4. Compute arc length and curvature of curves in space
5. Compute limits of functions of several variables
6. Determine the continuity of functions of several variables
7. Compute partial derivatives, gradients, and directional derivatives of functions of several variables
8. Determine a tangent plane for surfaces in space defined by explicit, implicit, and parametric equations

9. Apply different versions of the Chain Rule to compute derivatives of functions of several variables.
10. Compute maxima and minima of functions of several variables
11. Compute double integrals over various regions in a plane using Cartesian and polar coordinates
12. Compute triple integrals over various regions in space using Cartesian, Cylindrical, and Spherical coordinates
13. Vector fields, line integrals, Fundamental Theorem of Line Integrals, Green's Theorem, Curl, Divergence, Stoke's Theorem, Divergence Theorem.

The above objectives align with the following Program Learning Outcomes of the Department of Mathematical Sciences:

- Problem Solving – Students can apply problem-solving techniques in new situations.
- Mathematical Techniques – Students will demonstrate a set of mathematical techniques and be able to use them in suitable situations.
- Patterns – Students can recognize, characterize, and generalize patterns using mathematical language.
- Communication – Students can accurately interpret, clearly write, and orally express mathematical concepts in a variety of settings. This includes mathematical terminology, mathematical theorem, and mathematical proofs.

### Tentative Weekly Schedule

Week	Text Sections
1	12.1 - 12.3
2	12.4 - 12.5
3	12.6
4	13.1-13.3
6	13.4

7	14.1, 14.2
8	14.2, 14.3
9	14.4, 14.5
10	14.6, 14.7
11	15.1 - 15.3
12	15.4, 15.5, 15.6
13	15.7, 15.8, 15.9
14	16.1, 16.2, 16.3, 16.4, 16.5
15	16.7, 16.8, 16.9

## 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

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.