Math 227, Section 1 - Spring 2022 Syllabus

Professor:	Dr. Andy Felt	Office:	Sci. D355
Office Hours:	M, T, W, Th 2:00 – 2:50 p.m.	Phone:	none
(zoom available)	or by arrangement	email:	afelt@uwsp.edu

Class Meetings: T, W, R, F, 8:00–8:50, Sci. A208.

Text: *Multivariable Calculus*, 8th ed., by Stewart, ISBN 9781305266643, available from UWSP Text Rental.

Course Canvas Page: https://uws.instructure.com/courses/480522

Calculators and Computers: A calculator will likely be necessary in this course, but not any particular one.

Prerequisites: Math 95

Fundamental Skills to be Learned:

- Recognizing real life situations where mathematical models apply.
- Translating the real life situations into mathematical models.
- Solving the mathematical model.
- Interpreting the solution in the context of the real life situation.

Grading:

Homework Assignments	23%
Class Participation	2%
3 Exams	50%
Final Exam (Comprehensive)	25%

This many points gets you	⇒	at least this grade
92%	⇒	A,
90%	⇒	A−,
88%	⇒	B+,
82%	⇒	B, etc.

Homework: Assignments should have the following format:

- Name, section, assignment, date on first page
- Uploaded to Canvas as a single pdf document

The grade for each assignment will include 20% based on accuracy and quality of written communication. Examples on this topic are given in Assignment 0. *No late homework is accepted for any reason.* Usually, there will be a class day between the day homework is assigned and the day it is due. Assignments are due at the beginning of class on the day they are due. The lowest three will be dropped.

Exams: Exams will test your ability to solve problems and understand concepts from lecture and the books. Exams must be ONLY your own work. Calculators, notes, and other materials may not be used on exams.

Help: Everybody needs help at some point. The key is to *get help right away* when you need it. Here are some ways to get help:

- ask a question in class;
- ask me during office hours;
- ask me in an email;
- the STEM Tutoring Room (CBB 190) provides free drop-in help for students in this course;

- the Tutoring and Learning Center has two kinds of help available; see `https://www.uwsp.edu/tlc/Pages/dropInTutoring.aspx` and `https://www.uwsp.edu/tlc/Pages/Mathandscischedules.aspx` for more information.

Disability Accommodations: Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. All accommodations must be approved through Disability Services, located at 609 Learning Resources Center or `https://www.uwsp.edu/datc/Pages/default.aspx`.

General Course Policies:

- Cell phones, computers, and other technology should be turned off during class and exam times, except when explicitly told so by the instructor.
- Everyone becomes ill sometimes. When illness or other emergencies require absence from class, I expect you to contact me immediately, preferably by email. I expect you to try to keep up with what is being taught by getting notes from a friend and doing the homework.
- **Academic Dishonesty:** You may discuss homework assignments with each other, and you may seek help from the instructor and tutor. However, we want you to become an independent problem solver. Therefore, you must limit the amount of outside help you receive. You must not copy any part of another person's work, and you must not share any part of your work with others. If there is *any* doubt about the amount of help given or received, you should consult with the instructor before submitting the assignment. Please see `https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx` to read about your rights and responsibilities as a student, and Chapter 14 (at that page) to read about Wisconsin's academic misconduct code.
- The course materials and recordings are the property of the instructor, and may not be copied or recorded without the instructor's permission. Students may not copy or share course materials, answers, or recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement.

Tentative Calendar

Week of	Approximate Coverage
Jan 24	Review 12.1–12.6: vectors, dot products, surfaces 12.4: Cross product
Jan 31	12.5: Equations of lines and planes 13.1: Vector functions and space curves 13.2: Derivatives and integrals of vector functions
Feb 7	13.3: Arc length and curvature 13.4 Motion in space
Feb 14	14.1: Functions of several variables 14.2: Limits and continuity 14.3: Partial derivatives
Feb 21	Exam I 14.4: Tangent planes and linear approximations
Feb 28	14.5: The chain rule 14.6: Directional derivatives and the gradient vector 14.7: Maximum and minimum values
Mar 7	14.8: Lagrange multipliers 15.1: Double integrals over rectangles
Mar 14	15.2: Double integrals over general regions 15.3: Double integrals in polar coordinates
Mar 28	15.4: Applications of double integrals 15.5: Surface area Exam II
Apr 4	15.6: Triple integrals 15.7: Triple integrals in cylindrical coordinates
Apr 11	15.8: Triple integrals in spherical coordinates 15.9: Change of variables in multiple integrals
Apr 18	16.1: Vector fields 16.2: Line integrals 16.3: Fundamental theorem for line integrals
Apr 25	16.4: Green's theorem 16.5: Curl and divergence
May 2	16.6: Parametric surfaces and their areas 16.7: Surface integrals Exam III
May 9	16.8: Stokes' theorem 16.9 The divergence theorem
Finals	Tuesday, 17 May Final Exam 2:45–4:45