

Math 225 –Calculus III Section U015 (4 CR)
The University of South Dakota
Fall 2009
MTRF 1:00-1:50 P.M. 305-Slagle

CONTACT INFORMATION:

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COURSE DESCRIPTION:

This course is a continuation of the study of calculus, including an introduction to vectors, vector calculus, partial derivatives, and multiple integrals.

PREREQUISITE: Math 125 Calculus II

INSTRUCTIONAL METHOD: Lecture/Discussion.

COURSE REQUIREMENTS:

- **TEXTBOOK:** *Calculus*, Sixth Edition by James Stewart
- **Calculator:** A graphing calculator is required for the course.

EVALUATION PROCEDURES:

HOMEWORK/QUIZZES: Homework will be assigned each day for your practice in mastering the material. There will be weekly quizzes/, three to four examinations, and a comprehensive final exam. Quizzes are unannounced and you may have more than one a week. There is no make-up for missed quizzes, please do not ask.

CLASS ATTENDANCE: Class attendance is required, if you are absent for more than 10% of the class periods you will not qualify for the final grade curve. You are responsible for the material covered in class.

EXAMS: Attendance is required at all exams. We will have an exam for every chapter. The chapter exams will be announced at least one week in advance before the exams.

The comprehensive final exam is scheduled for 10:00 AM-12:00 noon. Wednesday, December 16, 2009. This time is common for most of the math sections and it is unchangeable.

GRADING:

Category	Weight	Scale	
Quizzes	20 %	90 % -100%	A
Exams	60 %	80 % - 89%	B
Final Exam	20 %	70 % - 79 %	C
		60 % - 69 %	D
		BELOW 60 %	F

IMPORTANT DATES:

- **THURSDAY, SEPTEMBER 10, 2009** is the last day to drop a class without paying in full for the course and nothing showing on your transcript.
- **MONDAY, NOVEMBER 16, 2009** is the last day to withdraw from a class with a “W” showing on your transcript.

FREEDOM IN LEARNING:

Under Board of Regents and University policy student academic performance may be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. Students who believe that an academic evaluation reflects prejudiced or capricious consideration of student opinions or conduct unrelated to academic standards should contact the dean of the college or school that offers the class to initiate a review of the evaluation.

CHEATING/PLAGIARISM (the official College of Arts and Sciences policy follows):

The College of Arts and Sciences considers plagiarism, cheating, and other forms of academic dishonesty inimical to the objectives of higher education. The College supports the imposition of penalties on students who engage in academic dishonesty, as defined in the “Conduct” section of The University of South Dakota Student Handbook.

No credit can be given for a dishonest assignment. At the discretion of the instructor, a student caught engaging in any form of academic dishonesty may be:

- a. Given a zero for that assignment.
- b. Allowed to rewrite and resubmit the assignment for credit.
- c. Assigned a reduced grade for the course.
- d. Dropped from the course.
- e. Failed in the course.

DISABILITY SERVICES STATEMENT:

Any student who feels s/he may need academic accommodations or access accommodations based on the impact of a documented disability should contact and register with Disability Services during the first week of class. Disability Services is the official office to assist students through the process of disability verification and coordination of appropriate and reasonable accommodations. Students currently registered with Disability Services must obtain a new accommodation memo each semester.

Ernetta L. Fox, Director
Disability Services, Room 119 Service Center
(605)677-6389
Web Site: www.usd.edu/ds
E-mail: dservices@usd.edu

COURSE GOALS: This class fulfills the following Goals of the South Dakota System General Education Requirements:

BOR Goal #5. Students will understand and apply fundamental mathematical processes and reasoning.

SLO(5.1) As a result of taking this course students will be able to use mathematical symbols and mathematical structure to model and solve real world problems.

- Students ability to use mathematical symbols and structure from calculus II (Vectors, Surfaces, Partial derivatives and Optimization) that are used in solving real world problems will be assessed using quizzes, exams, and a final.

SLO(5.2) As a result of taking this course students will demonstrate appropriate communication skills related to mathematical terms and concepts.

- Communications skills will be assessed via a written report of the group project that would be similar to one turned in to an employer at a job setting.

SLO(5.3) As a result of taking this course students will demonstrate the correct use of quantifiable measurements of real world situations.

- Correct units are applicable to most story problems in the text that are similar to problems that arise in the real world and student understanding will be assessed using quizzes, exams, and a final exam.

Tentative Course Outline/Schedule: The time spends in each topic is variable. There are many factors that can impact what material is discussed in a class session.

Day	Date	Session No.	Material
Tuesday	Sept. 1	1	Introduction to the course. Section 13.1 Three-Dimensional Coordinates Systems
Thursday	Sept. 3	2	Section 13.2 Vectors
Friday	Sept. 4	3	Section 13.3 The Dot Product
Monday	Sept. 7	Holiday	Labor Day
Tuesday	Sept. 8	4	Section 13.4 Cross product
Thursday	Sept. 10	5	Section 13.4 Continued
Friday	Sept. 11	6	Section 13.5 Equations of Lines and Planes
Monday	Sept. 14	7	Section 13.5 Continue
Tuesday	Sept. 15	8	Section 13.6 Quadratic Surfaces
Thursday	Sept. 17	9	Review for test I. Students bring the questions.
Friday	Sept. 18	10	Test I: Chapter 13.
Monday	Sept. 21	11	Section 14.1 Vector Functions and Space Curves
Tuesday	Sept. 22	12	Section 14.2 Derivatives and Integrals of Vector Functions
Thursday	Sept. 24	13	Section 14.2 Continue
Friday	Sept. 25	14	Section 14.3 Arc Length and Curvature

Monday	Sept. 28	15	Section 14.3 Continue
Tuesday	Sept. 29	16	Section 14.4 Motion in Space: Velocity and Acceleration
Thursday	Oct. 1	17	Section 14.4 Continue
Friday	Oct. 2	18	Review Session for test II
Monday	Oct. 5	19	Test II: Chapter 14
Tuesday	Oct. 6	20	Section 15.1 Function of Several Variables
Thursday	Oct. 8	21	Section 15.2 Limit and Continuity
Friday	Oct. 9	22	Section 15.2 Continue
Monday	Oct. 12	Holiday	Native American day
Tuesday	Oct. 13	23	Section 15.3 Partial Derivatives
Thursday	Oct. 15	24	Section 15.3 Continued
Friday	Oct. 16	25	Section 15.4 Tangent Planes and Linear Approximations
Monday	Oct. 19	26	Section 15.4 Continued
Tuesday	Oct. 20	27	Section 15.5 The Chain Rule
Thursday	Oct. 22	28	Section 15.5 Continued
Friday	Oct. 23	29	Section 15.6 Directional derivatives and the Gradient Vector
Monday	Oct. 26	30	Section 15.6 Continued
Tuesday	Oct. 27	31	Review Session for test III
Thursday	Oct. 29	32	Test III
Friday	Oct. 30	33	Section 15.7 Maximum and Minimum
Monday	Nov. 2	34	Section 15.7 Continued
Tuesday	Nov. 3	35	Section 15.8 Lagrange Multipliers
Thursday	Nov. 5	36	Section 15.8 Continued
Friday	Nov. 6	37	Section 16.1 Double Integrals
Monday	Nov. 9	38	Section 16.2 Iterated Integrals
Tuesday	Nov. 10	39	Section 16.2 Continued
Thursday	Nov. 12	40	Section 16.3 Double Integrals over General Regions
Friday	Nov. 13	41	Section 16.3 Continued
Monday	Nov. 16	42	Section 16.4 Double Integrals in Polar Coordinates
Tuesday	Nov. 17	43	Section 16.4 Continued
Thursday	Nov. 19	44	Section 16.5 Applications of Double Integrals
Friday	Nov. 20	45	Review Session test IV
Monday	Nov. 23	46	Test IV
Tuesday	Nov. 24	47	Section 16.6 Triple Integrals
Thursday	Nov. 26	Holiday	Thanksgiving break
Friday	Nov. 27	Holiday	Thanksgiving break
Monday	Nov. 30	48	Section 16.6 Continue
Tuesday	Dec. 1	49	Section 16.7 Triple Integrals in Cylindrical Coordinates
Thursday	Dec. 3	50	Section 16.7 Continue
Friday	Dec. 4	51	Section 16.8 Triple Integrals in Spherical Coordinates
Monday	Dec. 7	52	Section 16.8 Continue
Tuesday	Dec. 8	53	Section 16.9 Change of Variables in Multiple Integrals
Thursday	Dec. 10	54	Section 16.9 Continue
Friday	Dec. 11	55	Review for the final exam.
Wednesday	Dec. 16	Exam	Final Exam: 10:00 AM – 12:00 (noon)