Course Syllabus
Calculus III
MATH 241-002 (CRN 42972)
Fall 2025

Class: MTWF 4:10 – 5:00 pm, Perkins Hall 218

Instructor: Dr. Brents Ring, iring@vols.utk.edu

Office: Monday – Wednesday 5:30 – 6:30 pm, Ayres Hall 236
Zoom (https://tennessee.zoom.us/j/3967735059)
Other times by appointment

Description: Calculus of functions in two or more dimensions. Includes solid analytic geometry, partial differentiation, multiple integration, and selected topics in vector calculus. Lecture: 4 hours. Credit: 4 hours.

Prerequisites: MATH 142 Calculus II or MATH 148 Honors Calculus II.

Textbook: *Calculus: Early Transcendentals*, 9th edition, by James Stewart, Daniel Clegg, and Saleem Watson. The online textbook may be accessed through Canvas by selecting the VolBooks Course Materials (VitalSource) tool. This textbook is part of the Total Access program which does not cost extra.

Calculator: Calculators may not be used on tests but may be used to assist with homework.

Grading: The letter grade will be assigned according to the following range and weights:

A	90 – 100
A-	87 – 89
B+	83 – 86
B	80 – 82
B-	77 – 79
C+	73 – 76
C	70 – 72
C-	67 – 69
D+	63 – 66
D	60 – 62
D-	57 – 69
F	0 – 56

Homework	20%
Attendance	5%
Quizzes	15%
Test I	15%
Test II	15%
Test III	15%
Test IV	15%
Total	100%

There is no extra credit in the course.

Homework: Homework consists of online assignments on WebAssign, which may also be accessed on Canvas. Students may give themselves one late homework extension within one week of the due date for each assignment. A 10% penalty on the uncompleted portion of the assignment will be assessed, and the homework must be completed within two days of initiating the automatic extension.

Attendance: Attendance will be taken daily and reported to the University via Canvas, which could impact financial aid or set an advisor alert. If a student has an absence verification from the Office of Student Life or a letter from a university organization, the student will not be counted absent. All verified absences and two unverified absences will be dropped. The attendance grade is a percentage of classes attended for the full class time.

Quizzes: Twelve one-problem quizzes will be given at the end of class on most Tuesdays. The two lowest quiz scores will be dropped. To take a makeup quiz, students must obtain an absence verification.

Tests: Four in-class tests will be given on the following chapters:

Test 1:	Calculus of Vector-Valued Functions	(Chapters 12 – 13)
Test 2:	Differentiation of Multidimensional Functions	(Chapter 14)
Test 3:	Integration of Multidimensional Functions	(Chapter 15)
Test 4:	Calculus of Vector Fields	(Chapter 16)

To take a makeup test without penalty, students must obtain an absence verification. Otherwise, a 20% penalty will be assessed for an unexcused makeup exam.

Final Exam: Friday, December 5, 10:30 am – 12:45 pm in Perkins Hall 218. The final exam is Test 4, covering only material from Chapter 16.

Outcomes: Upon completion of the course, students should be able to:

- write equations for lines and planes in space
- differentiate and integrate a vector function
- calculate length and curvature of a space curve
- calculate velocity and acceleration along a space curve
- find the partial derivative and total differential
- find tangent planes and linear approximations
- find the gradient vector and directional derivative
- find the maximum and minimum of a multidimensional function
- evaluate double and triple integrals in rectangular and other coordinates
- evaluate double and triple integrals using variable transformation
- find the area of a surface
- calculate line and surface integrals
- apply the theorems of Green, Stokes, and Gauss

Tutoring: Free tutoring is provided for all 100-level and most 200-level math courses and is available in The Math Place, located in the north commons on the second floor of Hodges Library. For detailed information about when tutoring is available for Math 241, please see https://math.utk.edu/the-math-place/.

Disability: The University of Tennessee, Knoxville, is committed to providing an inclusive learning environment for all students. If you anticipate or experience a barrier in this course due to a chronic health condition, a learning, hearing, neurological, mental health, vision, physical, or other kind of disability, or a temporary injury, you are encouraged to contact Student Disability Services (SDS) at 865-974-6087 or sds@utk.edu. An SDS Coordinator will meet with you to develop a plan to ensure you have equitable access to this course. If you are already registered with SDS, please contact me to discuss implementing accommodations included in your course access letter.

If the instructor finds it necessary to make informational changes (e.g. office hours, schedule adjustments) due to students' needs or unforeseen circumstances, students will be notified in writing/email of any such changes.

Class Outline: Tentative schedule is subject to change.

Week 1		
8/18	12.1	
8/19	12.2	
8/20	12.2	
8/22	12.3	
Week 2		
8/25	12.4	
8/26	12.5	Quiz 1
8/27	12.5	
8/29	12.6	
Week 3		
9/1	Labor Day	
9/2	13.1	Quiz 2
9/3	13.2	
9/5	13.3	
Week 4		
9/8	13.4	
9/9	13.4	Quiz 3
9/10	Review	
9/12	Test 1	
Week 5		
9/15	14.1	
9/16	14.1	Quiz 4
9/17	14.2	
9/19	14.3	
Week 6		
9/22	14.3	
9/23	14.4	Quiz 5
9/24	14.4	
9/26	14.5	
Week 7		
9/29	14.6	
9/30	14.6	Quiz 6
10/1	14.7	
10/3	14.8	
Week 8		
10/6	Fall Break	
10/7	Fall Break	
10/8	Review	
10/10	Test 2	
Week 9		
10/13	15.1	
10/14	15.1	Quiz 7
10/15	15.2	
10/17	15.3	
Week 10		
10/20	15.4	
10/21	15.4	Quiz 8
10/22	15.5	
10/24	15.6	
Week 11		
10/27	15.6	
10/28	15.7	Quiz 9
10/29	15.8	
10/31	15.9	
Week 12		
11/3	Review	
11/4	Election Day	
11/5	Test 3	
11/7	16.1	
Week 13		
11/10	16.2	
11/11	16.2	Quiz 10
11/12	16.3	
11/14	16.4	
Week 14		
11/17	16.5	
11/18	16.6	Quiz 11
11/19	16.6	
11/21	16.7	
Week 15		
11/24	16.7	
11/25	16.8	Quiz 12
11/26	Thanksgiving	
11/28	Thanksgiving	
Week 16		
12/1	16.9	
12/2	16.10	
12/3	Study Day	
12/5	Test 4 (10:30 – 12:45)	

8/25 Last day to withdraw from the class without a grade.
12/2 Last day to withdraw from the class with a grade of W.