Massasoit Community College

Instructor:
Office:
Email:
Phone:
Office Hours:

Course: Calculus III
Course Number: MATH223-XX
Semester:
Classroom:
Day and Time:

Course Description: This course is a continuation of MATH222 Calculus II. Topics include conic sections, polar coordinates, parametric equations, two- and three-dimensional vectors, differential calculus of several variables, multiple integration, and applications. Prerequisite: C- or higher in MATH222 Calculus II; waiver by placement testing results; or departmental approval.

Required Text and Materials:

1. Calculus: Early Transcendental Functions (custom textbook with EnhancedWebAssign access card), Larson/Edwards, 6th edition, Cengage, ISBN: 9781305000643.

   Your textbook should come packaged with a WebAssign access card. Homework assignments must be completed online in WebAssign. If you do not purchase your textbook through the bookstore, please make sure that it comes with a WebAssign access code.

2. A TI-Voyage 200 graphing calculator is required for this course. All assessments will assume that you have a graphing calculator. A TI-Voyage 200 can be rented through the library for a small fee. You may not use any other technologies, such as cell phones, iPods, tablets, laptops, etc. on in-class assessments. You also may not borrow/share calculators, or borrow mine.

Course Topics:

Chapter 10: Conics, Parametric Equations, and Polar Coordinates

Chapter 11: Vectors and the Geometry of Space

Chapter 12: Vector-Valued Functions

Chapter 13: Functions of Several Variables

Chapter 14: Multiple Integration

Chapter 15: Vector Analysis

Teaching Procedures: This course will be taught in a lecture/discussion format with ample opportunity for student questions. Generally, class will begin with a question and answer session on the most recent homework assignment. New material will then be presented in a lecture format and homework be assigned to reinforce the topics covered in class.

Instructional Objectives:

COURSE OUTCOMES	OUTCOMES ACTIVITIES
At the end of this course, students will be able to:	
Demonstrate an understanding of basic conic sections, plane curves, and parametric equations in order to solve application problems.	1. Identify parabolas, eclipses and hyperbolas. (CT,QS,R) 2. Find equation of parabolas, eclipses and hyperbolas. (CT,R,QS) 3. Graph a curve represented by parametric equations. (CT,R,QS) 4. Write the rectangular equation of a curve by eliminating the parameter. (CT,R,QS) 5. Find the set of parametric equations for a given rectangular equation. (CT,R,QS) 6. Solve slope and tangent line problems, arc length problems and area problems of curves given by parametric equations. (CT,R,QS)
Demonstrate an understanding of polar coordinates and their graphs.	1. Rewrite rectangular coordinates and equations in polar form and vice versa. (CT,R,QS) 2. Sketch the graph of an equation given in polar form. (CT,R,QS) 3. Find the slope of a tangent line to a polar graph. (CT,R,QS) 4. Identify several types of special polar graphs. (CT,R,QS)
Demonstrate an understanding of vectors.	1. Write vectors, perform basic vector operations, and represent vectors graphically. (CT,R,QS) 2. Plot points in a three-dimensional coordinate system and analyze vectors in space. (CT,R,QS) 3. Find the dot product and cross product of two vectors. (CT,R,QS)
Demonstrate an understanding of functions of two variables.	1. Find equations of lines and planes in space. (CT,R,QS) 2. Find the distances between points, planes, and lines in space. (CT,R,QS)

	3. Sketch the graph of a function of two variables. (CT,R,QS) 4. Find partial derivatives of a function of two variable. (CT,R,QS) 5. Use the Chain Rules for functions of several variables. 6. Evaluate an iterated integral. (CT,R,QS) 7. Use an iterated integral to find the area of a plane region and other applications. (CT,R,QS) 8. Use properties of double integrals. (CT,R,QS)
Demonstrate an understanding of vector fields and line integrals.	1. Sketch a vector field. (CT,R,QS) 2. Find the curl and divergence of a vector field. (CT,R,QS) 3. Write and evaluate a line integral. (CT,R,QS) 4. Use Green's theorem to evaluate a line integral. (CT,R,QS)

**Indicate the Core Competencies that apply to the outcomes activities and assessment tools: Critical Thinking (CT); Technology Skills (TS); Oral Communications (OC); Quantitative Skills (QS); Reading (R); Writing (W).

Basis for Student Grading: Grades for this course will be assigned as follows:

Grade	Average
A	93%-100%
A-	90%-92%
B+	87%-89%
B	83%-86%
B-	80%-82%
C+	77%-79%

Grade	Average
C	73%-76%
C-	70%-72%
D+	67%-69%
D	63%-66%
D-	60%-62%
F	0-59%

The grade you earn is the grade you will receive in this course. Grades are not negotiable. You will not be allowed to make up work, substitute alternative assignments, or submit extra assignments in order to improve your grade during the semester or after the semester ends.

Grades of incomplete are given only in situations when extenuating circumstances prevent a student from taking the final exam or fulfilling a specific requirement in the course. The grade of "I" cannot be used to give students additional time to complete course assignments in order to raise their grade.

Basis for Evaluating Student Performance: The grade for this course will be weighted based on the following categories:

- *Homework (10%)*: Homework will be assigned in WebAssign at the end of each section. It is due by the next class period.
- *Exams (60%)*: There will be four in-class exams given throughout the semester, approximately every 3 weeks. Exams must be taken during the regular class time and no make-up exams will be given. The lowest exam grade will be dropped. Your exam average will account for 60% of your final grade.
- *Final Exam (30%)*: The course will culminate in a cumulative final exam. It will be worth 30% of your final grade.

There is no extra credit available for this course.

Tentative Test Schedule/Assignment(s) Schedule:

Assignment:	Tentative Date:
Test 1	
Test 2	
Test 3	
Test 4	
Final Exam	

Attendance: Attendance for this course is mandatory. After the third absence, students will lose two points per absence thereafter from their final average. I will take attendance at the beginning of every class, and students not present at that time will be marked absent for the class, even if they show up late. If you must miss a regular class, you are still responsible for the material that was presented in class. The average student needs to attend all class meetings in order to be successful in this course.

Accommodations Statement: Massasoit's Disability Services office provides accommodations to students who qualify for services based on a documented disability. Students interested in accessing classroom or testing accommodations must contact Disability Services directly. In an effort to avoid any lapse in services, new and returning students are encouraged to contact Disability Services at the beginning of each semester to receive an Accommodation Letter for the current semester. Students on all campuses can contact Disability Services at 508-588-9100 X 2132 or by e-mail at DisabilityServices@massasoit.edu for further information or questions.

Title IX Statement: Massasoit Community College is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, stalking, or retaliation, we encourage you to report it to *Yolanda Dennis, Chief Diversity Officer and Title IX Coordinator, Office of Diversity and Inclusion, at 508-588-9100, x1309 or* ODI@massasoit.edu. While you may talk to a faculty member, understand that as a "responsible employee" of the College, the faculty member must report what you share to the College's Title IX Coordinator. On and off campus resources and interim measures are available to assist you. Information about both of these policies can be found at www.massasoit.edu/title-ix and www.massasoit.edu/eeo. We are here to support you.

Academic Integrity: Academic dishonesty will not be tolerated. Please see the following URL for more information on the college's policies on academic integrity:

http://www.massasoit.edu/academics/policies/academic-honesty/index