

West Los Angeles College

SLO Addendum

Course Name and Number MATH 263

Course Title CALCULUS III

Course Objectives (as stated in the Course Outline of Record)

1.
 - a. Describe Three-Dimensional Coordinate Systems.
 - b. Analyze Vectors.
 - c. Calculate The Dot Product.
 - d. Calculate The Cross Product.
 - e. Discuss Equations of Lines and Planes.
 - f. Describe Cylinders and Quadric Surfaces.

2.
 - a. Interpret Vector Functions and Space Curves.
 - b. Calculate Derivatives and Integrals of Vector Functions.
 - c. Compute Arc Length and Curvature.
 - d. Translate Motion in Space: Velocity and Acceleration.

3.
 - a. Contrast Functions of Several Variables.
 - b. Compute Limits and Continuity.
 - c. Analyze Partial Derivatives.
 - d. Describe Tangent Planes and Linear Approximations.
 - e. Discuss The Chain Rule.
 - f. Compute Directional Derivatives and the Gradient Vector.
 - g. Calculate Maximum and Minimum Values.
 - h. Describe and utilize Lagrange Multipliers.

4.
 - a. Compute Double Integrals over Rectangles.
 - b. Calculate Iterated Integrals.
 - c. Set-up Double Integrals over General Regions.
 - d. Translate Double Integrals in Polar Coordinates.
 - e. Apply Double Integrals.
 - f. Apply Triple Integrals.
 - g. Transform Triple Integrals into Cylindrical Coordinates.
 - h. Transform Triple Integrals into Spherical Coordinates.
 - i. Change of Variables in Multiple Integrals.

5.
 - a. Explain Vector Fields.
 - b. Discuss Line Integrals.
 - c. Restate The Fundamental Theorem for Line Integrals.
 - d. Apply Green's Theorem.
 - e. Explain Curl and Divergence.
 - f. Calculate Parametric Surfaces and Their Areas.
 - g. Calculate Surface Integrals.
 - h. Explain and utilize Stokes' Theorem.
 - i. Apply The Divergence Theorem.

6.
 - a. Recognize and calculate Second-Order Linear Equations.
 - b. Recognize and solve Nonhomogeneous Linear Equations.
 - c. Apply Second-Order Differential Equations.
 - d. Compute Series Solutions.

<p align="center"><u>Course SLO</u></p> <p>One sentence that describes a major piece of knowledge, skill, or ability that students can demonstrate by the end of the course</p> <p><i>Finish the sentence, "At end of the course, the successful student will be able to... "</i></p>	<p align="center"><u>Assessment Method</u></p> <p>Major assignment, project or test used to demonstrate or apply outcome</p> <p><i>Remember to have a mix of qualitative and quantitative assessment methods.</i></p>	<p align="center"><u>Criterion Level</u></p> <p>Reflects satisfactory performance on the SLO</p> <ul style="list-style-type: none"> • <i>At least X percent of students achieve this course SLO.</i> • <i>All students achieve at least the Y level on this SLO.</i> • <i>At least X percent of students achieve the Y level on this course SLO.</i>
<p>1. Use tools such as directional derivatives, the gradient, and optimization to analyze multivariable models of real-world applications.</p>	<p>Students will answer questions embedded on a final exam.</p>	<p>Each question will be answered correctly by 60% of students.</p>
<p>2. Formulate and evaluate integrals of multivariable functions over a variety of regions.</p>	<p>Students will answer questions embedded on a final exam.</p>	<p>Each question will be answered correctly by 75% of students.</p>
<p>3. Use the properties and operations of vectors in a variety of settings, including parameterization of surfaces, applications to physics, and vector fields.</p>	<p>Students will answer questions embedded on a final exam.</p>	<p>Each question will be answered correctly by 50 % of students.</p>
<p>4.</p>		

Mapping to Program SLO and Institutional SLOs

Please indicate with an "X" in the appropriate boxes below, the Course SLO mapping to the corresponding Program and Institutional SLO(s).

Course SLO	Program SLO												Institutional SLO									
	1	2	3	4	5	6	7	8	9	10	11	12	A	B	C	D	E	F	G	H	I	
#1			X	X									X		X			X				
#2		x	X	X									X		X			X				
#3			x	x									X		X							
#4																						

Course SLO Acknowledgements

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 Date

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 Date

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 Judith-Ann Friedman

 Date

 Curriculum Committee Chair
 Judy Chow

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 Academic Senate President
 Adrienne Foster

 Date

 VP of Academic Affairs (initial) and College President

 Date