

# Math 323 Calculus III

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## Sections

Section Number	Instructor	Meeting times
01	Charles Evans	MWF 8:00-9:30 OH G102
02	Charles Evans	MWF 9:40-11:10 OH G102
03	Vaidehee Thatte	MWF 11:20-12:50 OH G102
04	Vaidehee Thatte	MWF 1:10-2:40 OH G102
05	Walter Carlip	MWF 2:50-4:20 OH G102
06	William Kazmierczak	MWF 4:40-6:10 OH G102
07	Changwei Zhou	MWF 4:40-6:10 SW 214

Course coordinator: William Kazmierczak

## Textbook:

*Multivariable Calculus*, Eighth Edition, James Stewart  
You will need the online code.

- Chapter 12: Vectors and the Geometry of Space
- Chapter 13: Vector Functions
- Chapter 14: Partial Derivatives
- Chapter 15: Multiple Integrals
- Chapter 16: Vector Calculus

## Prerequisite:

Math 222, Math 227, or Math 230

## Course Objectives:

Develop theoretical and practical skills for multivariable calculus.

## Evaluation:

The final grade will be determined as follows:

- Test 1, 15% (Week 5)
- Test 2, 15% (Week 10)
- Test 3, 15% (Week 14)
- Quizzes, 15%

- Homework, 5%
- Final, 35% (TBD)\*

## Tentative Schedule:

(subject to change and adjustment at your instructor's discretion)

Week	Dates	Sections	Topics
1	Aug 22-24	12.1	3-D Coordinates
		12.2	Vectors
2	Aug 27-31	12.3	Dot Products
		12.4	Cross Products
		12.5	Lines and Planes
3	Sep 3-7		No Class: Labor Day Holiday
		12.6	Quadratic Surfaces
		13.1	Vector Valued Functions
4	Sep 10-14		No Class: Rosh Hashanah Holiday
		13.2	Derivatives of Vector Valued Functions
		13.3	Arc Length
5	Sep 17-21	13.4	Motion in Space
			No Class: Yom Kippur Holiday
			Exam 1 Review: Chapters 12 and 13
6	Sep 24-28	Exam 1	Chapters 12 and 13
		14.1	Functions of Several Variables
		14.2	Limits and Continuity
7	Oct 1-5	14.3	Partial Derivatives
		14.4	Tangent Planes and Linear Approximation
		14.5	The Chain Rule
8	Oct 8-12	14.6	Directional Derivatives and the Gradient
		14.7	Maxima and Minima
			No class: Fall Break
9	Oct 15-19	14.8	Lagrange Multipliers
		15.1	Double Integrals over Rectangles
		15.2	Double Integrals over General Regions
10	Oct 22-26	15.3	Double Integrals in Polar Coordinates
			Exam 2 Review: Chapter 14 and Sections 15.1 - 15.3
		Exam 2	Chapter 14 and Sections 15.1 - 15.3
11	Oct 29-Nov 2	15.6	Triple Integrals
		15.7	Triple Integrals in Cylindrical Coordinates
		15.8	Triple Integrals in Spherical Coordinates
12	Nov 5-9	15.9	Change of Variables
		16.1	Vector Fields
		16.2	Line Integrals

13	Nov 12-16	16.3	The Fundamental Theorem of Line Integrals
		16.4	Green's Theorem
		16.5	Curl and Divergence
14	Nov 19-23		Review for Exam 3: Sections 15.4 - 15.9 and 16.1 - 16.5
		Exam 3	Sections 15.4 - 15.9 and 16.1 - 16.5
		16.6	Parametric Surfaces
15	Nov 26-30	16.7	Surface Integrals
			No Class: Thanksgiving Holiday
			No Class: Thanksgiving Holiday
16	Dec 3-7	16.8	Stokes' Theorem
		16.9	The Divergence Theorem
			Review
	Dec 10-14		Cumulative Final Exam TBA

## Sample Final Examinations:

Sample examinations can be found at the following address:

[http://people.math.binghamton.edu/borisov/documents/Calculus\\_3\\_Sample\\_Exam\\_Collection/MATH323\\_Sample\\_Exams.html](http://people.math.binghamton.edu/borisov/documents/Calculus_3_Sample_Exam_Collection/MATH323_Sample_Exams.html)

## Help Outside of Class:

Your instructor will inform you of their office hours for your section.

## Disability Services:

If you need accommodations to to a disability, please see your instructor with documentation from Services for Students with Disabilities. We will do our best to accommodate your needs.

## Academic Honesty:

Cheating is considered a very serious offense. According to the University Catalog, cheating consists of: "Giving or receiving unauthorized help before, during or after an examination". The full strength of Binghamton Academic Honesty Policy will be applied to anyone caught cheating. This may include failing the course, and further disciplinary action.

## Other important information

The final is comprehensive and mandatory. There will be no make-up for the final exam except for extraordinary circumstances. Failure to take the final will result in a grade of F for the class. University photo ID is required to take the exam. Please note that no calculators are allowed during exams.

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