

Spring 2011 Course Syllabus: Math 335

Course Title:	Vector Analysis
Textbook:	Vector Calculus (5 th ed.) by J. Marsden & A. Tromba
Prerequisites:	Math 211 or Math 213 with a grade of C or better – or – placement by performance on standardized entrance examinations

Course Outline				
Date	Lect.	Sections	Topic	Assignment
1/18	1	1.1 – 1.3	2D and 3D Vectors	Select Probs.
1/20	2	1.1 – 1.3	Inner Product, Length, Determinants, Cross Product	Select Probs.
1/25	3	1.4	Cylindrical and Spherical Coordinates	Select Probs.
1/27	4	2.1, 2.2	Real-valued Functions: Limits and Continuity	Select Probs.
2/1	5	2.4, 2.5	Paths, Curves and Derivatives	Select Probs.
2/3	6	2.6	Gradients and Directional Derivatives	Select Probs.
2/8	7	3.1, 3.2	Iterated Partial Derivatives and Taylor's Theorem	Select Probs.
2/10	8	4.2, 4.3	Arc Length, Vector Fields	Select Probs.
2/15	9		Review for Exam #1	
2/17	10		EXAM #1	
2/22	11	4.4	Divergence and Curl	Select Probs.
2/24	12	5.2, 5.3	Double Integrals	Select Probs.
3/1	13	5.4, 5.5	Iterated Integrals and Triple Integrals	Select Probs.
3/3	14	6.1	Geometry of Maps	Select Probs.
3/8	15	6.2, 6.3	Change of Variables Formula, Applications	Select Probs.
3/10	16	6.4	Improper Integrals	Select Probs.
3/13-19	*	*	SPRING RECESS	*
3/22	17		Review for Exam #2	
3/24	18		EXAM #2	
3/29	19	7.1, 7.2	Path and Line Integrals	Select Probs.
3/31	20	7.3	Parametrized Surfaces	Select Probs.
4/5	21	7.4, 7.5	Surface Area and Integration of Scalar Fields on Surfaces	Select Probs.
4/7	22	7.6, 7.7	Surface Integrals of Vector Fields, Applications	Select Probs.
4/12	23	8.1, 8.2	Theorems of Green and Stokes	Select Probs.
4/14	24	8.1, 8.2	Differential Equations, Applications	Select Probs.
4/19	25	8.3	Conservative Fields	Select Probs.
4/21	26	8.4	Gauss's Theorem	Select Probs.
4/26	27	8.4	More Applications of Vector Integral Theorems	
4/28	28		Review for FINAL EXAM	

IMPORTANT DATES	
FIRST DAY OF SEMESTER	January 18, 2011
Exam I	February 17, 2011
Exam II	March 24, 2011

LAST DAY TO WITHDRAW	March 28, 2011
LAST DAY OF CLASSES	May 3, 2011
FINAL EXAM PERIOD	May 5 - 11, 2011

Grading Policy

Assignment Weighting	
Homework	15 %
Exam I	25 %
Exam II	25 %
Final Exam	35 %

Tentative Grading Scale	
A	90 -- 100
B+	85 -- 89
B	75 -- 84
C+	70 -- 74
C	60 -- 69
D	50 -- 59
F	0 -- 60

Course Policies (optional)

Important Departmental and University Policies

- [Academic Integrity Code is Strictly Enforced](#)
- [Prerequisites Requirements are Enforced](#)
- [Attendance is Required in Lower-Division Courses](#)
- [Exam Policies \(No Make Up Exams and More\)](#)
- [Cell Phone and Pager Use Prohibited in Class](#)
- [Drop Date \(March 28, 2011\) is Strictly Observed](#)
- [Complete DMS Course Policies \(math.njit.edu/students/undergraduate/policies_math\)](http://math.njit.edu/students/undergraduate/policies_math)

Prepared by Prof. Denis Blackmore, January 19, 2011