

Fall 2011 Course Syllabus: Math 213-H01 (Calculus IIIB-Honors)

Textbook: Thomas' Calculus Early Transcendentals, 12e Media Upgrade (Bundled w/ MML SAK), by Thomas, Weir & Hass. Pub: Addison-Wesley, Pearson Education, ISBN-13: 978-0321-62718; ISBN-10: 0-321-62718-0

Website: http://web.njit.edu/~matveev/Courses/M213_F11/

Pre-requisites: Math 112 with a grade of A or Math-112H with a grade of B or higher

Lecture	Sections	Topic	Assignments
1 (9/1)	12.1-12.2	Three-Dimensional Coordinate Systems and Vectors	p.681, p.690
2 (9/2)	12.3-12.4	The Dot and Cross Products	pp.698, 704
3 (9/6)	12.5	Lines and Planes in Space	p.711
4 (9/8)	12.5-12.6	Lines and Planes (continued) Cylinders and Quadric Surfaces	p.711, p.718
5 (9/9)	12.6	Quadric Surfaces (continued)	p.718
6 (9/13)	13.1	Curves in Space and Their Tangents	p.731
7 (9/15)	13.2	Integrals of Vector Functions; Projectile Motion	p.738
8 (9/16)	13.2 13.3	Projectile Motion (continued) Arc Length in Space	p.745
9 (9/20)	REVIEW for Exam #1		
10 (9/22)	13.4 13.5	Curvature and Normal Vectors Tangential and Normal Components of Acceleration	pp.745, 756
11 (9/23)	14.1	Functions of Several Variables	p.773
12 (9/27)	14.2	Limits and Continuity in higher Dimensions	p.779
13 (9/29)	14.3	Partial Derivatives	p.790
14 (9/30)	14.4	The Chain Rule	p.800
15 (10/4)	14.5	Directional Derivative and Gradient Vectors	p.808
16 (10/6)	14.6	Tangent Planes and Differentials	p.817
17 (10/7)	14.7	Extreme Values and Saddle Points	p.827
18 (10/11)	14.8	Lagrange Multipliers	p.829
19 (10/13)	14.9	Taylor's Formula in Two Variables	p.842
20 (10/14)	15.1	Double and Iterated Integrals over Rectangles	p.858
21 (10/18)	15.2	Double Integrals over General Regions	p.865
22 (10/20)	15.3	Area by Double Integration	p.870
23 (10/21)	15.4	Double Integrals in Polar Form	p.875
24 (10/25)	REVIEW for Exam #2		
25 (10/27)	15.5	Triple Integrals in Rectangular Coordinates	p.883
26 (10/28)	15.6	Moments and Center of Mass	p.887
27 (11/1)	15.7	Triple Integrals in Cylindrical Coordinates	p.901
28 (11/3)	15.8	Substitutions in Multiple Integrals	p.912
29 (11/4)	16.1	Line Integrals	p.923
30 (11/8)	16.2	Vector Fields and Line Integrals: Work, Circulation, and Flux	p.935
31 (11/10)	16.2-16.3	Line Integrals and Conservative Fields	p.935, p.939
32 (11/11)	16.3	Path Independence, Conservative Fields, and Potential Functions	p.939
33 (11/15)	REVIEW for Exam #3		
34 (11/17)	16.4	Green's Theorem in the Plane	p.958
35 (11/18)	16.4	Green's Theorem in the Plane (continued)	p.958
36 (11/22)	16.5	Surfaces and Area	p.969
11/24-11/25 Thanksgiving recess			
37 (11/29)	16.6	Surface Integrals	p.978
38 (12/1)	16.7	Stokes Theorem	p.988
39 (12/2)	16.7	Stokes Theorem	p.988
40 (12/6)	16.8	The Divergence Theorem	p.999
41 (12/8)	16.8	The Divergence Theorem	p.999
42 (12/9)	REVIEW for Final Exam		

Grading Policy: The final grade in this course will be determined as follows:

▪ Homework & Quizzes:	22%
▪ Common Midterm Exam I:	16%
▪ Common Midterm Exam II:	16%
▪ Common Midterm Exam III:	16%
▪ Final Exam:	30%

A	88-100	C	64-78
B+	82-87	D	55-63
B	76-81	F	0-54
C+	70-75		

Course Policies

Homework and Quiz Policy: Homework will be assigned at least twice a week; part of the homework will be a usual hand-in assignment, and part of the homework will be given online, via MyMathLab. In order to do the assignments you need to have a student access code. You can get an access code with a new book purchase that is bundled with My MathLab or by buying the code separately at the campus bookstore. If you buy a new book from another source **make sure it is bundled with My MathLab**. You will need the following course code to access the homework assignments (**matveev39198**). A quiz based on the homework problems will be given each week, online or in class. The homework and quizzes are intended to develop your problem-solving skills and to prepare you for the exams. **The quiz and homework grades will be a significant component of your course grade.**

How to get started with MyMathLab:

- http://m.njit.edu/Undergraduate/UG-Files/MML_GettingStarted.pdf
- <http://m.njit.edu/Undergraduate/UG-Files/NJIT-MML-studentregistration.pdf>

Attendance: Your absences from class will inhibit your ability to fully participate in class discussions and problem solving sessions and, therefore, affect your grade.

Exams: There will be three common midterm exams during the semester and one comprehensive final exam during the final exam week. Exams are held on the following days:

Exam 1:	September 21, 2011
Exam 2:	October 26, 2011
Exam 3:	November 16, 2011
Final Exam Week:	December 14-20, 2011

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 (November 3, 2011) is Strictly Observed
- Complete DMS Course Policies (math.njit.edu/students/undergraduate/policies_math)