

CALCULUS II

640:136:C1, Summer 2009

COURSE INFORMATION

Time: MTWTh, 10:00-11:50 May 26th through July 16th

Location: SEC 207

Course Website: <http://www.math.princeton.edu/~jgevertz/math136.html>

INSTRUCTOR INFORMATION

Instructor: Jana Gevertz

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Office: Hill 611

Cell Phone: (732) 740-7005

Office Hours: MTWTh 12:00-1:30

INSTRUCTIONAL MATERIALS

Required Text: Calculus, Volume 2 (custom-made for Rutgers) by Strauss, Bradley and Smith. Book is available at the Rutgers University Bookstore. The text itself sells for \$95.15. Bundled with a solutions manual and study guide, it sells for \$99.00. I HIGHLY recommend getting the bundle with the solutions manual for the additional \$4.15.

Required Technology: TI-83/84 or equivalent (no calculator with QWERTY keyboard)

COURSE OUTLINE

1. The integral and its applications
2. Integration techniques
3. Sequences
4. Series
5. Differential equations
6. Functions of several variables
7. Optimization

COURSE POLICIES

Class structure: The first part of class will be a lecture, typically ranging from 1 hour to 1 hour and 20 minutes. I expect to use the time that remains after lecture to either go over topics/problems that students are struggling with or to do a group project. This time will be more successfully utilized if students' are not shy about what they don't understand!

Attendance: Attendance will not be taken in class, although attendance is integral to a student's learning and for this reason is an important component in a student's grade (through participation).

Grading: The following rubric will be used to determine each student's final course grade:

Midterm 1	20%
Midterm 2	20%
Final	30%
Quizzes	10%
Homework	10%
Participation	10%

I do not intend to curve, as I expect the assignments to be fair. Extra credit may be sporadically given throughout the semester to help boost your grade.

Homework Policy: A list of suggested problems is provided at the end of the syllabus.

Although these will not be graded it is in your best interest to do all of these problems, particularly if you are struggling to understand the material. One required homework assignment will be collected and graded each week. Homework problems will serve one of three purposes: to reinforce the basic skills taught in the class, to learn to apply these skills to real-world problems and to learn to logically approach challenging problems related to the class material. Feel free to work on the problems with your classmates, provided your written work is your own.

Missed exams or assignments: Make-up quizzes will only be given, and late homework will only be accepted, provided you send me an email in advance with a valid explanation for missing class. I will drop the lowest quiz and homework grade. Examinations cannot be missed without a doctor's note or evidence of a family emergency.

Expectations of Instructor:

1. I will do my best to make the course understandable and meaningful for every student.
2. I will do my best to select relevant and interesting assignments to supplement the lectures.
3. I will do my best to provide valuable feedback to you on your work.
4. I will do my best to be available to each student who needs input/help.

Expectations of Students:

1. I expect you to attend every class.
2. I expect you to be prepared for every class by doing the homework assignments.
3. I expect you to put effort into understanding the course material.
4. I expect you to contact me if you have any difficulties with the course material.

Intended Lecture and Assignment Schedule:

Class Date	Reading Assignment	Topics Covered	Suggested Homework Problems	Assignment Due or Quiz to Take
T 5/26	5.1-5.4	REVIEW Antiderivative; Integration; Fundamental Theorem of Calculus	5.1: #1,3,5,11,12,13,19,22 5.2: #13,17,18,23 5.3: #3,4,17,18,27 5.4: #7,10,15,39,42,45	
W 5/27	5.8	Numerical Integration;	5.8: #3-7,13,14,19,21,27	Homework: 5.1: #14, 26 5.2: #20 5.3: #8, 26 5.4: #18, 44
Th 5/28	5.8, 7.2	Integration by Substitution Integration by Parts	5.5: #6,7,10,11,13,19,22,29,39 7.2: #1,4,7,8,11,12,13,17	Quiz: 5.1 – 5.4
M 6/1	7.3	Trigonometric Integrals	7.3: #5,7,11,12,17,19,20,34,35 37	
T 6/2	7.4	Partial Fractions	7.4: #1,2,5,8,15,16,26,27,57	Homework: 5.5: #6, 30 5.8: #2, 14 7.2: #6, 22 7.3: #8, 42
W 6/3	7.5	Summary of Integration Techniques	7.5: #1,6,13,19,22,27,35	
Th 6/4	7.7; 6.1	Improper Integrals;	7.7: #3,5,11,12,23,27,30,39,47	Quiz: 5.5, 5.8, 7.2, 7.3
M 6/8	6.1, 6.2	Integration Application: Area Between Curves	6.1: #1,4,5,9,13,15,19,21,26	
T 6/9	6.2	Integration Application: Volumes	6.2: #1,6,11,13,15,18,21,22, 28, 31	Homework: 7.4: #18, 28 7.5: #16, 42 7.7: #14, 32 6.1: #12, 14
W 6/10	8.1	Sequences	8.1: # 5,11,13,17,20,25,26,43, 45	Quiz: 7.4, 7.5, 7.7, 6.1
Th 6/11		Review for Midterm I (Covers 5.1-5.5, 5.8, 6.1, 6.2, 6.6, 7.1-7.5, 7.7)		
M 6/15	FIRST MIDTERM			
T 6/16	8.2	Intro to Series; Geometric Series	8.2: #7,8,9,15,16,25,28,33,41	Homework: 6.2: #16, 24 8.1: #14, 42
W 6/17	8.3	Convergence Tests	8.3: #5,6,9,13,16,19,21,29,33, 43,45	

Th 6/18	8.4	Comparison Tests	8.4: #3,6,13,17,19,24,26,33,47	Quiz: 6.2, 8.1
M 6/22	8.4, 8.5	Finish Comparison Tests Ratio and Root Tests		
T 6/23	8.5	Finish Ratio and Root Tests	8.5: #3,5,7,13,16,21,29,33,43	Homework: 8.2: #6, 18, 26 8.3: #28, 34 8.4: #18, 28
W 6/24	8.6	Absolute Convergence; Alternating Series	8.6: #5,7,8,13,17,20,21,31,39	
Th 6/25	8.7	Power Series	8.7: #1,5,9,11,13,17,24,31,39	Quiz: 8.2-8.4
M 6/29	8.8	Taylor Series	8.8: #3,7,13,18,19,25,33,34,39	Homework: 8.5: #8, 40 8.6: #12, 14 8.7: #12, 32
T 6/30	8.2-8.7	Series Strategies		
W 7/1	5.6	Differential Equations; Separable Equations	5.6: #1,7,9,14,19,21,23,25,28	Quiz: 8.5-8.7
Th 7/2		Review for Midterm (Covers 8.1-8.7)		
M 7/6	SECOND MIDTERM			
T 7/7	7.6	First-Order Differential Equations	7.6: #1,5,8,11,13,21,23,25	Homework: 8.8: #6, 24, 38 5.6: #22, 26, 48
W 7/8	G1.1 G1.2	Functions of Several Variables; Partial Derivatives	G1.1: #1,3,6,15,17,19,23-26 G1.2: #3,4,9,15,18,23,25,26	
Th 7/9	G1.3 G1.4	Maxima and Minima Constrained Optimization	G1.3: #3,5,8,11,16,17,23,29 G1.4: #1,2,5,7,9,11,13,15,19	Quiz: 8.8, 5.6
M 7/13	G1.7	Double Integrals	G1.7: #1,2,3,5,6,9,11,12,13,14	Homework: 7.6: #4, 28 G1.1: #16, 20 G1.2: #12, 24 G1.3: #4, 26 G1.4: #8, 12
T 7/14		Catch-up and Review for Final (Emphasis on 8.8, 5.6, 7.6, G1.1-G1.4, G1.7)		Quiz: 7.6, G1.1 – G1.4
W 7/15		Catch-up and Review for Final		
Th 7/16	COMPREHENSIVE FINAL			