

MATH 1342

FALL 2009

CALCULUS II for Engineering, Science, and Math

Instructor: Bob Lupi

Office: 541 Nightingale

373-5534

373-2450 (math department office)

e-mail: r.lupi@neu.edu

Office Hours: Tues and Thur 3-4

Also by appointment

Required Materials:

Text: *Calculus Concepts and Contexts* (volume 1), 4th edition by James Stewart

ISBN-13: 978-1-4266-3240-2

and *Calculus Concepts and Contexts* (volume 2), 4th edition by James Stewart

ISBN-13: 978-1-4266-3266-2

Calculator: scientific, graphing calculator (TI-83 recommended)

Course Objectives:

This course is a continuation of the subject of Calculus, following the material covered by Math 1340/1341. We will study **Integral Calculus** and discuss some of its applications as well as **infinite series**, **power series**, and the beginnings of **vector calculus** in 2 and 3 dimensions .

Note the following dates:

1. Wednesday, September 9: Fall classes begin.
2. Wednesday, September 23: Last day to file a final exam conflict form.
3. Friday, September 29: Last day to drop a Fall class without a 'W' grade.
4. Monday, October 12: **Columbus Day, no classes**
5. Wednesday, November 11: **Veteran's Day, no classes**
6. November 25-29: **Thanksgiving Recess, no classes**
7. Friday, November 20: Last day to drop a Fall class with a 'W' grade.
8. Wednesday, December 9: **Last day of Fall classes.**
9. Thursday, December 10: Reading Day
10. December 11-18: **Final Exam Period**

Course Policies:

1. There will be weekly quizzes (usually during the first 20 minutes of the class). The two lowest quiz grades will be dropped. There will be no make-up quizzes. If you miss a quiz for any reason, the next quiz in the sequence will be counted an extra time to replace the missing grade.
2. There will be a midterm exam on the material indicated on the last page of the syllabus. There are no make-up exams. If you miss an exam, your final exam grade will be counted an extra time to replace the missing grade.
3. Homework will be assigned at each class and discussed in the next class if needed. You are expected to keep up with the homework in order to perform well on the weekly quizzes. The homework will, however, be collected but not graded and used to determine a student's grade if he or she is on the borderline of two grades.
4. Your grade in the course will be determined as follows:

Quizzes: 30%
Midterm Exam: 30%
Final Exam: 40%

and you will be graded according to the following scale:

Final Average	Grade for Course
93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
0-59	F

ACADEMIC HONESTY

The University views academic dishonesty as one of the most serious offenses that a student can commit while in college and imposes appropriate punitive sanctions on violators. Cheating on a quiz or exam will not be tolerated.

Note:

You must attend the final exam. Do not make any travel plans until you know when your exams are to be given, and do not expect that you will be allowed to take the exam at any other time than when it is regularly scheduled, except in the case of a Registrar-created conflict, such as two exams at the same time or three finals in one day. If you miss the final, you will receive a grade of zero and you will fail the course.

You should always **turn off your cell phone** when entering a class as a courtesy to everyone else.

SYLLABUS

TOPIC

HOMEWORK

- | | | | |
|------|-----------------------------|----|---|
| 5.5 | Integration by Substitution | 1. | page 381 #1-7,11-16,19,22,24,32,34,41,47,48,54,55 |
| 5.6 | Integration by Parts | 2. | page 387 #1-4,6,11,17,19,21,25,29 |
| 5.7 | Techniques of Integration | 3. | page 393 #1-6; 23-26; 29 |
| 5.9 | Numerical Integration | 4. | page 411 #7(a,c),8(a,c),16(a,c) |
| 5.10 | Improper Integrals | 5. | page 421 #1,2,5,9,13,19,27,29,51 |
| 6.1 | Area Between Curves | 6. | page 436 #1-8,11 |
| 6.2 | Volumes by Cross Sections | 7. | page 446 #1-7,17,18 |
| 6.3 | Arc Length | 8. | page 458 #1,3-8 |
| 6.5 | Work | 9. | page 472 #1,3,4,7,13,15,17-19 |

***** **MIDTERM EXAM UP TO HERE** *****

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|------|-------------------------------|-----|---|
| 8.1 | Sequences | 10. | page 562 #3,5,7,9,11,13-16,22,23,45,48 |
| 8.2 | Infinite Series | 11. | page 572 #11-23 odd,31,41 |
| 8.3 | Integral and Comparison Tests | 12. | page 583 #3,4,6-9,11-13,17,19,21,22 |
| 8.4 | Other Convergence Tests | 13. | page 591 #2,14,15,21,23,27,33 |
| 8.5 | Power Series | 14. | page 597 #3,5,7,10,15,19 |
| 8.6 | Functions as Power Series | 15. | page 603 #1-5,11,23,27 |
| 8.7 | Taylor and Maclaurin Series | 16. | page 616 #3-5,7,9,13,15,17,25,29,43,50,65 |
| 9.1 | 3-D Coordinates | 17. | page 638 #1,3,8,13,33 |
| 9.2 | Vectors | 18. | page 646 #4,15,17 |
| 9.3 | Dot Products | 19. | page 653 #3,5,7,9,15,17,21,30,31,37,39 |
| 10.1 | Vector Functions and Curves | 20. | page 699 #1,3,9,15 |
| 10.2 | Derivatives and Integrals | 21. | page 706 #3,5,9,11,17,18 |
| 10.3 | Normals and Lengths | 22. | page 714 #1,5,45 |
| 10.4 | Motion in Space | 23. | page 724 #3,7,9,10,13-17 |

Review and Cumulative Departmental Final Exam

Students using the previous edition of the text would follow this syllabus instead:

SYLLABUS

TOPIC

HOMEWORK

VOLUME 1:

5.5 Integration by Substitution	1. page 392 #1-7,10,11,13,14,21,22,24
5.6 Integration by Parts	2. page 398 #1-4,8,9,11,17,21,25,28
5.7 Techniques of Integration	3. page 404 #1-7; 17-21; 23,25,27
5.9 Numerical Integration	4. page 429 #7(a,c),8(a,c),14(a,c)
5.10 Improper Integrals	5. page 431 #1,2,5,9,13,17,25,27,49
6.1 Area Between Curves	6. page 446 #1-7,11
6.2 Volumes by Cross Sections	7. page 457 #1-7,13,14
6.3 Arc Length	8. page 465 #1,3-7
6.5 Work	9. page 479 #1,3,4,7,13,15,17a

***** MIDTERM EXAM UP TO HERE *****

8.1 Sequences	10. page 565 #2,3,5,7,9,11,13,14,18,37,40
8.2 Infinite Series	11. page 574 #11-13,17,19,21,35
8.3 Integral and Comparison Tests	12. page 585 #3,4,6-8,11,12,15,17-19
8.4 Other Convergence Tests	13. page 592 #2,13,14,19,21,23,33,35
8.5 Power Series	14. page 598 #3,5,7,13,17
8.6 Functions as Power Series	15. page 604 #1-3,5,11,21,25
8.7 Taylor and Maclaurin Series	16. page 615 #3-5,7,13,15,19,22,34,37,53

VOLUME 2:

9.1 3-D Coordinates	17. page 641 #1,3,8,13,29
9.2 Vectors	18. page 649 #4,15,16
9.3 Dot Products	19. page 655 #4-7,13,15,17,24,25,31,32
10.1 Vector Functions and Curves	20. page 700 #1,3,9,13
10.2 Derivatives and Integrals	21. page 707 #3,5,9,11,15,16
10.3 Normals and Lengths	22. page 714 #1,3,37
10.4 Motion in Space	23. page 725 #3,7,9,11,13-17

Review and Cumulative Departmental Final Exam