MAT 203: Calculus III with Applications

Updated in August, 2017

Contents

1   About the Course

1.1   Course description

This is a course in multi-dimensional (dimension ≥ 2) calculus. We will cover the following materials: Vector algebra in two and three dimensions, multivariable differential and integral calculus, baby differential geometry, optimization, vector calculus.

1.2   Course Prerequisites

C or higher in MAT 127 or 132 or 142 or AMS 161 or level 9 on the mathematics placement examination

1.3   Textbook

Multivariable Calculus, by Larson and Edwards (10th edition)

1.4   Calculators

You may use calculators to help you with learning the material or for homework. You may **NOT** use calculator on exams.

2   Homework

2.1   Homework Due

Each week you will have paper homework problems (which are from the textbook) that you should hand in at recitation. Homework is due at **the beginning of your recitation**. In some special cases that you miss your recitation, your late homework will not be graded *unless you get your TA's permission.*

Remark 0.1. *The homework assignments can be found in the Course Plan (see Section 8).*

2.2   Office Hours

If you are having difficulty understanding a topic, we suggest that you may go to your recitation section, meet with your TA, go to the Math Learning Center (located in the basement of the Mathematics Tower), or go to the instructor's office hours.

The instructor's office hours are the following.

Math Tower 3-102 (Ruobing Zhang's office):

- Monday 2:30-3:30pm

- Friday 2:30am-3:30pm

Math Learning Center:

- Tuesday 3:00-4:00pm

3 Recitations

Recitation is very valuable. There, your TA will go over the homework problems and will be available to answer your questions.

4 Exams

4.1 Schedule

There are 2 Midterms and 1 Final. Here is the schedule.

Midterm Schedule:

Section	Exam	Date	Time	Room
Lecture 01	Midterm 1	October 6 (Friday)	1:00-2:20pm	Lgt Engr Lab 102
Lecture 01	Midterm 2	November 10 (Friday)	1:00-2:20pm	Lgt Engr Lab 102

Final Schedule:

Section	Date	Time	Room
Lecture 01	Dec. 20 (Wednesday)	2:15pm-5:00pm	TBA

The room of the exams will be announced in BlackBoard in advance of each exam.

4.2 Rules

We do not give make up exams but instead replace an exam missed for a **valid reason** by a grade computed on the balance of the work in the course. Again, you may not use calculators on exams.

5 Final Grading

Homework and Recitation - 20%
Midterm 1 20%
Midterm 2 20%
Final 40%

6   Use of Blackboard

Please check Blackboard frequently. Assignments, announcements, grades, etc. will be posted on Blackboard. When items are posted, you will receive an email informing you of the fact. At that point, you will be presumed to know what has been posted. We suggest that you check Blackboard before you email your TA or instructor.

7   Class Information, Instructor and Teaching Assistants

7.1   Class Schedule and Basic Information

Section	Day	Time	Building	Room Number	Instructor/TA
LEC 01	**MF**	1:00m-2:20pm	Lgt Engr Lab	102	**Ruobing Zhang**
R01	W	11:00am-11:53pm	Earth & Space	183	Holly Chen
R02	F	12:00pm-12:53am	Mathematics	P-131	Holly Chen
R03	Tu	1:00pm-1:53pm	Library	N4006	Erik Gallegos Baños

7.2   Contact your Instructor/TA

Name	Office	Email
Holly Chen	Math Tower 2-121	holly@math.sunysb.edu
Erik Gallegos-Baños	Math Tower 3-106	erik.gallegosbanos@stonybrook.edu

8 Course Plan

Week	Sections Covered	Homework
Week of 8/28	11.1, 11.2, 11.3	11.1: 8, 28, 36, 50 11.2: 6, 26, 44, 58, 84 11.3: 4, 10
Week of 9/4	11.4	11.4: 1, 2, 3, 4, 5, 6, 10, 16, 28, 38
Week of 9/11	11.5, 11.6, 11.7	11.5: 4, 10, 28, 32, 40, 42, 54, 82, 90 11.6: 2, 4, 6, 10, 16, 32, 44 11.7: 4, 8, 26
Week of 9/18	12.1, 12.2, 12.3	12.1: 2, 24, 68, 72 12.2: 4, 26, 42, 46, 52, 58 12.3: 18, 22, 26, 36
Week of 9/25	12.4, 12.5	12.4: 10, 19, 22, 29, 30, 31, 32 12.5: 6, 12, 22, 44
Week of 10/2	Review for Midterm I	**No Homework**
Week of 10/9	13.1, 13.2, 13.3	13.1: 16, 24, 27, 38, 52 13.2: 24, 74, 76 13.3: 18, 52, 60, 66, 78, 110
Week of 10/16	13.4, 13.5	13.4: 14,26 13.5: 12, 16, 20, 21
Week of 10/23	13.6, 13.7, 13.8	13.6: 2, 24, 36, 52, 61 13.7: 10, 18, 24, 42 13.8: 6, 12, 18, 27, 28, 29, 30, 42, 46
Week of 10/30	13.9, 13.10, 14.1	13.9: 6, 10, 14, 18 13.10: 6, 24, 34, 36 14.1: 28, 32, 42, 56, 60
Week of 11/6	Review for Midterm II	**No Homework**
Week of 11/13	14.2, 14.3 14.4	14.2: 8, 12, 18, 24, 34, 46, 48, 54 14.3: 18, 22, 26, 30, 40 14.4: 2, 6, 20, 22, 34
Week of 11/20	14.5, 14.6, 14.7	14.5: 2, 10, 18 14.6: 6, 14, 21, 26, 36, 38 14.7:12, 16,30
Week of 11/27	Thanks Giving	**No Homework**
Week of 12/4	15.1, 15.2, 15.3, 15.4	15.1: 1, 2, 3, 4, 16, 24, 46, 48, 60 15.2: 16, 26, 35 15.3: 4, 10, 16, 34 15.4: 10, 18, 28
Week of 12/11	Review for Final	**No Homework**

9   University Rules and Requirements

9.1   Disability Support Services

If you have a physical, psychological, medical, or learning disability that may affect your course work, please contact Disability Support Services (DSS) office: ECC (Educational Communications Center) Building, room 128, telephone (631) 632-6748/TDD. DSS will determine with you what accommodations are necessary and appropriate. Arrangements should be made early in the semester (before the first exam) so that your needs can be accommodated. All information and documentation of disability is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and DSS. For procedures and information, go to the following web site http://www.ehs.sunysb.edu and search Fire safety and Evacuation and Disabilities.

9.2   Academic Integrity

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/.

9.3   Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.