MAT 203: Calculus III with Applications

January, 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, multivariate differential and integral calculus, optimization, vector calculus including the theorems of Green, Gauss, and Stokes. Applications to economics, engineering, and all sciences, with emphasis on numerical and graphical solutions; use of graphing calculators or computers.

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 can hand in at recitation or put in your TAs mailbox. Homework is due at **the beginning of your recitation**, and no later than **Noon of the Friday** of that week if you miss recitation.

Remark 0.1. *The week of 3/13 is the spring recess. So you should submit your homework during 3/6-3/11 in your recitation session in the week of 3/20.*

Remark 0.2. *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 11:00am-12:00pm

- Friday 11:00am-12:00pm

Math Learning Center:

- Wednesday 11:00am-12:00pm

3   Recitations

Recitation is very valuable. There, your TA will go over the homework problems and will be available to answer your questions. The detailed information about the recitations can be found on our Blackboard.

4   Exams

4.1   Schedule

There are 2 Midterms and 1 final.

Midterm Schedule:

Section	Exam	Date	Time	Room
Lecture 01	Midterm 1	March 3 (Friday)	12:00pm-12:53pm	Lgt Engr Lab 102
Lecture 01	Midterm 2	April 7 (Friday)	12:00pm-12:53pm	Lgt Engr Lab 102
Lecture 02	Midterm 1	March 3 (Friday)	10:00am-10:53am	Library W4550
Lecture 02	Midterm 2	April 7 (Friday)	10:53am-10:53am	Library W4550

Final Schedule:

Section	Date	Time	Room
Lecture 01	May 11 (Thursday)	5:30pm-8:00pm	TBA
Lecture 02	May 15 (Monday)	8:00am-10:45am	TBA

Rooms 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, 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	**MWF**	12:00pm-12:53pm	Lgt Engr Lab	102	**Ruobing Zhang**
R01	Tu	2:30pm-3:23pm	Lgt Engr Lab	152	Kirill Lazebnik
R02	W	10:00pm-10:53am	Earth & Space	079	Prithviraj Chowdhury
R03	Th	1:00pm- 1:53pm	Lgt Engr Lab	154	Jaroslaw Jaracz
LEC 02	**MWF**	10:00am-10:53am	Library	W4550	**Ruobing Zhang**
R20	M	12:00pm-12:53pm	Library	N3063	Xuntao Hu
R21	Th	10:00am-10:53am	Library	W4530	Kirill Lazebnik

7.2 Contact your Instructor/TA

Name	Office	Email
Prithviraj Chowdhury	Math S-240A	prithviraj.chowdhury@stonybrook.edu
Xuntao Hu	Math 2-115	xuntao.hu@stonybrook.edu
Jaroslaw Jaracz	Physics D-107	jaroslaw.jaracz@stonybrook.edu
Kirill Lazebnik	Math 3-118	kirill.lazebnik@stonybrook.edu
Ruobing Zhang	Math 3-102	ruobing.zhang@stonybrook.edu

8 Course Plan

Week	Sections Covered	Homework
Week of 1/23	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 1/30	11.4	11.4: 1, 2, 3, 4, 5, 6, 10, 16, 28, 38
Week of 2/6	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
Week of 2/13	12.1, 12.2, 12.3	11.7: 4, 8, 26 12.1: 2, 24, 68, 72 12.2: 4, 26, 42, 46, 52, 58 12.3: 18, 22, 26, 36
Week of 2/20	12.4, 12.5, 13.1	12.4: 10, 19, 22, 29, 30, 31, 32 12.5: 6, 12, 22, 44
Week of 2/27	13.2, Review for Midterm I	13.1: 16, 24, 27, 38, 52
Week of 3/6	13.3, 13.4, 13.5	13.2: 24, 74, 76 13.3: 18, 52, 60, 66, 78, 110 13.4: 14,26 13.5: 12, 16, 20, 21
Week of 3/13	Spring Recess: No classes in session	
Week of 3/20	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 3/27	13.9, 13.10	13.9: 6, 10, 14, 18 13.10: 6, 24, 34, 36
Week of 4/3	14.1, 14.2, 14.3	14.1: 28, 32, 42, 56, 60 14.2: 8, 12, 18, 24, 34, 46, 48, 54 14.3: 18, 22, 26, 30, 40
Week of 4/10	14.4, Review for Midterm II	
Week of 4/17	14.5, 14.6, 14.7	14.4: 2, 6, 20, 22, 34 14.5: 2, 10, 18 14.6: 6, 14, 21, 26, 36, 38 14.7:12, 16,30
Week of 4/24	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 5/1	Review for Final	

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.