MAT 203 SYLLABUS - SUMMER 2018

MARLON GOMES

1. Course Description

1.1. **Course Goal.** This is a course about Calculus in higher dimensions. We will begin with an overview of linear algebra: the algebra of vectors in two and three-dimensions; linear transformations and determinants; dot and cross products; elementary analytic geometry (lines, planes, conics and quadrics). The second part of the course is the study of continuity and differentiability of multivariable functions, with applications to geometry and optimization problems. The third part is the study of higher-dimensional integral calculus: double and triple integrals in regions of the plane and space, respectively. Finally, we will study the relationship between the differentiation and integration in vector calculus: line integrals and Green's theorem; curl and divergence of vector fields, and the theorems of Gauss and Stokes.

1.2. **Requisites.** C or higher in MAT 127 or 132 or 142 or AMS 161 or level 9 on the mathematics placement examination. Students can find the syllabi for these other MAT courses at

> http://www.math.stonybrook.edu/
> mathematics-department-course-web-pages

1.3. **Textbook.** The recommended textbook is *Multivariable calculus*, by Ron Larson and Bruce H. Edwards, 11th edition. The textbook can be acquired at the campus bookstore.

1.4. **Important Times and Dates.**
- Lectures: Tuesdays and Thursdays, 1:30 pm - 4:55 pm, at Melville Library N3063.
- Midterm: July 26th, 1:30 pm to 4:55pm, at Melville Library N3063.
- Final Exam: August 16th, 1:30 pm to 4:55 pm, at Melville Library N3063.

1.5. **Assignments.** Your assignments are an important part of the course (and your grades). There will be four problem sets, due on Tusdays of weeks 2, 3, 5 and 6. These assignments will be available on the course webpage (links on the schedule above) and Blackboard. Problems will range from simple manipulations of the concepts developed in class on that week to more involved applications of these concepts. Not all problems will be graded, but you should attempt to solve them all anyway, as they will serve as your foundation for the problems you will see on your exams. Graded problems

will be discussed in class. Solutions to selected non-graded problems will be posted on the course webpage weekly. Due dates will be strictly enforced: homework is due by 1:30 pm on the dates described on the schedule. If you cannot make it to class (in time or at all), send me a scanned copy of your homework via e-mail by the deadline (a follow-up physical copy would be appreciated).

1.6. **Grades.** Your grade will be calculated in the following way:

(1) Three best homework assignments: 1% each.
(2) Midterm: 25%.
(3) Final Exam: 30%.

2. Contact

My office hours will be announced on the course webpage,

http://www.math.stonybrook.edu/~mgomes/mat203sum18.html.

E-mail is the best form of communication besides lectures and office hours. My address is

mgomes@math.stonybrook.edu.

3. DSS Notice

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services at (631) 632-6748 or at

http://studentaffairs.stonybrook.edu/dss/.

They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: http://www.sunysb.edu/

4. 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 instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology and Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. 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/

5. Critical Incident Management Statement

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, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.