Syllabus
Math 2060 Honors – Spring 2015
Section 100

Instructor: Jim Brown

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Class Meeting:
MWF 10:10 - 11:00 Daniel 401
Th 9:30 - 10:20 Daniel 401

Office Hours:
M 15:00 - 16:00
Th 10:30 - 11:30
(and by appt.)

Please buy only the digital copy of the book that comes with WebAssign. If you prefer a hard copy of the book, buy an older edition that will be MUCH cheaper than the new one. You will have homework on WebAssign so it is critical you get this as well.

Material: We will cover Chapters 12 - 16. We will also likely supplement this material with some topics not covered in the textbook as suits an honors course.

Attendance: Attendance for this class will not be taken. However, it is important for you to attend class regularly to succeed in the course.

Cell Phones: Cell phones are to be turned to silent during class and exams. You should be paying attention and not playing on your phones during class.
Calculators/Laptops: There is not a required calculator for the course. You will be allowed a basic scientific calculator on the exams. We will be using SAGE and Maple for our calculations. Some of the SAGE/Maple commands I will give you, some you will be required to figure out on your own via online help. You are free to bring your laptop to class with you, but I will try to warn you ahead of time if it will be necessary. Clearly if you have your laptop out it is to be used for math, not chatting or reading the news. I will post SAGE/Maple worksheets on my website so you can work with them outside of class as well.

Grading: Your final grade will be calculated in two ways. I will assign everyone a grade with each method. I will then give you the higher of the two letter grades. For example, if you get a B with the first method and a C with the second, your final grade will be a B.

Method one grades are based on the following:
- WebAssign Regular Homework: 5%
- WebAssign Pre-class Homework: 5%
- Written Homework: 15%
- Midterm Exam 1: 15%
- Midterm Exam 2: 15%
- Final Exam (cumulative): 45%

Method 2 is that your final exam will replace any of the midterms that had a lower score. For example, if you score an 83 on Midterm 1, a 65 on Midterm 2, and a 81 on the Final Exam, your scores will be 83, 81, 81.

The grading scale will be no worse then the following:
- ≥ 90% A
- ≥ 80% B
- ≥ 70% C
- ≥ 60% D

Exams:
- Midterm 1: 2/12/15 18:30 - 20:30 in TBA
- Midterm 2: 4/9/15 18:30 - 20:30 in TBA
- Final: 4/28/15 15:00 - 7:30 in Daniel 401

The final exam is cumulative.
Make-up exams will not be given, regardless of the validity of the excuse for missing the exam. If you miss an exam, the weight of the final exam will be adjusted to incorporate that exam as well. For example, if you miss Midterm 1 then the final exam will be 60% of your final grade. It is best not to miss midterms if at all possible!

**WebAssign Regular Homework:** This homework is done online and will consist of more routine problems. The website to login is


The information for our class is “clemson 2195 9065”. I will set this so that you can have multiple tries and get hints on the problems. The goal here is to give you credit for doing the problems and learning the basics. As such, everyone who puts in the effort should get all of the points here. I will post these problems online for each section as we finish that section. You will have one week to complete the problems. WebAssign will be set to not accept your homework after midnight one week from the date assigned. It is in your best interest to do these problems as we finish the sections and not put them off.

**WebAssign Pre-class Homework:** Often before class you will have a very short (< 5 problems) WebAssign assignment that is due BEFORE class starts. It will test that you read the section we are to cover that day in class. I don’t expect you to master the section, but the lectures will be much easier to follow if you’ve read through the section we are going to cover BEFORE coming to class.

**Written Homework:** Approximately once a week I will hand out a few problems that are more difficult. These will include story problems, as well as other problems that require you to understand the material at a level deeper than just memorizing formulas and applying them. You are strongly encouraged to work on these problems in teams, though you are required to each write up your own answers. If you work with others, you are required to indicate on your assignment each person you worked with. (This is a matter of academic honesty.) You will have one week to turn these problems in once they are handed out. They must be in my hand by by the START of class one week from the date handed out or I will not accept them.

**Learning objectives:**
1. Perform basic vector operations such as the dot product and cross product and utilize these operations in applications.

2. Find equations of lines and planes in 3-space, and identify basic quadric surfaces and cylinders.

3. Evaluate limits, derivatives, and integrals of vector-valued functions of one variable and for the associated curves find arc length, curvature, tangent lines, unit tangent vectors, principle unit normal vectors, and binormal vectors.

4. Compute limits, partial derivatives, directional derivatives, and gradients for functions of several variables, and use differentiation to determine tangent planes, relative extrema, and absolute extrema of continuous functions on closed and bounded regions for functions of several variables.

5. Use Lagrange multipliers to find extrema of a function subject to one constraint.

6. Evaluate multiple integrals in 2 and 3 dimensions, in various coordinate systems, and apply these integrals to calculate areas, volumes, surface areas, mass, and centers of mass.

7. Evaluate line integrals, surface integrals and flux integrals directly, and be able to apply the Fundamental Theorem of Calculus for Line Integrals, and Greens Theorem, Stokes Theorem, and the Divergence Theorem appropriately.

8. Identify conservative vector fields and find potential functions for conservative vector fields.

**Goals:** It is the goal of this course for you to learn the material contained in the textbook. At the end of this course you should expect to be able to do any of the routine calculations in this book, but also understand the concepts behind these calculations as well as be able to turn story problems into equations you can work with.

**Accommodations:** Students with disabilities who need accommodations should make an appointment with Dr. Arlene Stewart, Director of Disability
Services, to discuss specific needs within the first month of classes. Students should present a Faculty Accommodation Letter from Student Disability Services when they meet with instructors. Student Disability Services is located in Suite 239 Academic Success Building (656.6848; sds-l@clemson.edu). Please be aware that accommodations are not retroactive and new Faculty Accommodation Letters must be presented each semester.

**Clemson University Title IX Statement:** Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veterans status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at http://www.clemson.edu/campus-life/campus-services/access/title-ix/. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, 864.656.3181 (voice) or 864.565.0899 (TDD).

**Academic Integrity:** As members of the Clemson University community, we have inherited Thomas Green Clemson’s vision of this institution as a high seminary of learning. Fundamental to this vision is a mutual commitment to truthfulness, honor and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating or stealing in any form.