MAC 2313 – CALCULUS III – Fall 2011  
Section 16684: M-R 9:30 – 10:35 in DSSC 128

Instructor: Brooke Quinlan  
Email: bquinlan@hccfl.edu  
Office: DSSC 220  
Office Phone: 259-6313  
My Website: http://www.hccfl.edu/faculty-info/brooke-quinlan.aspx (Bookmark it!)

TEXTBOOK:  

PREREQUISITE:  
MAC 2312 with a grade of “C” or better.

CALCULATOR:  
A graphing calculator is **strongly recommended** for this course. The TI-89, TI-92, HP50g, or any other calculator capable of symbolic differentiation or integration is **NOT** permitted on tests. (Yes, I will check your calculator on test days!).

GRADING:  
The grading scale is the standard 10-point scale (90-100 is an A, etc.).

The final grade is computed as follows:
- Attendance Average = 3%
- “You Try” Average = 7%
- Test Average = 70%
- Final Exam = 20%

SPECIAL ACCOMMODATIONS STATEMENT:  
Any student whose disability falls within the American Disabilities Act (ADA) and requires accommodations should contact the Office of Services for Students with Disabilities. The office is located in the Student Services Building Room 204. You may also reach the office by phone at (813) 259-6035.

My Schedule  
*Available Office Hour times are shaded and bolded.*

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ATTENDANCE:
- Attendance will be taken at every class, and you are expected to attend every class meeting. I will not re-teach or provide notes for material that you missed when you were absent. It is your responsibility to get notes from a classmate for any classes that you miss, so you need to make a couple friends in the class!
- Attendance counts as 3% of your final grade in the course. The attendance grade is calculated by dividing the number of days you were in class by the number of days that the class met.
- You are expected to arrive on time. Late arrivals will be marked as “Tardy”, and 2 Tardy’s will equal 1 unexcused absence when calculating the attendance grade.
- If you need to leave class early, let me know before class begins. If you leave class without informing me prior to the start of class, then I will mark you absent for that day.

“YOU TRY”:
- During most lectures, I will teach a new topic, do several exercises, and then give you a problem or two that I call a “You Try” problem. Always write the “You Try” problems on an index card. At the beginning of the semester I will give you a few index cards. These are just a starter set; you need to get some index cards of your own in order to have enough for the whole semester.
- Occasionally, I will collect the index cards containing the “You Try” problems from that day. I will grade the collected “You Try” problems based on effort. Because you are working these problems as you are learning a topic, I don’t expect them to be exactly correct. But I do expect you to put in your best effort when attempting the problems.
- Sometimes at the end of a class, I will give you a problem (or two) and tell you to bring it to the next class meeting. These count as "You Try" problems also and are fair game to be collected at the beginning of the next class, so make sure you always attempt these problems!
- At the end of the semester, the average of the collected “You Try” problems will count as 7% of your overall grade in the class.

TESTS:
- There will be 5 tests, but I will use only the four highest test grades to compute your overall test average.
- There will be NO makeup tests. If you miss one test, your remaining four test scores will make up your test average. Any additionally missed tests will receive a grade of zero.
- If you know that you will miss a test you must make prior arrangements with me in order to take the test in the testing center BEFORE THE REST OF THE CLASS TAKES THE TEST.
- No tests will be administered after the class has taken a test except for extreme circumstances, such as hospitalization. If there has been an extreme circumstance that caused you to miss a test, then you need to notify me via email as soon as possible (and before the next class meeting). FYI, "My car wouldn't start" is not an extreme circumstance. There are these things called taxis you can call and they come to your house and pick you up and take you wherever you need to go! It's like magic! Also, "I had a headache", "My allergies were acting up", and 'I was up all night studying and didn't hear my alarm" are not "extreme circumstances" either. You need to be an adult and show up on test days.
FINAL EXAM:
- If you take ALL 5 TESTS and the average of all 5 tests is a 90% or higher, then you do NOT have to take the final exam. ☺ (When computing this average, I will count the Homework Set bonus points for each test, but I will not include bonus points from volunteering, blood donation, or movie worksheets.)
- For those of you who do have to take the final exam, it will be cumulative and is worth 20% of the final grade in the course.
- Make sure you keep all of your old tests (and write down the correct answers when I go over the tests in class), because all of the questions on the final exam come from the previous tests.

HOMEWORK SETS
These problems are worth up to 3 bonus points per test and must be handed in the day of the test. You MUST show your work. No bonus points will be awarded if only answers are submitted. All problems are in your Stewart textbook. ★"EOO" means "Every Other Odd"★

Homework Set 1:  
12.1, p. 769: #1, 3, 7, 13, 15, 17, 21-35 odd  
12.2, p. 777-778: #4, 7, 9, 17-35 odd  
12.3, p. 784-785: #3-9 odd, 13-39 odd, 45, 47  
12.4, p. 792-793: #1-7 odd, 19, 27-41 odd  
12.5, p. 802-803: #3, 5, 7-59 EOO  
12.6, p. 810-811: #3-7 odd, 11-19 EOO, 29-35 odd (give key features but don't need to sketch), 43

Homework Set 2:  
13.1, p.822: #1-6 all, 15, 17, 35, 37  
13.3, p. 836-837: #1-5 odd, 21-31 odd, 43  
13.4, p. 847: #9-15 odd, 17(a) only, 20, 21, 23-27 odd, 33-37 odd

Homework Set 3:  
14.1, p. 866-868: #7, 9, 11-31 EOO  
14.2, p. 877: #5-21 EOO, 29-37 EOO  
14.3, p. 889-890: #15-41 EOO, 45, 47, 51-55 odd, 61, 65  
14.4, p. 899-900: #1-5 odd, 11-19 odd, 23-37 odd  
14.5, p. 907-908: #1-13 odd, 21-33 odd, 39, 41, 43  
14.6, p. 920-921: #5-25 odd, 33, 39-43 odd  
14.7, p. 931: #5-17 odd (don’t need to graph), 29-35 odd  
14.8, p. 940-941: #3-7 odd, 13, 27-39 EOO

Homework Set 4:  
15.2, p.964-965: #3-21 odd  
15.3, p. 972-973: #1-27 EOO  
15.4, p. 978-979: #7-31 odd  
15.5, p.988-989: #1-9 odd, 17, 19  
15.6, p. 998-999: #3-13 odd, 37-43 odd  
15.7, p. 1004: #1-21 odd, 27  
15.8, p. 1010-1011: #1-13 odd, 17-25 odd, 29, 35  
15.9, p. 1020: #1-5 odd, 11-15 odd, 19, 21

Homework Set 5:  
16.1, p.1032-1033: #1, 3, 7, 11-14 all, 21, 23  
16.2, p.1043-1044: #1, 3, 7, 9, 11, 13, 15, 19, 21, 39, 41, 43  
16.3, p. 1053-1054: #3-9 odd, 11-17 odd, 21  
16.4, p. 1060-1061: #3-13 odd, 17  
16.5, p. 1068: #1-7 odd, 13-17 odd  
16.6, p. 1080: #33-36 all (do not graph)  
16.7, p. 1091: #5, 7, 9, 13, 19, 21, 23  
16.8, p. 1097: #3, 4, 7, 9, 13  
16.9, p. 1103: # 5-13 odd
CLASS RULES:

- Turn off all cell phones (or put them in “silent” mode – not “vibrate”!) before class starts and put them away.

- I will **deduct 5 points** from your next test score each time I see you “texting” during class.

- If you **answer** a phone call during class time, I will deduct **10 points** from your next test score.
  - Bottom line: no cell phones during class time. You can live without it for 65 minutes.

- Cheating is not permitted. Any form of academic dishonesty will result in an **“F” in the course** and may result in HCC disciplinary action.

COURSE OUTCOMES:

1. Students will be able to define, determine, and/or solve problems involving:
   a. plane curves
   b. tangent lines and arc length

2. Students will be able to define, determine, and/or solve problems involving:
   a. vectors in the plane
   b. vectors in three dimensions
   c. the dot product
   d. the vector product
   e. lines and planes
   f. surfaces

3. Students will be able to define, determine, and/or solve problems involving:
   a. functions and space curves
   b. calculus of vector-values functions (limits, derivatives, integrals)
   c. motion
   d. curvature
   e. tangential and normal components of acceleration
   f. Kepler’s Laws

4. Students will be able to define, determine, and/or solve problems involving:
   a. functions of several variables
   b. limits of functions of more than one variable
   c. continuity of functions of more than one variable
   d. partial derivatives
   e. differentiability and the total differential
   f. the chain rule
   g. directional derivatives
   h. tangent planes and normal lines
   i. extrema of functions of several variables
   j. Lagrange multipliers

5. Students will be able to define, determine, and/or solve problems involving:
   a. the double integral
   b. area and volume
   c. the double integral in polar coordinates
   d. surface area
   e. the triple integral
   f. center of mass and moments of interia
   g. cylindrical coordinates
   h. spherical coordinates
   i. change of variables and Jacobians.

6. Students will be able to define, determine, and/or solve problems involving:
   a. vector fields
   b. line integrals
   c. line integrals independent of path
   d. Green’s theorem
   e. surface integrals
   f. the divergence theorem
   g. Stoke’s theorem
**BONUS POINT OPPORTUNITIES:**

There are four ways to get bonus points in this class, as outlined below. **Any bonus points earned from options B, C, and D will be added to the sum of your test grades.**

A. **Homework Sets:** On page 3 of this syllabus is a list of Homework problems from your textbook. Work these problems out in an orderly fashion. Number all of the problems and show all of your work for each problem. Then on the day of the test, you can hand these problems in and I will look over them. The neatness and completeness of your work will determine the number of bonus points that will be added to your test (between 0 and 3 bonus points). Any bonus points that you earn for the Homework problems are for that test only and are not transferable to other tests. The Homework Sets MUST be handed in on the day of the test.

B. **Donating Blood:** If you donate blood, I will award you 5 bonus points. As proof, you must bring in the slip of paper they give you when you donate blood that has your name on it and the date of donation. You can donate blood every 8 weeks, so if you plan to do this twice during the semester, you need to donate near the beginning of the semester so there will be time to donate again before the end of the semester. (Note: if you are eligible to donate red blood cells using the ALYX system, this counts as two blood donations so you get the entire 10 points with that one donation. If you do ALYX, *make sure it is clearly noted on the paper they give you!*)

C. **Volunteering:** If you volunteer for 4 hours with a non-profit agency (such as a hospital, nursing home, animal shelter, etc.), I will award you 5 bonus points. As proof, you must bring a letter from the volunteer coordinator or someone in charge that states what you did, how long you volunteered for, the dates you volunteered on, and includes that person’s name and phone number. **You can take advantage of options B &/or C up to twice a semester for a maximum of 10 bonus points.** Thus, to get your maximum of 10 points, you can EITHER

1. donate blood twice (5 points × 2)
2. volunteer for 8 hours (4 hours + 4 hours = 5 points × 2)
3. donate blood once (5 points) + volunteer for 4 hours (5 points)

D. I have several copies of *An Inconvenient Truth* and *Who Killed the Electric Car?* on DVD. You can “check out” a copy of these DVDs from me, watch them, and fill out the worksheet about the movie (the worksheets are located on my website: [http://www.hccfl.edu/faculty-info/brooke-quinlan.aspx](http://www.hccfl.edu/faculty-info/brooke-quinlan.aspx)). Each movie/worksheet is worth 2 bonus points. If you have already seen one or both movies, then you can still receive the bonus points if you can convince a friend or family member who has NOT seen the movie to watch it and fill out the non-math portion of the worksheet. You must still complete the math portion. If you watch both movies and complete the worksheets, you can get 4 total bonus points.

**Bonus Point Opportunities Summary:**

- 3 points for each Homework Set = 15 points
- Blood donation/volunteer work points from options B and/or C = 10 points
- 2 points for each movie times 2 movies = 4 points
- **TOTAL NUMBER OF BONUS POINTS AVAILABLE IN THE COURSE = 29**

All bonus points get added to the "Tests" portion of your grade. No bonus points will be added to the final exam, "You Try", homework, or attendance portions of your grade. Please take advantage of these bonus point opportunities throughout the semester, and don't wait until the very end of the semester to do them.
**MAC 2313 – Calculus 3 – Fall 2011**

**TENTATIVE SCHEDULE (subject to change)**

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<td>R 12/8</td>
<td><strong>FINAL EXAM</strong> 2nd Day of Finals</td>
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