Calculus II
Spring 2011
MATH 211.01 (4 credits), MTu_ThF, 09:00AM-09:50AM, Wickersham 219

Prerequisites: A grade of C- or better in MATH 161 or MATH 163H (*Calculus I*) is the prerequisite for this course.

Instructor: Dr. Buchanan
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Office Hours: 02:00PM-03:00PM (MTu_ThF), or by appointment
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Course URL: http://banach.millersville.edu/~bob/math211

Textbook: *Calculus*, 3rd edition, Robert T. Smith and Roland B. Minton, McGraw-Hill Company, New York (2007), ISBN 0-07-286953-4.

Objectives: MATH 211 is a continuation and extension of the topics and concepts introduced in MATH 161 *Calculus I*. Major emphasis is on the transcendental functions, techniques of integration, sequences and series, and parametric equations. The student will:

- Apply the definite integral to finding plane areas, volumes and surface areas of solids, and lengths of curves, and to selected problems in physics.
- Learn to differentiate and integrate inverse trigonometric functions.
- Learn standard techniques of integration: Integration by parts, integration of powers of trigonometric functions, trigonometric substitution, partial fractions, and selected special substitutions.
- Evaluate improper integrals of both kinds, and use l'Hôpital's rule.
- Learn about sequences and infinite series, and apply the standard tests for convergence of series (to numerical series, and to power series).
- Construct Taylor and Maclaurin series for functions, and apply them in calculations.
- Graph curves in polar coordinates, recognize standard forms in polar coordinates, and find areas in polar coordinates by integration.
- Describe curves in parametric form, and apply the techniques of calculus to parametric curves.

Course Contents: If time permits other topics may be covered as well.

- Applications of the definite integral
- Exponentials, logarithms and other Transcendental functions

- Integration Techniques
- Infinite series
- Parametric equations and polar coordinates

Attendance: Students are expected to attend all class meetings. If you cannot regularly attend class due to a time conflict with another class or activity, you should change to a different section of this course or wait until a later semester to take this course. You may not remain on the class roster but attend a different section of this course merely for the convenience of your schedule. If you must be absent from class you are expected to complete class requirements (*e.g.* homework assignments) prior to the absence. If you know you will be absent on the day of a test, you must notify me **before** the time the test is scheduled in order to receive permission to take a make-up test. Students who miss a test should provide a valid excuse, otherwise you will not be allowed to make up the test. No final exam exemptions.

Homework: Students are expected to do their homework and participate in class. Students should expect to spend a minimum of three hours outside of class on homework and review for every hour spent in class. Homework exercises help students review and reinforce concepts covered in class. The textbook exercises are arranged in generally increasing level of difficulty. Working only the low-numbered exercises will not prepare a student sufficiently for the test and final examination exercises. All assigned homework exercises must be worked until successful completion. You should work, and if necessary re-work, the exercises until you achieve at least an 80% proficiency on the exercises. In addition to homework problems which will be assigned nearly every class meeting from the textbook, there will be periodic (most likely, twice weekly) graded homework assignments administered through the Mathzone website. Deadlines for completing the Mathzone assignments will be announced several days in advance. Students should begin to work on these assignments as soon as possible in order to avoid delays which may result from computer, website, and internet availability problems. If you have questions about an exercise posted on the Mathzone website, please ask me. The tutors in the Math Assistance Center have been instructed not to help students with exercises downloaded from the Mathzone website. Every student will be allowed one, and only one, 48-hour extension to the deadline of one Mathzone assignment. If you need the deadline extension, you must request it before the deadline. Requests made after the deadlines will not be granted.

Each student will need to enroll by January 26, 2011 in the appropriate section of this course at the Mathzone website (http://www.mathzone.com). The website will prompt you for the section code: 8B8-ED-B7E. If you have difficulty registering at the website, contact me immediately.

Tests: There will be three 50-minute in-class tests and a comprehensive final examination. The tests are tentatively scheduled for

- Tuesday, February 8, 2011
- Friday, March 4, 2011
- Friday, April 8, 2011

Missed tests must be made up as soon as possible, preferably within one week of the originally scheduled test date.

The final examination is scheduled for Wednesday, May 4, 2011, from 08:00AM-10:00AM. I will not "curve" test or exam grades.

Grades: Course grade will be calculated as follows.

Test Average	55%
Homework	20%
Final Examination	25%

Tests and the final examination will be graded individually on a 100-point scale. If a student believes that an error was made in the grading of a test, the student should explain *in writing* why they believe an error exists and submit the graded material and the explanation of the possible error to me within 3 class periods of the graded test or homework being returned to the student. In no cases will adjustments to grades of less than 3 points be made. I keep a record of students' test and exam scores. Students should also keep a record of graded assignments, tests, and other materials. As an example of the calculation of the numerical course grade, suppose a student's three test grades were 78, 65, and 70 (out of a maximum of 100 points on each test), the student's final examination grade was 71 (again, out of a maximum of 100), and that four graded homework assignments were given during the semester with grades of 33/40, 25/50, 37/50, and 25/30. This hypothetical student's numerical course grade would be calculated according to the formula

$$\begin{aligned} \frac{78+65+70}{3}\cdot 0.55 + 71\cdot 0.25 + \frac{\frac{33}{40}+\frac{25}{50}+\frac{37}{50}+\frac{25}{30}}{4}\cdot 20 &= 39.05 + 17.75 + 14.49 \\ &= 71.3 \end{aligned}$$

The course letter grades will be calculated as follows. I will not "curve" course grades.

90-92	A−	93-100	A		
80-82	B−	83-86	B	87-89	B+
70-72	C−	73-76	C	77-79	C+
60-62	D−	63-66	D	67-69	D+
		0-59	F		

Course Repeat Policy An undergraduate student may not take an undergraduate course of record more than three times. A course of record is defined as a course in which a student receives a grade of A, B, C, D, (including + and −) F, U, Z or W. The academic department offering a course may drop a student from a course if the student attempts to take a course more than three times.[1]

The last day to withdraw from a course (receiving the W grade) is April 1, 2011.

Inclement Weather Policy: If we should miss a class day due to a school closing because of weather, any activities planned for that missed day will take place the next time the class meets. For example, if a test is scheduled for a day that class is canceled on account of snow, the test will be given the next time the class meets.

Cell Phones: Silence (or better yet, turn off) all cellular telephones upon entering the classroom. Leaving class to initiate or receive a telephone call will not be tolerated and students doing so will not be re-admitted to the classroom until the following class meeting. Texting or tweeting during class interferes with the learning process. Students distracted by their cell phones are not engaged in class and will find, over the course of the semester, that learning and course grade will suffer.

Final Word: Math is not a spectator sport. What you learn from this course and your final grade depend mainly on the amount of work you put forth. Daily contact with the material through homework assignments and review of notes taken during lectures is extremely important.

No one can guarantee you success in this course. Your responsibilities and the instructor's expectation are outlined above. There will be no second chances or "do-overs".

[1] Memorandum to mathematics faculty from Dr. Charles G. Denlinger, Assistant Chair, Department of Mathematics, August 30, 2004.