



Calculus II (4 credits) NY 422104
Fall Semester 2007

Professors:

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Aim and objectives:

The course entitled “Calculus II” involves more techniques of integral evaluation, introduces basic differential equations and initial-value problems, and provides a treatment of sequences and infinite series, functions of two or more variables, partial derivatives, double and triple integrals.

Prerequisites:

Calculus I

Main textbook:

H. Anton, I. Bivens, S. Davis, *Calculus*, 7th edition, John Wiley & Sons, Inc., New York, 2002.

Reference book:

Howard Anton, *Calculus, A new Horizon*, 6th edition, John Wiley & Sons, Inc.

Teaching methods:

2x2 hours per week in the form of lectures

Assessment criteria:

Active participation	10%
Homework	10%
Test	10%
Midterm exam	30%
Final exam	40%

Exams are closed books. Also, you use your own calculator and nothing else will be allowed. **Mobile phones are strictly not tolerated in the class for any use** (including computations). Active participation is meant as the effort and the interest that a student shows in the class, including homework. After each session students are expected to study all the relevant material, read all the associated exercises, identify the difficult points and pose their questions in the next session either directly to me or in the class. **Cheating and plagiarism in any form will result immediately in the grade F. Students who are absent more than 20% of the total hours of the semester (i.e. 12 hours) may be required to withdraw from the course.**

Syllabus:

- Infinite Series
 - Sequences. Definition, graphs and limit
 - Monotone sequences
 - Infinite series, sums, the comparison, ratio and root tests
 - Alternating series, conditional convergence
 - Convergence of Taylor series; computational methods
 - Differentiating and integrating power series
- Analytic Geometry in Calculus
 - Polar coordinates
 - Vectors; arithmetic operations
 - Dot product; projections; cross product; scalar triple product
- Partial derivative
 - Notion and terminology of functions of two or more variables
 - General limits of functions of two variables; continuity
 - Partial derivative; higher order partial derivative
 - Differentiability and continuity
 - Maxima and minima of functions of two variables
- Multiple integrals
 - Double integrals; definition and properties
 - Double integrals in polar coordinates
 - Triple integrals

- Triple integrals in cylinder and spherical coordinates

Grading Scale and Quality Points:

Grade	Percentage	Quality points
A	96-100	4.00
A-	90-95	3.67
B+	87-89	3.33
B	83-86	3.00
B-	80-82	2.67
C+	77-79	2.33
C	73-76	2.00
C-	70-72	1.67
D+	67-69	1.33
D	63-66	1.00
D-	60-62	0.67
F	0-59	0.00

Class Conduct: You are responsible for everything that is announced, presented or discussed in class. The way to avoid any misunderstanding associated with this course is to attend class. You are expected to attend class and I do keep attendance records. Please, be courteous during class; both to me and your colleagues. I find late arrivals distracting, which cause a decline in the quality of my lecture. Importantly, it is also disruptive to your colleagues. Please, refrain from talking during class; it is disruptive to your colleagues and the lecture. I expect the best behavior from all of you. This is what education is all about. **Please, consider that the language of instruction is English, so all our conversation into the class must be in this language.**

If you feel that you have special learning difficulties, please, make an appointment with Ms. Anxhela Gramo. Ms. Anxhela Gramo is trained to help students with learning difficulties. She shall provide this service to our students, just as it is offered in all American universities.