MAT 301 : Calculus III
Fall 2008
MWF 10:30 am - 11:20 am, Hubbard 209 A

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Course Materials

Calculus, 3rd Edition by Strauss, Bradley, Smith (required)

Introduction

In this course, mathematics begins. While the first two semesters of Calculus gave you a nice introduction to the limit, the derivative, and the anti-derivative, in this course we will attempt to introduce a higher level of rigor. We will begin the semester by studying limits of sequences and series, before studying calculus in higher dimensions. As this class meets only twice a week, it is your responsibility to make an effort to look over the material at least 30 minutes every day in addition to the time you spend on course work.

Exams

There will be two in-class exams as well as a final cumulative exam. The exams will test your ability to work through some of the computations, as well as your ability to apply the techniques to certain applications. The first exam is scheduled for Friday, September 26, the second exam is scheduled for Friday, October 31. The final exam will be held on Thursday, December 11 from 9:00 to 11:30. All exams will count for 20 percent of your final grade. There will be NO make-ups for missed exams. Please look over your schedule as soon as possible. If you see a potential conflict, inform me immediately.

Homework

The best way to learn Mathematics is to solve problems. Homework will be assigned at the end of each class period and collected the following class period. I will choose 4 or 5 problems to grade in each assignment. To earn full credit for a problem, a complete solution to the problem must be submitted. Just writing down the answer will not earn full credit. In addition to points for each graded problem, 5 points on each assignment will count for completeness and neatness of the graded assignment. Late assignments will not be graded, but they will be eligible for the 5 completion points. If you are not in class the day an assignment is collected, you may turn in your assignment into my office later that day. However, your assignment will be considered late. The homework is designed to help you identify where you might have difficulties. If you encounter any trouble with an assignment or a concept, seek help! The homework will count for 20% of your final grade.

Quizzes

Every other Friday, starting with September 5th, we will have an in-class quiz. There will be a total of 6 quizzes throughout the semester. You should treat the quizzes as mini-exams, covering material from approximately 2 weeks worth of course work. The quizzes will consists of 4 or 5 problems similar to problems from your graded homework, and they are to make sure that you are keeping up with the concepts presented in class, and to identify where you are having problems before you take the exams. The quizzes will count for 20% of your final grade.

Attendance

Attendance in MAT 112 is extremely important. Although there is no official attendance policy, note that if you are not in class on a particular day, your homework will not be graded for a score. I will also require that you be in class at 10:30 am and no later. If you are late to class, you may stay to enjoy the wonderful learning experience. However, your homework assignment for the day will be considered late.

Grading
Your grade in this course will be based on three main factors: homework, quizzes and exams. The homework will be worth 20% of your final grade, the quizzes 20%, and the exams 60%. In addition to these factors, minor ethereal factors such attendance, class participation, attitude, and improvement over the course of the semester can also affect your grade. To determine your final grade, 90–100% = A, 80–89% = B, 70–79% = C, 60–69% = D, 59 and below = F, with the top two percents receiving a + and the bottom two percents receiving a −.

Important Dates

Friday, September 5 – Quiz I
Friday, September 19 – Quiz II
Friday, September 26 – Exam I
Friday, October 10 – Quiz III
Monday, October 13 – Fall Break
Friday, October 24 – Quiz IV
Friday, October 31 – Exam II
Friday, November 14 – Quiz V
Wednesday, November 26 - Sunday, November 30 – Fall Break
Friday, December 5 – Quiz VI
Monday, December 8 – Last Day of Classes
Thursday, December 11, 9:00 - 11:30 – Final Exam

Suggestions
Come to class with your homework assignment completed every day
Study for at least 30 minutes each day in addition to completing your homework assignment
Read the section we will be covering in class *before* arriving to class
Do not fall behind!
Come to office hours to discuss homework and concepts. I am here to help!

Syllabus
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Week 1	August 27	Course Policies, Syllabus, Basic Terms
	August 29	Section 8.1 – Sequences and their Limits
Week 2	September 1	Section 8.2 – Infinite Series ; Geometric Series
	September 3	Section 8.3 – The Integral Test; p-Series
	September 5	Section 8.4 – Comparison Test, **Quiz I**
Week 3	September 8	Section 8.4 – (continued)
	September 10	Section 8.5 – The Ratio Test and the Root Test
	September 12	Section 8.5 – (continued)
Week 4	September 15	Section 8.6 – Alternating Series; Absolute and Conditional Convergence
	September 17	Section 8.6 – (continued)
	September 19	Section 8.7 – Power Series, **Quiz II**
Week 5	September 22	Section 8.7 – (continued)
	September 24	Review
	September 26	**Exam I**
Week 6	September 29	Section 8.8 – Taylor and Maclaurin Series
	October 1	Section 8.8 – (continued)
	October 3	Section 9.1 – Vectors in $\mathbb{R}^2$
Week 7	October 6	Section 9.1 – (continued)
	October 8	Section 9.2 – Coordinates and Vectors in $\mathbb{R}^3$
	October 10	Section 9.2 – (continued), **Quiz III**
Week 8	October 13	`NO CLASS`
	October 15	Section 9.3 – The Dot Product
	October 17	Section 9.3 – (continued)
Week 9	October 20	Section 9.4 – The Cross Product
	October 22	Section 9.4 – (continued)
	October 24	Section 9.5 – Parametric Representation of Curves; Lines in $\mathbb{R}^3$, **Quiz IV**
Week 10	October 27	Section 9.5 – (continued)
	October 29	Review
	October 31	**Exam II**
Week 11	November 3	Section 9.6 – Planes in $\mathbb{R}^3$
	November 5	Section 9.6 – (continued)
	November 7	Section 10.1 – Introduction to Vector Functions
Week 12	November 10	Section 10.1 – (continued)
	November 12	Section 10.2 – Differentiation and Integration of Vector Functions
	November 14	Section 10.2 – (continued), **Quiz V**
Week 13	November 17	Section 10.3 – Modelling Ballistics and Planetary Motion
	November 19	Section 10.3 – (continued)
	November 21	Section 10.4 – Unit Tangent and Principle Unit Normal Vectors; Curvature
Week 14	November 24	Section 10.4 – (continued)
	November 26	`NO CLASS`
	November 28	`NO CLASS`
Week 15	December 1	Section 10.5 – Tangential and Normal Components of Acceleration
	December 3	Section 10.5 – (continued)
	December 5	Review, **Quiz VI**
Week 16	December 8	Review