

COURSE DESCRIPTION
MA 109 — SURVEY OF CALCULUS
FALL 2007, SECTION 2E

DEPARTMENT OF MATHEMATICS
UNIVERSITY OF ALABAMA AT BIRMINGHAM

Course Instructor: A. Blokh
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Office Hours: Tuesday, 12:30-1:30pm
Thursday, 12:30-1:30pm
By appointment

Meeting times: T,Th at 2:00pm-3:15pm
Meeting location: EB146
Prerequisite: Grade of C or better in MA 105 or MA 107.
Credits: 3 semester hours
Textbook: *Calculus for the Managerial, Life and Social Sciences*
Seventh Edition, by S. T. Tan
Thomson-Brooks/Cole, 2006, Chapters 2 — 5
plus topics from Chapters 6

Important dates:

First day of classes: Aug 22
Last day to drop: Aug 29
Labor Day Holiday: Sep 3
Thanksgiving Holidays: Nov 21-Nov 25
Last day to withdraw with a W: Oct 22
Last day of classes: Dec 5
Major exams (tentatively): Sep 6, Oct 2,
Oct 25, Nov 29
Common Final exam: Friday, Dec 7, 7:15pm-9:45pm
Location for the Final Exam: TBA

Course policies:

- Please make sure that you are able to receive e-mail through your Blazer-ID account. Official course announcements will be sent to that address.
- If you wish to request a disability accommodation please contact DSS at 934-4205 or at dss@uab.edu.
- The two lowest quiz grades and the two lowest homework grade will be dropped to account for any missed assignments due to illness or any other circumstance. If a test is missed due to a serious verifiable circumstance or official university business, that test grade will be replaced by the final exam score.

Date: August 8, 2007.

- No books, notes or calculators allowed during any tests or quizzes.

Aims of the course:

- Students will develop a firm understanding of limits, derivatives, and continuity.
- Students will learn rules of differentiation and be able to apply those to polynomial, exponential, and logarithmic functions.
- Student will learn the applications of derivatives optimization, and curve sketching.
- Students will develop a basic understanding of antiderivatives, their use in determining areas, and their applications in economics.

Methods of teaching and learning:

- 29 class meetings of 75 minutes consisting of lectures and discussions of examples and homework problems. Time for quizzes and four in-class tests is included.
- Students are expected to undertake at least 6 hours of private study and homework per week.
- The online homework system ThomsonNOW will be used (look for more information below).

Course content:

- (1) Review of precalculus
 - (2) Functions and their graphs, the algebra of functions
 - (3) Functions and mathematical models
 - (4) Test #1 (tentatively on September 6)
 - (5) Limits
 - (6) One-sided limits and continuity
 - (7) Derivatives
 - (8) Basic rules of differentiation
 - (9) The product and quotient rules
 - (10) The chain rule
 - (11) test #2 (tentatively on October 2)
 - (12) Marginal functions in economics
 - (13) Higher-order derivatives
 - (14) Applications of the first derivative
 - (15) Applications of the second derivative
 - (16) Curve sketching
 - (17) test #3 (tentatively on October 25)
 - (18) Optimization
 - (19) Exponential functions
 - (20) Logarithmic functions
 - (21) Differentiation of exponential functions
 - (22) Differentiation of logarithmic functions
 - (23) Antiderivatives and the rules of integration
 - (24) Area and the definite integral
 - (25) Test #4 (tentatively on November 29)
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Assessment procedures:

- Student achievement will be assessed by the following measures:
 - Regular online homework. Homework will be due one week after assignment. Feedback is provided when wrong answers are given. Students are encouraged to retake the homework problems (with randomly changed parameters) until they obtain correct answers. An unlimited number of takes is allowed during the week in which the set is available. Homework contributes 15% to the course average. Problems on tests are modeled closely after homework problems. Staying on top of homework is therefore extremely important.
 - Sporadic unannounced quizzes. Quiz problems are taken straight from the homework problem sets. This allows students to gauge whether they are ready to work problems in a test situation. Quizzes contribute 15% to the course average.
 - Four 50-minute tests in class including short questions for which either full credit or no credit is awarded (Part I) as well as problems requiring in depth understanding for which partial credit is awarded where appropriate. Each test contributes 10% to the course average.
 - A 180-minute comprehensive final examination including Part I and Part II type problems. The final contributes 30% to the course average.
- Your course performance is the maximum of your course average and your final exam grade (each is a number between 0 and 100).
- Your final grade is determined according to the following table:

Course performance:	88-100	75-87	62-74	50-61	below 50
Final Grade:	A	B	C	D	F

Tips:

- Help is available in the Math Learning Lab (CH 445).
- By working steadily and regularly, you will increase your chances to succeed in this course.
- Remember, being a full-time student is a full-time job.

How to get started on Thomson Now:

Course key: E-44RJDYCVR8Y6S

If you are already a registered Thomson Now user:

- (1) Go to *www.ilrn.com* and log on.
- (2) On the Courses tab click *Register for another course*.
- (3) Enter the above course key and click *Use This Course Key*.

If you are not yet a registered Thomson Now user:

- (1) Go to *www.ilrn.com* and click on *Create An Account*.
- (2) Click on *Student*.
- (3) Choose your school after searching for *Birmingham*.
- (4) Click the radio button under *Course Key*, enter the above course key and click *Continue*.
- (5) Enter your account information.
- (6) You will receive a confirmation email after registering.
- (7) After your first registration, you can sign in as returning user.

Should you run into technical problems Thomson provides technical support (by either email or phone). The phone number for technical support is (888) 281-2990. Of course, you should also contact the instructor if problems can not be resolved easily.