

## MAT 210: BRIEF CALCULUS

### Spring 2007 Syllabus

SLN: 09217		Instructor: Christopher Severs	
Place: PSA 108		Office: Goldwater 699	
Time: 4:40- 5:55		Office Hours: TuTh 2- 4	
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Instructor's MAT 210 page address: : <a href="http://mathpost.asu.edu/~severs/teaching/mat210_sp07">http://mathpost.asu.edu/~severs/teaching/mat210_sp07</a>			
General MAT 210 page address: <a href="http://math.asu.edu/fym/Courses/mat210/mat210.html">http://math.asu.edu/fym/Courses/mat210/mat210.html</a>			

**Text:** *Essential Mathematics for Business and Economic Analysis Second Edition*, custom publishing by Pearson

**Prerequisites:** Students of MAT 210 are expected to complete MAT 117 (College Algebra) with a grade of A, B or C.

**Placement Exam:** Students **must** take the Unified Mathematics Placement Test outside of class on the Internet **prior to enrolling in this course**. The URL is <http://math.asu.edu/fym/placement.html>. This exam emphasizes required algebraic skills and assesses the student's general level of current mathematical ability.

**Graphing Calculator:** A graphing calculator is required for this course. Highly recommended models include the TI-83/84 calculators and the Casio 9750G or 9850GB Plus calculators.

\* If you already have a graphing calculator, you may use it.

\* NOT permitted: calculators with QWERTY keyboards or those that do symbolic algebra, such as the Casio FX2, Casio 9970Gs, TI-89, or TI-92

#### Graphing calculator workshops:

##### For TI-83/84 and 83/84 Plus:

On Monday January 22 at 3:05- 5:00 PM in MURDOCK 101

On Tuesday January 23 at 4:40- 6:30 PM in MURDOCK 101

##### For Casio fx-9750G Plus and Casio CFX-9850GB Plus:

On Monday January 22 at 3:05- 5:00 PM in PSH 135

On Tuesday January 23 at 3:05- 5:00 PM in PSF 101

## Outline of the course

<i>No.</i>	<i>Week</i>	<i>Topics</i>	<i>Comments</i>
1	Jan. 15 – Jan. 19	<b>1.1:</b> A Dash of Limits, <b>1.2:</b> More on Limits	MLK Holiday (1/15)
2	Jan. 22 – Jan. 26	<b>1.3:</b> Continuity, <b>1.4:</b> Intermediate Value Theorem, <b>1.5:</b> The Derivative	
3	Jan. 29 – Feb. 02	<b>1.5:</b> The Derivative, <b>1.6:</b> Rates of Change and Increasing and Decreasing Functions	
4	Feb. 05 – Feb. 09	<b>1.7:</b> Simple Rules for Differentiation, <b>1.8:</b> Sums, Products and Quotients	
5	Feb. 12 – Feb. 16	<b>Review</b> , <b>1.9:</b> Chain Rule, <b>1.10:</b> Higher Order Derivatives	<b>Exam 1 (1.1 – 1.8)</b>
6	Feb. 19 – Feb. 23	<b>1.11:</b> Exponential and Logarithmic Functions, <b>2.1:</b> Implicit Differentiation	
7	Feb. 26 – Mar. 02	<b>2.2:</b> Differentiating the Inverse, <b>2.3:</b> Linear Approximation	
8	Mar. 05 – Mar. 09	<b>2.4:</b> Why We Use Elasticities, <b>3.1:</b> Introduction, <b>3.2:</b> Simple Tests for Extreme Points	
9	Mar. 12 – Mar. 16	<b>Spring Break</b>	
10	Mar. 19 – Mar. 23	<b>Review</b> , <b>3.3:</b> Local Extreme Points, <b>3.4:</b> The Extreme Value Theorem	<b>Exam 2 (1.9 – 2.4, 3.1 - 3.2)</b>
11	Mar. 26 – Mar. 30	<b>3.5:</b> Business and Economic Models	
12	Apr. 02 – Apr. 06	<b>3.6:</b> Inflection Points, <b>4.1:</b> Indefinite Integrals, <b>4.5:</b> Integration by Substitution	
13	Apr. 09 – Apr. 13	<b>4.6:</b> Integration by Parts, <b>4.2:</b> Riemann Sums,	
14	Apr. 16 – Apr. 20	<b>4.3:</b> Areas and Definite Integrals, <b>4.4:</b> Properties of Definite Integrals, <b>Review</b>	
15	Apr. 23 – Apr. 27	<b>4.7:</b> Infinite Integrals of Integration, <b>4.8:</b> Business and Economic Applications	<b>Exam 3 (3.3 – 4.6)</b>
16	Apr. 30 – May 01	<b>Review</b>	

**Final Exam:** The final exam will be given in your regular classroom at the time prescribed by the standard university final exam schedule -- see

<http://www.asu.edu/registrar/registration/finals.html>

- \* Time and date of my MAT 210 final: \_\_\_\_\_
- \* Makeup finals will NOT be given for conflicts with travel and/or other events. PLAN ACCORDINGLY.

**Midterm Exams:** You will take three exams during the semester. Each will involve a mix of mechanical skills and conceptual reasoning. The best possible preparation for them is regular **attendance** and completion of assigned **homework**.

- \* These exams are taken outside of class time in the [Mathematics Department Testing Center](#), in PSA 21 (basement).
- \* To be admitted to the Testing Center each student **must** have a valid ASU "Sun Card".
- \* The testing center is open 8:00 a.m. - 6:30 p.m. M-Th and 8:00 a.m. - 3:30 p.m. Friday. Make sure you arrive **before** 6:30 p.m. M-Th or 3:30 p.m. Fri. The testing center will not allow late entry. Arrival before the door closes allows the student an hour and a half to complete the test.
- \* Students should complete exams as early as possible during the allotted time frame, since the center can get extremely busy in the afternoons.
- \* Your calculator memory may be viewed during any exam and will be cleared if anything suspicious is noted. The instructor has the right to regard finding suspicious material in your calculator memory as cheating.

Exam	Dates		Sections Covered
	MWF and MW Classes	TTh Classes	
<b>Exam 1 (Wk 5)</b>	Tue - Wed Feb 13 - Feb 14	Wed - Thu Feb 14 - Feb 15	1.1 – 1.8
<b>Exam 2 (Wk 10)</b>	Tue - Wed Mar 20 - Mar 21	Wed - Thu Mar 21 - Mar 22	1.9 – 2.4, 3.1, 3.2
<b>Exam 3 (Wk 15)</b>	Tue - Wed Apr 24 - Apr 25	Wed - Thu Apr 25 - Apr 26	3.3 – 4.6
<b>Final Exam</b>	<a href="#">According to the ASU Finals Schedule</a>		Cumulative, Includes 4.7 – 4.8

**Makeup exams:** Makeup exams are given at the discretion of the instructor and only in the case of verified medical or other **documented** emergencies. Notify your instructor **before the test is given** if possible. Call your instructor or the Math Department Office (480-965-3951) and leave a message or directly notify your instructor by email ASAP. If the event is not an emergency, you must notify the instructor in advance to request a makeup.

**Grading Criteria:**

Point Allocation	
3 Midterm Exams	45%
Final Exam	25%
Homework, Quizzes, Attendance, Projects, Modeling (Instructor Discretion)	30%

No test will be dropped!

**Grade Assignment:**

A+	97%+	B-	80% - 82.99%
A	93% - 96.99%	C+	77% - 79.99%
A-	90% - 92.99%	C	70% - 76.99%
B+	87% - 89.99%	D	60% - 69.99%
B	83% - 86.99%	E	< 60%

**Homework, Quizzes & Projects:**

- \* Students are expected to read relevant sections of the textbook prior to attending class.
- \* Homework, quizzes, and projects will be graded. Students may work together on homework, but each individual student is required to submit their own work.
- \* Quizzes and projects are given at the discretion of the instructor and frequently reflect material that has recently been discussed in class. To encourage attendance, instructors need not give makeup quizzes or projects.
- \* [WeBWork](#) will be used for homework.

**Students Resources:**

**Tutor Center:** The [Math Tutor Center](#) (free of charge) in PSA 116 will be open M-Th 8:00 a.m. - 8:00 p.m., Fri. 8:00 a.m. - 2:00 p.m., Sun. noon - 4:00 p.m. Come in for help **before** it is too late, and several days **before** an exam day to strengthen your preparation. In order to be admitted to the Tutor Center each student present their valid ASU "Sun Card".

**ASU Learning Resource Center (LRC):** The [LRC](#) provides counseling, tutoring in math (and many other subjects), supplemental instruction, and other types of support to students. It

is located in PV West (in the “turtle building”) and in the Memorial Union, Room 14, and is open from 8:00 a.m. to 5:00 p.m.

**First Year Mathematics Courses: Spring Semester 2007  
Departmental and University Policies and Procedures**

Departmental drop back:	February 5, 2007
Course withdrawal (in person):	March 30, 2007
Course withdrawal (online):	April 01, 2007
Complete withdrawal:	May 01, 2007

**Departmental Drop Back:** Based on results of the pretest and advising from the course instructor, a student may elect to drop back to a lower level math course before the drop back deadline. Students should go to the Undergraduate Mathematics Office in PSA 211 to initiate a drop back request.

**Course Withdrawal:** A student may withdraw from a course with a grade of W during the withdrawal period. The instructor’s signature is not required.

**Instructor- Initiated Drop:** At the instructor's discretion, any student who has not attended class during the first week of classes may be administratively dropped from the course. However, students should be aware that non- attendance will NOT automatically result in their being dropped from the course. Thus, a student should not assume they are no longer registered for a course simply because they did not attend class during the first week. It is the student's responsibility to be aware of their registration status.

**The grade of Incomplete:** A grade of incomplete will be awarded only in the event that a documented emergency or illness prevents the student who is doing **acceptable work** from completing a **small** percentage of the course requirements. The student must provide written documentation and be passing the class at the time to receive an Incomplete. Make- up final exams will NOT be given for reasons of a non- refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end- of- semester travel plans. The guidelines in the current general ASU catalog regarding a grade of incomplete will be strictly followed. *The Dean of the student’s college must approve any exceptions to these rules.*

**Final Exam Make- up Policy:** The final exam schedule listed in the Schedule of Classes will be strictly followed. Exceptions to the schedule and requests for make- up final

examinations can be granted only by the Department Chair, Associate Department Chair or the Director of First Year Mathematics, and for one of the following reasons:

1. Religious conflict (e.g., the student celebrates the Sabbath on the day of the final exam,)
2. The student has more than three exams scheduled on the same day as the math final
3. There is a time conflict between the math final and another final exam.

**Honor Policy:** The highest standards of academic integrity are expected of all students. The failure of any student to meet these standards may result in suspension or expulsion from the University or other sanctions as specified in the University Student Academic Integrity Policy. Violations of academic integrity include, but are not limited to, cheating, fabrication, tampering, plagiarism, or facilitating such activities.

**The grade of XE:** A grade of **XE** is reserved for "failure for academic dishonesty." The **XE** grade may be petitioned after 1 year.

**Ethics:** It's highly unethical to bring to your instructor's attention the possible impact of your mathematics grade on your future plans, including graduation, scholarships, jobs, etc. The instructor may exercise an option to withdraw you from the course if they think you are compromising the ability to assess your work independently of any other consideration. Students found to be involved in academic dishonesty will be removed from the class, and a grade of **XE** for the course will be submitted to the registrar. The student will be advised to repeat the course with another professor, possibly at another institution. This is the least action taken. Further, more serious actions may be taken if the situation indicated that such actions are appropriate. We will act very harshly against cheating during Quizzes or Exams.

The instructor reserves the right to make changes to the syllabus for the benefit of the class.

**Suggested Homework Problems from the Textbook**

<b>Sections</b>	<b>Pages</b>	<b>Homework Problems</b>
<b>1.1</b>	6 - 8	4, 5, 8, 9, 13, 15, 17 b, 18 b, 20 c, 20 e, 21 c, 21 d, 22 f
<b>1.2</b>	14 - 15	3, 5, 6, 7, 9, 11 b, 11 f, 12 b
<b>1.3</b>	19 - 21	2, 4, 6, 7, 9, 13 b, 13 e
<b>1.4</b>	22 - 23	2, 3, 5, 6
<b>1.5</b>	29 - 31	1a, 3, 5, 9, 10, 13
<b>1.6</b>	36	1, 3, 5, 6
<b>1.7</b>	40 - 41	3, 5, 8, 11, 13, 15
<b>1.8</b>	45 - 47	2, 3, 5, 8, 9, 11, 13, 16, 17
<b>1.9</b>	51	3, 5, 8, 9, 13
<b>1.10</b>	56	2, 3, 6, 7
<b>1.11</b>	64 - 66	3, 5, 9, 11, 14, 15, 17, 18, 21, 23, 25, 27, 29, 31
<b>2.1</b>	73	3, 4, 5, 7, 9, 11
<b>2.2</b>	76	1, 3, 4
<b>2.3</b>	80 - 82	3, 4, 5, 7, 9, 13, 14
<b>2.4</b>	85 - 86	1b, 1c, 3, 4
<b>3.1</b>	98	1, 2
<b>3.2</b>	101 - 102	2, 3, 5, 9, 13, 15
<b>3.3</b>	108 - 109	3, 5, 9, 10, 13b, 13c
<b>3.4</b>	114 - 115	2, 3, 5, 8
<b>3.5</b>	123 - 125	3, 4, 5, 7, 10, 11
<b>3.6</b>	128 - 130	3, 4, 5, 7, 11, 13
<b>4.1</b>	135 - 138	3, 5, 7, 9, 10, 12, 15, 17, 20, 21b, 23, 25b, 26b
<b>4.2</b>	142	2, 3
<b>4.3</b>	148 - 149	3, 5, 9, 10, 13, 15, 19
<b>4.4</b>	152 - 153	3, 5, 6, 9
<b>4.5</b>	155 - 157	2, 3, 7, 9, 13, 15, 17, 19
<b>4.6</b>	160 - 161	3, 5, 7, 9, 10
<b>4.7</b>	166 - 169	2, 3, 5, 7, 9, 11, 13
<b>4.8</b>	176	1, 3, 5