

# Math 125 Basic Calculus

## Departmental Syllabus Fall 2008

### Monday – Wednesday - Friday Schedule

**Instructor Contact Information:** This information is section specific and will be given here in the copy given to each student on the first day of classes.

**Course Description:** For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Calculus of algebraic, exponential, and logarithmic functions, with applications. Prereq: satisfactory placement test score, or 119 or 130. No student who has received credit for 141 or 152 with a grade of C or better may subsequently receive credit for 125. Students who receive a grade of C or better in Math 125 may not subsequently receive credit for 119. **(QR)** 3 credit hours.

**Text:** *Brief Calculus, An Applied Approach*, by Larson, 8<sup>th</sup> Edition, Custom edition, Houghton Mifflin Publishers.

**Course Companion Websites:** WebAssign and HM MathSPACE: Use the “passkey” that came with your new textbook and the instructions provided by your instructor to access online resources (including free online tutoring called “Smarthinking”) to accompany your text.

**Calculators:** A graphing calculator and a small scientific calculator are recommended for this course. The Math Department recommends and provides support for the TI-83+ and TI-84+ models. While other calculators may be used with your instructor’s permission, instructors and tutorial center staff may not be able to provide help on how to use them. Use of cell phone calculators and calculators with advanced alpha-numeric capabilities, such as the TI-89, is forbidden in this course.

**Grades:** Grades will be determined using the grading scale below. Your letter grade is a measure of your mastery of course material and your fulfillment of course objectives. You should keep all of your graded work until final grades are posted. The homework and quizzes category may contain other material to be specified by the individual instructor on their individual syllabus.

**Grading Scale:**

	$90\% \leq A \leq 100\%$	$70\% \leq C < 73\%$
5 Tests (drop 1) for total of	60%	$87\% \leq A- < 90\%$
Homework and Quizzes	20%	$83\% \leq B+ < 87\%$
<u>Cumulative Final Exam</u>	<u>20%</u>	$80\% \leq B < 83\%$
Total Possible	100%	$77\% \leq B- < 80\%$
		$73\% \leq C+ < 77\%$
		$67\% \leq C- < 70\%$
		$63\% \leq D+ < 67\%$
		$60\% \leq D < 63\%$
		$57\% \leq D- < 60\%$
		F < 57%

**Final Exam:** The comprehensive final exam date and time will be stated on the individual instructor’s syllabus.

**All students are required to take the final exam.** Students who miss the final without securing permission ahead of time will fail the course.

**Attendance & Make-up Policy:** This will be clearly stated on the individual instructor's syllabus.

**Math 109** (Algebra Workshop) is a self-paced tutorial center for students who need additional help (as determined by placement exams, assessment exams or classroom performance). Students practice algebraic skills needed (but not necessarily taught) to master the material covered in Math 125. This one-credit course meets at a time selected by the student and compatible with his/her schedule. Interested students should register for the section whose time best fits their schedule. Once registered, they can check the announcements at <http://online.utk.edu> under Algebra Workshop for more information. S/NC grading. Students successfully completing Math109 will have a maximum of 10 points added to their lowest test score.

**Disability Services:** If you need course adaptations or accommodations because of a documented disability or if you have emergency information to share, please contact the Office of Disability Services at 2227 Dunford Hall at 974-6087.

**Math Tutorial Center:** The Math Tutorial Center is in Ayres Hall room 322. It provides **free tutoring**. Hours of operation are posted at <http://www.math.utk.edu/MTC/>. Please make use of this free service.

<b>Important Dates:</b>	
Add/drop without W deadline	August 29, 2008
Test 1	September 8, 2008
Test 2	September 26, 2008
Test 3	October 20, 2008
Drop with W deadline	October 21, 2008
Test 4	November 5, 2008
Drop with WP/WF deadline	November 11, 2008
Test 5	November 26, 2008
Final Exam	Dependent on class meeting time, stated clearly on individual syllabus

**Classroom Etiquette:** Please be considerate of the instructor and those around you. Come to class on time and stay the entire period. Turn off cell phones and beepers during class. Do not talk to classmates at inappropriate times. Refrain from reading newspapers or working on other coursework during class. For information on Classroom Behavior Expectations and consequences of non-compliance please see the following link: <http://www.math.utk.edu/Undergraduate/undergrad/Expectations.pdf>

#### **Academic Standards of Conduct:**

All students are expected to abide by the University **Honor Statement**. In mathematics classes, violations of the honor statement include copying another person's work on any graded assignment or test, collaborating on a graded assignment without the instructor's approval, using unauthorized "cheat sheets" or technical devices such as calculators, cell phones or computers for graded tests or assignments, or other infractions listed in "**Hilltopics**". These violations are serious offenses, subject to disciplinary action that may include failure in a course and/or dismissal from the University. The instructor has full authority to suspend a student from his/her class, to assign an "F" in an exercise or examination, or to assign an "F" in the course. See "**Hilltopics**" for more complete information. A report of all offenses will be sent to appropriate deans and the Office Student Judicial Affairs for possible further action.

#### **The Honor Statement**

*An essential feature of the University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.*

The following schedule is tentative. Each instructor has the option to vary dates and assignments as they see fit. Problems in *italics* use calculators. Some of the application problems may need scientific calculators to handle the numbers. WOC = without calculator.

<b>Dates</b>	<b>Section</b>	<b>Topic and Suggested Homework/Practice Problems</b>
8/20	1.5	Introduction, Syllabus, and Limits pp. 92 & 93 odd: 9 – 59, 69, 71
8/22	1.5 & 1.6	Limits and Continuity pp. 102 – 104 odd: 1 – 45, <i>odd: 47 – 67</i>
8/25, 27	2.1	The Derivative and the Slope of a Graph odd: 1 – 37, <i>odd: 39 – 45, odd: 47 – 61, 71 – 74</i>
8/29	2.2	Some Rules for Differentiation odd: 1 – 63, <i>odd: 65, 67</i>
9/3	2.3	Rates of Change: Velocity and Marginals odd: 1 – 47 <i>scientific calculators as needed</i>
9/5	Review	pp 111 – 112: 81 – 121, p 113: 14 – 21, see page 198 for exercises
9/8	<b>Test 1</b>	Sections 1.5, 1.6, 2.1, 2.2, and 2.3
9/10, 12	2.4	The Product and Quotient Rules odd: 1 – 49, 51, 53, odd: 55 – 71
9/15, 17	2.5	The Chain Rule odd: 1 – 45, odd: 51 – 65, <i>odd: 67 – 71, odd: 73 – 81</i>
9/19	2.6	Higher – Order Derivatives odd: 1 – 45, 47, 49, 50, 51, 53 – 57,
9/22	3.1	Increasing and Decreasing Functions odd: 1 – 37 (WOC), 39 – 43
9/24	Review	see pages 199 and 285 for exercises
9/26	<b>Test 2</b>	Sections 2.4, 2.5, 2.6, and 3.1
9/29	3.2	Extrema and the First – Derivative Test odd: 1 – 31, odd: 37 – 51
10/1	3.3	Concavity and the Second – Derivative Test odd: 1 – 21, odd: 31 – 37, odd: 51 – 67, odd: 73 – 77
10/3, 6	3.4	Optimization Problems odd: 1 – 43 <i>scientific calculators as needed</i>
10/8, 13	3.5	Business and Economics Applications odd: 1 – 43 <i>scientific calculators as needed</i>
10/15	3.8	Differentials and Marginal Analysis odd: 1 – 45 <i>scientific calculators as needed</i>
10/17	Review	see pages 285, 6
10/20	<b>Test 3</b>	Sections 3.2, 3.3, 3.4, 3.5, and 3.8
10/22	4.1, 4.2, and 4.4	Exponential, Natural Exponential, and Logarithmic Function Review (Optional: as needed and time allows)
10/22	4.3 & 4.5	Derivatives of Exponential and Logarithmic Functions all odd <u>except</u> Sect. 4.3: 23, 25 and Sect. 4.5: 53, 55, 57
10/24, 27	4.6	Exponential Growth and Decay odd: 1 – 51
10/29, 31	5.1	Antiderivatives and Indefinite Integrals odd: 1 – 37, odd: 45 – 79
11/3	Review	see pages 346, 7 and page 411
11/5	<b>Test 4</b>	Sections 4.3, 4.5, 4.6, and 5.1
11/7, 10	5.2	Integration by Substitution and the General Power Rule odd: 1 – 27, odd: 35 – 57
11/12, 14	5.3	Exponential and Logarithmic Integrals odd: 1 – 27, odd: 39 – 63
11/17, 19	5.4	Area and the Fundamental Theorem of Calculus odd: 1 – 97 (WOC)
11/21	5.5	The Area of a Region Bounded by Two Graphs odd: 1 – 29, <i>odd: 31 – 37, odd: 41 – 55</i>
11/24	Review	see pages 411, 12
<b>11/26</b>	<b>Test 5</b>	Sections 5.2, 5.3, 5.4, and 5.5
12/1	Review	Review for Final
	<b>Final</b>	<b>Date and time by class meeting time per UT Final Exam Schedule</b>