

# Math 125 Basic Calculus

## Departmental Syllabus Fall 2010

### 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 level, or pass M119 or M130. Prerequisite requirements are strictly enforced. Students not meeting these requirements will be dropped from the class. No student who has received credit for M141 or M152 with a grade of C or better may subsequently receive credit for M125. Students who receive a grade of C or better in Math 125 may not subsequently receive credit for M119. **(QR)** 3 credit hours.

**Text:** *Brief Calculus, An Applied Approach*, by Larson, 8<sup>th</sup> Edition, Custom edition, Cengage Learning. This custom package of the book + Enhanced Web Assign access from the bookstore. Special pricing has been arranged by the Math Department. Other options will be given by instructors the first day of class and are given on individual class Blackboard pages.

**Required Companion Website:** Enhanced WebAssign– Start Smart Guide for Students: Use the “passkey” that came with your new textbook, or purchased separately, and the instructions provided by your instructor to access this and other online resources to accompany your text.

**Calculators:** A small scientific calculator is recommended for this course. Use of cell phone calculators and calculators with programming capabilities 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 quizzes and other category may contain other material to be specified by the individual instructor on their individual syllabus.

| <b>Grading Scale:</b> |      | $90\% \leq A \leq 100\%$ | $70\% \leq C < 73\%$  |
|-----------------------|------|--------------------------|-----------------------|
| 4 Tests for total of  | 60%  | $87\% \leq A- < 90\%$    | $67\% \leq C- < 70\%$ |
| WebAssign Homework    | 15%  | $83\% \leq B+ < 87\%$    | $63\% \leq D+ < 67\%$ |
| Quizzes and Other     | 5%   | $80\% \leq B < 83\%$     | $60\% \leq D < 63\%$  |
| Cumulative Final Exam | 20%  | $77\% \leq B- < 80\%$    | $57\% \leq D- < 60\%$ |
| Total Possible        | 100% | $73\% \leq C+ < 77\%$    | $F < 57\%$            |

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

**You** need to plan ahead for the date and time of your final exam especially regarding travel arrangements. There is not a common final for this course. Every instructor writes the final for their class.

**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.

**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 rooms 101 and 109 in Temple Court. 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 27, 2010  |
| Test 1                      | September 10, 2010   |
| Test 2                      | October 5, 2009  |
| Drop with W deadline        | October 19, 2010   |
| Test 3                      | October 28, 2009   |
| Drop with WP/WF deadline    | November 9, 2010   |
| Test 4                      | November 24, 2010  |
| 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/Courses/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. Many of the application problems may need scientific calculators to handle the numbers.

| <b>Dates</b> | <b>Section</b>    | <b>Topic and Suggested Practice Problems</b>  |
|--------------|-------------------|---|
| 8/18         | 1.5               | Introduction, Syllabus, and Limits pp. 92 & 93 odd: 9 – 59, 69  |
| 8/20, 23     | 1.5 & 1.6         | Limits and Continuity pp. 102 – 104 odd:1 – 45  |
| 8/25, 27     | 2.1               | The Derivative and the Slope of a Graph odd: 1 – 61, 71 – 74  |
| 8/30, 9/1    | 2.2               | Some Rules for Differentiation odd: 1 – 63  |
| 9/3          | 2.3               | Rates of Change: Velocity and Marginals odd: 1 – 47 No graphs.  |
| 9/8          | Review            |   |
| 9/10         | <b>Test 1</b>     | Sections 1.5, 1.6, 2.1, 2.2, and 2.3  |
| 9/13, 15     | 2.4               | The Product and Quotient Rules odd: 1 – 49, odd: 55 – 71 No graphs.   |
| 9/17, 20     | 2.5               | The Chain Rule odd:1 – 45, odd: 51 – 65, odd: 67 – 71 No graphs, odd: 73 – 81   |
| 9/22, 24     | 2.6               | Higher – Order Derivatives odd: 1 – 45, 49, 50, 53 – 57   |
| 9/27         | 3.1               | Increasing and Decreasing Functions odd: 1 – 37 , 42, 43  |
| 9/29         | 3.2               | Extrema and the First – Derivative Test odd: 1 – 11, odd: 19 – 31, odd: 37 – 47   |
| 10/1         | Review            |   |
| 10/4         | <b>Test 2</b>     | Sections 2.4, 2.5, 2.6, 3.1, and 3.2  |
| 10/6         | 3.3               | Concavity and the Second – Derivative Test odd: 1 – 21, odd: 31 – 37, odd: 51 – 67, 73,74, 76, 77   |
| 10/11, 13    | 3.4               | Optimization Problems odd: 1 – 43   |
| 10/15        | 3.8               | Differentials and Marginal Analysis odd: 1 – 45 No graphing   |
| 10/18        | 4.1, 4.2, and 4.4 | Exponential, Natural Exponential, and Logarithmic Function Review (Optional: as needed and time allows)                                   |
| 10/20, 22    | 4.3 & 4.5         | Derivatives of Exponential and Logarithmic Functions all odd <u>except</u> Sect. 4.3: 23, 25, 35, 47 on, and Sect. 4.5: 53, 55, 57, 85 on |
| 10/25        | Review            |   |
| 10/27        | <b>Test 3</b>     | Sections 3.3, 3.5, 3.8, 4.3, and 4.5  |
| 10/29, 11/1  | 5.1               | Antiderivatives and Indefinite Integrals odd: 1 – 37, odd: 45 – 79  |
| 11/3, 5      | 5.2               | Integration by Substitution and the General Power Rule odd: 1 – 27, odd: 35 – 57 No graphs  |
| 11/8, 10     | 5.3               | Exponential and Logarithmic Integrals odd: 1 – 27, odd: 39 – 63 No graphs   |
| 11/12, 15    | 5.4               | Area and the Fundamental Theorem of Calculus odd: 1 – 63 No graphs, odd: 73 - 97  |
| 11/17, 19    | 5.5               | The Area of a Region Bounded by Two Graphs odd: 1 – 29, odd: 31 – 37 graph by hand, odd: 41 – 55 no graphs                                |
| 11/22        | Review            |   |
| 11/ 24       | <b>Test 4</b>     | Sections 5.1, 5.2, 5.3, 5.4, and 5.5  |
| 11/29        | Review            | Review for Final  |
|              | <b>Final</b>      | <b>Date and time by class meeting time per UT Final Exam Schedule</b>   |