

**Calculus for the Management, Life, and Social Sciences**  
**Spring 2014**

**MATH 151.04 (4 credits), MTu\_ThF, 10:00AM-10:50AM, Wickersham 200**

**Prerequisites:** Mathematics placement (MPT 151) or a grade of C– (C-minus) or better in MATH 101 *College Algebra* are the prerequisites for this course.

**Instructor:** Dr. Buchanan

Office: Wickersham 217-1, Phone: 872-3659, FAX: 871-2320

Office Hours: 2:00P-2:50P (M\_W\_F), 2:30P-3:30P (Tu\_Th), or by appointment

Email: [Robert.Buchanan@millersville.edu](mailto:Robert.Buchanan@millersville.edu)

**Textbook:** The WebAssign access code will provide students with access to the e-book:

*Brief Applied Calculus*, 6th edition, Geoffrey C. Berresford and Andrew M. Rockett, Brooks/Cole, Boston, MA (2012) ISBN: 978-1-133-10392-9.

**Objectives:** MATH 151 is an introductory calculus course requiring a background in college algebra. Students will use their skills in elementary algebra together with a graphing calculator (The Department of Mathematics recommends a TI-83 or TI-84. The TI models 89 and 92 may **not** be used on graded assignments.). Throughout this course and semester the instructor plans:

- to introduce the Cartesian (two-dimensional, rectangular) plane and methods for determining distance between points, determining slopes of lines, and drawing graphs of equations and functions,
- to explore graphical, numerical, and algebraic methods for evaluating limits of functions,
- to introduce the process of differentiation and the concept of the derivative, together with applications of the derivative to problems involving the business, economics, the life and social sciences,
- to introduce the exponential and logarithmic functions, their properties, and apply them to problems from the arenas of business, finance, and the life sciences,
- to introduce the processes of anti-differentiation and integration, the concepts of the indefinite and definite integral, and techniques for evaluating integrals, and
- to apply the definite integral to problems drawn from the fields of business, economics, and the social sciences.

**Course Contents:** The sections of the textbook to be covered this semester will include:

Chapter 1: Functions

Chapter 2: Derivatives and Their Uses

Chapter 3: Further Applications of Derivatives

Chapter 4: Exponential and Logarithmic Functions

Chapter 5: Integration and its Applications

Chapter 6: Integration Techniques and Differential Equations

**Attendance:** Students are expected to attend all class meetings. If you must be absent from class on the day an assignment is due, you must complete and hand in the assignment prior to the absence. If you know you will be absent on the day of a test, you must notify me before the time the test is scheduled in order to schedule a make-up test. Students who miss a test should provide a valid excuse, otherwise you will not be allowed to make up the test. No final exam exemptions.

**Homework:** Students are expected to do their homework and participate in class. Students should expect to spend a minimum of three hours outside of class on homework and review for every hour spent in class. Homework problems from the textbook (or e-book) will be assigned nearly every class meeting. You should work all of these problems neatly and keep them organized for use when studying for tests and the final examination since the test and final examination problems will be similar in wording and difficulty to the exercises in the textbook. The homework will be submitted through the on-line homework system known as *WebAssign*. Your three (3) lowest homework scores will be dropped for the calculation of your homework grade. *WebAssign* will allow you to request automatic extensions to the due dates of homework assignments. You can extend the due date of an assignment by a maximum of three days for a 25% penalty applied only to the un-completed portion of the assignment. You will receive a 10% bonus for completing an assignment 24 hours before the due date.

Follow the Student Registration Instructions given to you and use the Class Key: millersville 2404 1284.

**Tests:** There will be three 50-minute in-class tests and a 2-hour comprehensive final examination. The tests are tentatively scheduled for

- Tuesday, February 18, 2014
- Friday, March 14, 2014
- Thursday, April 17, 2014

Missed tests must be made up as soon as possible, preferably within one week of the originally scheduled test date.

The comprehensive final examination is scheduled for Thursday, May 8, 2014 from 8:00AM–10:00AM.

**Grades:** Course grade will be calculated as follows.

Tests	60%
Exam	20%
Homework	20%

Tests and the final examination will be graded individually on a 100-point scale. Graded homework assignments may consist of a variable number of problems worth ten points each. I keep a record of students' test, homework, and exam scores. Students should also keep a record of graded assignments, tests, and other materials. The course letter grades will be calculated as follows. I will not "curve" course grades.

90-92	A-	93-100	A		
80-82	B-	83-86	B	87-89	B+
70-72	C-	73-76	C	77-79	C+
60-62	D-	63-66	D	67-69	D+
		0-59	F		

**Course Repeat Policy** An undergraduate student may not take an undergraduate course of record more than three times. A course of record is defined as a course in which a student receives a grade of A, B, C, D, (including + and -) F, U, Z or W. The academic department offering a course may drop a student from a course if the student attempts to take a course more than three times.<sup>1</sup>

The last day to withdraw from a course (and receive the W grade) is April 4, 2014.

**Inclement Weather Policy:** If we should miss a class day due to a school closing because of weather, any activities planned for that missed day will take place the next time the class meets. For example, if a test is scheduled for a day that class is canceled on account of snow, the test will be given the next time the class meets.

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<sup>1</sup>Memorandum to mathematics faculty from Dr. Charles G. Denlinger, Assistant Chair, Department of Mathematics, August 30, 2004.