

Math 155 - Elementary Calculus (MS)

Summer 2012 - Michael Muscedere

Section 01 - Schedule Number 1216

This page can be reached via my homepage at <http://www.math.umbc.edu/~mmusce1/index.html>

Course Descriptions

Basic ideas of differential and integral calculus, with emphasis on elementary techniques of differentiation and integration with applications are treated in this course. Not recommended for students majoring in mathematics, computer science, engineering, biological or physical sciences. **Note:** Credit will not be given for both MATH 151 and 155.

Announcements

May 20: Welcome back!! Please review the syllabus and have questions ready for the first class..

Basic Information

Time/Place: MWTH 6:00 pm-8:05 pm, MP 103

Instructor: Mr. [Michael Muscedere](#)

Office: MP 4th Floor Math Lounge

Phone: 410-993-7342

Email: mmusce1@umbc.edu

Office hours: WTH 8:05- 8:35 and by appointment

A suitable score on the LRC Algebra placement test

Prerequisites:

Or MATH 106.

Text Book: [Applied Calculus 5th Edition](#), by Waner/Costenoble, Chapter 1-7

Publishers: Brooks/Cole Company. 2011

Performance Evaluation

	<u>Points</u>
<u>Exam #1</u>	100
Exam #2	100
4 Quizzes (Discussion)	100 (25 pts each)
3 Blackboard Projects	45 (15 pts each)
10 Homeworks	100 (10 pts each) (Drop 3)
Final	200
TOTAL	645 points

Note: The lowest homework scores will be dropped.

- Letter grades will be assigned as follows:

A = 90% or higher, B = (80% - 89%), C=(70% - 79%) D=(60% - 69%) and F = Below 60%

Homework will contribute directly to about 15% of your final course grade and therefore it is paramount that the homework be neat and legible. Each page of the homework package will consist of 8x11 sheets of paper and have the student's name, date, course number and section number on the top right hand corner. Questions will indicate chapter, page and problem number when assigned from the text. Homework packages must be stapled. Homework packages which do not conform to these directions will not be accepted. Notice that the homework due dates are shown in the schedule below.

The Blackboard administered projects will help the student go further in-depth on the topics covered in class. The blackboard (BB) projects will point to EXCEL files to demonstrate concepts and pose questions. The in-discussion session administered quizzes are designed to test the retention of material between exams. The weighting of BB projects and in-discussion quizzes is shown in the performance evaluation table above. Also notice that the dates for BB projects and in-discussion quizzes are shown in the schedule below. **Note NO Calculators** are allowed for any exams or quizzes given in-class.

CAUTION!
NO LATE QUIZZES, NO LATE HOMEWORK WILL BE ACCEPTED
EXAM MAKE-UPS WILL BE ADMINISTERED UNDER EXTREME
CIRCUMSTANCES AND WILL BE DIFFERENT THAN THE ORIGINAL TEST

Tips for completing Math 155 successfully:

1. Attend all classes.
 2. Read each section before the material is covered in class.
 3. Turn the homework in on time. Remember if incomplete, partial credit is better than none.
 4. Ask questions about the homework problems before you hand them in.
 5. Since material builds on previous lessons and we will move quickly through the material, it is essential students clear up any questions as soon as they arise.
 6. To do well in this class one needs to practice, practice, and practice until the concepts become natural.
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UMBC Academic Integrity Policy

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, the UMBC Integrity webpage www.umbc.edu/integrity, or the Graduate School website www.umbc.edu/gradschool.

Learning Plan and Goals

The learning plan for this course divides activities into three parts: Before, During and After Lecture activities. The learning emphasis is shifted towards preparing more intensely for class opposed to seeing the material for the first time in class.

Before Lecture activities are:

1. Reading textbook sections to be covered at next meeting
2. Complete the Blackboard Projects
3. Be prepared to solve problems in class under the direction of the instructor on the board
4. Review homework assignment for the section and attempt to solve them.
5. Prepare questions.

During Lecture and Discussion session activities are:

1. Take notes during class to bridge knowledge gaps from the reading.

2. Participate in problem solving activities
3. Take in-discussion quizzes if scheduled
4. Ask questions about material and homework assignment

At the end of the lecture or discussion session the student should have the concepts to work the homework problems.

After Lecture activities are:

1. Work all assigned problems reviewing the example worked in the text and in class.
2. When difficulty arises get help solving the problem by going to office hours or asking a friend\colleague for an explanation of applicable concepts. DON'T WAIT UNTIL NEXT CLASS. Form study groups.
3. Respect the integrity policy (Do not copy others solutions)

Note that Summer MATH TUTORING is available See http://www.umbc.edu/lrc/summer_tutoring.htm

Instructive Web Sites:

[U.S. Bureau of Economic Analysis \(BEA\) - bea.gov Home Page](http://www.bea.gov)

[Bureau of Labor Statistics Home Page](http://www.bls.gov)

Schedule

<u>HW Due</u>	<u>Date</u>	<u>Quizzes</u>	<u>Lecture Content</u>
	Tu 5/29	Quiz 0	Intro Chapter 0, Chapter 1 (1.1) and (1.2) Functions (1.3) Linear Function (5.4) Analyzing Graphs (intercepts)
HW#1	Th 5/31		(2.1) Quadratic Functions (5.4) Quadratic Max and Min. (2.2) Exponential Function (2.3) Logarithmic Functions (5.4) Analyzing Graphs (Asymptotic Behavior)

HW#2	M 6/04	InDiscQuiz #1	(3.1,3.2,3.3) Limits and Continuity (5.4) Analyzing Graphs (Behavior where function is undefined)
HW#3	Tu 6/05		(3.1,3.2,3.3) Limits and Continuity (Continued)
HW#4	Th 6/07		(3.4, 3.5, 3.6) Average Rate of Change vs. Instantaneous Rate of change and Definition of Derivative
HW#5	M 6/11	InDiscQuiz #2 BB1	(4.1) Power, Sum and Constant Multiple Rules (4.3) Product and Quotient Rules.
HW#6	Tu 6/12		(4.4) Chain Rule (4.5) Derivative of Logarithmic and Exponential Functions (4.2) Marginal Analysis
	Th 6/14	EXAM #1	
HW#7	M 6/18		(5.1) Maxima and Minima (5.3) Higher order derivatives /Concavity
HW#8	Tu 6/19		(5.3) Concavity, the Second Derivative test (5.4) Analyzing Graphs
HW#9	Th 6/21	InDiscQuiz #3	(5.2) Application of Max and Mins (6.1) Indefinite Integral
HW#10	M 6/25	BB2	(6.2) Substitution (6.3) Definite Integral
HW#11	Tu 6/26		(6.4) Fundamental Theorem of Calculus
HW#12	Th 6/28	InDiscQuiz #4	More Practice of substitution and Exam Review
	M 7/02	BB3	(7.1) Integration by Parts
		EXAM #2	
HW#13	Tu 7/03		Final Review
	Th 7/05	FINAL	EXAM 6:00 – 8:00 PM (Comprehensive) MP106

Exercises

The student is expected to complete and submit at the scheduled dates the homework sections listed below.

- HW 1 Sections: 1.1, 1.2, 1.3
- HW 2 Sections: 2.1, 2.2, 2.3a
- HW 3 Sections: 2.3b, 3.1, 3.2, 3.3
- HW 4 Sections: 3.2b, 3.3b
- HW 5 Sections: 3.4, 3.5, 3.6, 4.1a
- HW 6 Sections: 4.1b, 4.3

HW 7 Sections: 4.2, 4.4, 4.5
HW 8 Sections: 5.3
HW 9 Sections: 5.1, 5.4
HW 10 Sections: 5.2, 6.1
HW 11 Sections: 6.1b, 6.2,
HW 12 Sections: 6.3, 6.4
HW 13 Sections: 7.1

Problem Sets :

Ch 0 Recommended (not graded)

0.1:
0.2:
0.3:
0.4:
0.5:

Ch 1

1.1: 4, 8, 18, 26, 36, 54, 69, 70, 71, 72
1.2: 22, 28, 44, 46, 50
1.3: 7, 14, 22, 28, 33, 36, 56, 58, 64, 67, 86, 98, 107, 110, 122

Ch 2

2.1: 1, 6, 14, 24, 26, 34, 44, 46, 55
2.2: 8, 12, 16, 24, 56, 64, 82, 84, 86, 98, 100
2.3a 4, 71, 76, 77, 78, 79, 80

2.3b 22, 25, 26, 28, 32, 36, 44, 50, 56, 66, 68,

Ch 3

3.1: 1, 7, 26, 44, 47, 49
3.2: 4, 8, 16, 30, 31, 37
3.2b: 6, 10, 15, 24, 29
3.3: Using Theorem 3.2 with it's quick examples: 16, 50, 56, 62, 76
3.3b: 6, 8, 10, 12, 18, 20, 22, 24, 32, 39, 46, 52, 54, 64, 78
3.4 4, 10, 16, 20, 24, 32, 54, 56
3.5: 4, 6, 11, 14, 20, 22, 28, 32, 34, 36, 42, 47, 48, 55, 58, 59, 60, 61, 62, 63, 64, 71, 101, 104
3.6: 2, 3, 6, 10, 15, 18, 22, 25, 30, 36, 40, 44, 58, 64

Ch 4

4.1a: 1, 2, 4, 6, 12, 58, 63

4.1b: 8, 16, 20, 28, 35, 48, 58, 63

4.2: 8, 12, 17

4.3: 22, 28, 34, 36, 47, 54, 60, 64.67

4.4: 4, 12, 18, 22, 26, 28, 32, 36, 44

4.5: 2, 8, 14, 18, 24, 30, 32, 34, 38, 44, 50, 54, 56, 65, 66, 70, 80.77

Ch 5

5.1: 14, 18, 22, 26, 28, 30, 32, 34, 36, 38, 40, 61, 62

5.2: 18, 19, 30, 42, 44

5.3: 34, 36, 38, 40, 42, 44 Create a table for each problem as shown in the examples in tonight's lecture.

5.4: 2, 4, 24, 16, 18, 22, 25, 26

Ch 6

6.1: 2, 6, 8, 12, 14, 16, 18, 20, 22, 24, 30, 80, 91, 92

6.1b: 32, 34, 36, 38, 40

6.2: 2, 6, 9, 20, 22, 26, 28, 30, 32, 36, 38, 47

6.3: 12, 14, 18

6.4: 2, 6, 8, 14, 16, 18, 26, 28, 31, 34, 37, 40

Ch 7

7.1: 2, 4, 20, 32, 38