Summer 2014 Session I
Math 155 Syllabus Applied Calculus

Instructor: Maria Barouti
Time: MTuTh 6:00 – 8:05 p.m. in MP 103
Discussions: MP 103 MTh – 8:15 – 9:15 p.m. TA: Preston Donovan
Office: MP 201 **Phone:** 410-455-2412 (Math. Office)
Office hours: F 11:15 – 1:15p.m, or by appointment
E-mail: bmaria2@umbc.edu
Pre-requisite: Math 106 with a C or better, or appropriate score on placement test.

Course Textbook: Waner and Costenoble's *Applied Calculus*, fifth edition, Thomson Brooks/Cole.
Associated webpage: http://www.zweigmedia.com/calc.html.
WebAssign, an online homework program is required for this course. WebAssign includes the e-book.

NO CALCULATORS MAY BE USED IN THE LECTURE PORTION OF THIS COURSE.

Course Description: Basic ideas of differential and integral calculus, with emphasis on elementary techniques of differentiation and integration with applications, are treated in this course. Technology will be utilized to enhance understanding of the concepts and their applications. Not recommended for students majoring in mathematics, computer science, engineering, or physical sciences. Note: Credit will not be given for both MATH 151 and 155. Prerequisite: Math 106 or a qualifying score on the mathematics placement test.

Objectives

- To attain a fundamental and intuitive understanding of differentiation and integration.
- Be able to calculate and interpret derivatives and integrals.
- Relate differentiation and integration to several application areas and their functional models.
- Apply technology to visualize, to calculate, and to interpret solutions to general and application problems.

Grading Policy

	Points
Exam	100
4 Quizzes (Discussion)	100 (25 pts each)
2 Projects	100
Homeworks	100 (Drop 2)
Final	200
Total	600

Blackboard will be used to post grades. It is expected that you keep up with your grade throughout the semester, and alert the professor to any questions or concerns as soon as possible. Be aware that Blackboard may not calculate your grades completely, so you should verify your grade by calculating it directly.

Grade	Range	Point range
A	**90-100%**	**540-600**
B	**80-89%**	**480-539**
C	**70-79%**	**420-479**
D	**60-69%%**	**360-419**
F	**below 59%**	**0-359**

Academic Honesty*: By enrolling in this course, each student is responsible for taking active part in the class discussions and follows the highest standards of honesty. Cheating, plagiarism and helping others to commit these acts are all forms of Academic dishonesty. These misconducts could result in disciplinary action. Please refer to the Student Handbook regarding Academic Conduct Policy. If a person is caught taking part in any of the above mentioned acts during a quiz or test, zero points will be awarded for that quiz or test. Cheating will not be tolerated; all work must always be your own. Avoid anything that could lend an appearance of cheating. Make sure you use the restroom before quizzes and exams, as you will not be allowed to leave the classroom during any quiz or exam. Never use any unapproved device during a quiz or exam.*

Homework via Web Assign

We will be using Enhanced Web Assign (EWA) for homework in this course. This service requires a one-time fee. For easy access we have linked to EWA through Blackboard (under Tools on the left panel). This avoids additional login requirements. With EWA you will get immediate feedback on your answers as well as multiple opportunities to attempt homework questions. The questions will be those from the textbook with occasional number modifications. I encourage you to work out the problems prior to sitting down at the computer to enter your answers. Writing out your solutions is also critical if you would like feedback from your TA or me.

Completing your homework is essential to success in this course. Because you get multiple attempts at the homework and it is readily accessible, you should get an A for your homework average.

Quiz Zero

Quiz 0 is a MANDATORY, proctored by me and the TA. Quiz 0 covers the pre requisite material, namely Math 106 concepts (Chapter 0). The students will receive an invite from the math gym within a week. This Quiz 0 is on a first come, first served basis. You will be able to finish the quiz in 40 minutes during your first discussion on May 29 - 8:15 - 9:15 pm - ENG 122/122A, ENG 104/104A. Don't forget to bring scratch papers and pencils. Take this quiz 0 seriously since it is counted towards your final grade.

THIS QUIZ IS MANDATORY!

THIS QUIZ COUNTS TOWARD YOUR FINAL GRADE. Make every effort to do well.

Make-up Policy:
CAUTION!
NO MAKE UP QUIZZES, NO LATE PROJECTS, NO LATE HOMEWORKS WILL BE ACCEPTED.
MAKE-UP EXAMS WILL BE ADMINISTERED UNDER EXTREME CIRCUMSTANCES AND WILL BE DIFFERENT THAN THE ORIGINAL TEST.

Exams

Two (2) in-class exams will be given during this course. Make-up exams will only be given in case of documented emergencies. Exams are always closed-book and closed-notes.

Exam dates:

- Exam : Tuesday June 17th
- Final: Thursday July 3rd

Projects, Discussion sessions, and Participation

Discussion sessions are mandatory. Your discussion session will be led by teaching assistants who are in close contact with your professor throughout the semester. These sessions are smaller than your lecture, so you have an opportunity to explore concepts and ask questions in a smaller group. Quizzes will be given in discussion.
There are two Excel labs due throughout the 6 week course. Each lab is designed to reinforce course material using Excel to plot functions and examine calculus concepts. Read the guidelines for lab submission carefully, and then read over the requirements for the labs. Read the labs very carefully. Most students lose points on labs simply because they did not follow directions.
Active participation is required in discussion sessions.

Course Help/How to earn an "A"

- Attend all classes
- Reading the textbook
- Working the examples
- Trying the problems
- Talking to a classmate about course material
- Visiting my office and your TA
- Going over/rewriting class notes

Learning Goals: The learning plan divides activities in three parts -- before, during, and after class --, which apply to every covered section of the textbook:

- Before class:
  - Study the section in the textbook, and taking into account any announcements in class, in blackboard, or by e-mail specifically for this section. .

  Before you arrive in class, you should have an overview of the material in the section, have read and/or seen several examples for its use, and be ready to attempt the homework problems under the guidance of the instructor.

- During class:
  - Follow the lecture which highlights the material and puts it into context.
  - Participate actively in class and try to work out problems at the end of class.

  By the end of class, you should have obtained answers to your questions and have an idea of how to approach the homework.

- After class:
  - Work all assigned homework problems. It may be helpful to re-view some of the worked examples in class at this point.
  - If questions arise, review the textbook, notes from class, and examples in textbook

  With the shift of work towards preparing more intensively for class as opposed to seeing material for the first time in class, the activities after class should consist mainly of putting all the pieces together. Moreover, the tightly spaced and integrated work before, during, and after class should make the preparation for the tests short and effective.

Tentative Course Schedule

(*subject to change!)*

May 27-29	Intro. Chapter 0, 1.1, 1.2: Functions and Models	1.3 Linear Functions and Models 2.1 Quadratics
June 2-5	2.2 Exponentials, 2.3Logarithms, 3.1 Limits	3.2 Limits and Continuity, 3.3 Limits and Continuity ---QUIZ 1---
June 9-12	3.4 Average Rate of Change 3.5 Derivatives, 4.1 Derivatives: Powers, Sums, and Constant Multiples	4.2 Marginal Analysis 4.3 Product and Quotient Rules, ---QUIZ 2---

June 16-19	4.4 The Chain Rule 4.5 Derivatives of Logs and Exponents **EXAM (June 17th)**	5.1 Maxima and Minima 5.2 Applications of Extrema ---QUIZ 3---
June 23-26 June 30	5.3 Higher Order Derivatives 5.4 Analyzing Graphs 6.3 Definite Integral 6.4 Fundamental Theorem of Calculus ---QUIZ 4---	6.1 Indefinite Integral 6.2 Substitution
July 1	7.1 Integration by Parts More Practice of substitution -Exam Review	
July 3	**Final EXAM**	

Quizzes	**Dates**
Quiz 1	06/05
Quiz 2	06/12
Quiz 3	06/19
Quiz 4	06/30