Loyola University Maryland
Department of Mathematics and Statistics
MATH 151 (Applied Calculus) – SPRING 2018

Sec. 01: MWF 10:00AM-10:50AM, KH 005 (MWF)
Sec. 02: MWF 11:00PM-11:50PM, KH 005 (MWF)

Instructor: Dr. Prince Chidyagwai
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Office Hours: MW 1:00 - 2:30 PM, or by appointment

Textbook: *Applied Calculus by Hughes-Hallett.*

Prerequisite: MA 109 or a score of 48 or better on Part II of the math placement test.

Course Description: This course stresses applications of calculus in business and social sciences. We will consider mathematical concepts graphically, numerically, algebraically and verbally.

Course Objectives:

1. Demonstrate and understanding of rates of change and derivatives

2. Apply the concept of a derivative

3. Demonstrate an understanding of accumulated change and definite integrals.

4. Apply mathematical concepts to applications in business and social sciences.

Topics: We will cover the following topics:

1. Limits
   Intuitive understanding of limits, Continuity, Discontinuity

2. Derivatives.
   Average rate of change and instantaneous rates of change, Definition of the derivative, Derivative at a point, Differentiation techniques

3. Applications of Differentiation:
   Relationship between $f(x), f'(x), f''(x)$ - sketch, match, e.t.c; Maxima and minima, Points of inflection, Business applications

4. Integrals.
   Riemann sums, Definition of of the definite integral, Fundamental theorem of calculus, Basic antiderivatives

5. Other applications. *Cost, revenue, profit functions, Supply and Demand curves, Present and future values, Compound interest*

Exams: There will be three in-class exams and a final exam.

Grading: Quizzes - 5%, Homework - 20%, Semester Exams - 45%, Final Exam - 30%. Final grades will be determined according to the following scale:

93-100: A	90-92: A-	87-89: B+
83-86: B	80-82: B-	77-79: C+
73-76: C	70-72: C-	68-69: D+
65-67: D	63-64: D-	0-62: F

Homework: There will be two kinds of homework problems:

- WebWork problems. WebWork is a web-based homework grading system. It has some advantages (every problem gets graded, instant feedback, e.t.c) as well as disadvantages (need to sign in, the system does not tell you where the mistake is and will not accept a perfect solution). You will have unlimited attempts on most problems; however, do not hesitate to email me with questions if you find yourself stuck on a particular problem.

- Textbook problems. These will not be collected, please use them as practice problems to prepare for exams and quizzes.

It is important to keep in mind that you will learn the most by doing problems. I am there to guide you and give you the basic material that you will need to solve problems. I will drop the lowest homework score, for that reason there are no make-up homework except in the case of documented excuses.

Quizzes: We will have a quiz at the end of every chapter. I will drop your lowest quiz, for this reason there will be no makeup quizzes except in the case of documented excuses. The quizzes are meant to check if you are keeping up with practice problems, the problems are meant to be easier than the midterm.

Class participation: It is important that everyone contributes to the classroom discussion. You will be expected to participate in the following ways

- Helping the class solve examples. In general, for each problem I will call on a student to provide the main ideas needed to solve the problem, and another student to provide subsequent steps. You will not need to raise your hand, I will call you based on your sitting order in class.

- In class examples - For each section I will provide examples that you will solve in class. You may discuss with your classmates. I may collect some of these examples at the end of class.

Cellphone use: The use of cellphones during class for any reason is prohibited, please have your cellphones in silent mode or turned off.

Academic Integrity and Standards of Conduct: The guidelines of academic integrity and standards of conduct are presented in the Undergraduate catalogue. The Loyola University Honor Code states that all students of the Loyola community have been equally entrusted by their peers to conduct themselves honestly on all academic assignments. In this class you may work with your peers on assigned homework. However, you should write up submissions by yourself. You may not consult your books or notes for quizzes and exams. Please refer to the Community Standards Handbook for more information and further clarification of the honor code standards, type of violations, adjudication process, and sanctions that may be imposed for violations.

Extra Help: Dot not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course. You may also want to consider tutoring offered by the department of Mathematics and Statistics. Tutoring is offered in the Math Seminar Room, Knott Hall Room 303, on Tuesday, Wednesday, and Thursday nights from 6:00-8:00 PM.

Important Dates:

Add/Drop Deadline .... Friday, January 19
Withdrawal Deadline .... Tuesday, April 3
Exam 1 .... Friday, February 16 (in class)
Exam 2 .... Friday, March 23 (in class)
Exam 3 .... Friday, April 20 (in class)
Final Exam (Section 01) .... Friday, May 4, 6:30PM
Final Exam (Section 02) .... Wednesday, May 5, 9:00 AM

Student Athletes: Please provide me with your athletic travel letters indicating when you will not be able to make it to class due to athletic commitments. You will be required to make up any assignments or exams that you miss.

Learning Disabilities: Any student with a disability documented with the Disability Support Service Office (DSS) requiring accommodations in this course is encouraged to contact me as soon as possible. If you have a disability that has not yet been documented, please contact the DSS Office (410-617-2602) for assistance.