

# MATH 115 - APPLIED CALCULUS SYLLABUS

INSTRUCTOR: Dr. Bob Pelayo

CONTACT INFORMATION:

e-mail: [robertop@hawaii.edu](mailto:robertop@hawaii.edu)  
808.974.7378  
College Hall 9c

SECTION INFORMATION:

CRN 10596  
MWF 10:00 - 10:50 AM  
College Hall 6

CRN 10597  
MWF 11:00 - 11:50 AM  
College Hall 6

TEXTBOOK: *Brief Calculus and its Applications* (12 ed)

Purchase of MyMathLab required for this course

Please visit <http://www.bookstore.hawaii.edu/hilo> for more information.

CALCULATOR: Use of a Texas Instruments Graphing Calculator is required. The TI-84 is recommended.

COURSE DESCRIPTION: Applied Calculus will be an introduction to differential and integral calculus via a perspective heavy on application, especially in the fields of economics and the biological sciences. This course will begin with a review of the basics of functions. After obtaining a firm understanding of functions, their notation, and their graphs, we will move on to analyzing functions via their slopes. We will quantify this via the *derivative*. Then, we will study the various rules associated to differentiation and, most importantly, the various applications that differentiation allows us to analyze. We will then investigate integral calculus, which deals with area under graphs of functions. Our class will culminate with making concrete the relationship of differential and integral calculus via the *Fundamental Theorem of Calculus*, one of the major accomplishments of Mathematics.

LEARNING OUTCOMES: The successful Math 115 student will be able to:

- relate various qualitative and quantitative information about a function to its graph.
- utilize his/her graphing calculator to graph, manipulate, and obtain quantitative data about a function.
- compute various limits of functions.
- use the definition of the derivative to differentiate simple functions.
- use the various derivative rules to differentiate a variety of functions.
- translate a word problem into mathematical formulae and equations and solve the problem using differentiation techniques
- compute global and local maxes and mins of functions
- compute antiderivatives of various functions.
- compute the area under the graph of a function using the Fundamental Theorem of Calculus

GRADING WEIGHTS:

Homework: 30%  
Quizzes: 25%  
Tests: 35%  
Participation: 10%

**HOMEWORK POLICY: No Late Homework Will Be Accepted!** Homework will largely take place on the MyMathLab platform, which is accessible via most any internet-enabled browser. Thus, there is no excuse for not finishing your homework in a timely manner.

**MYMATHLAB HOMEWORK PROGRAM:** Essentially all homework assignments will be conducted via the online platform known as MyMathLab. Thus, this course requires the purchase of access to MyMathLab (MML), which comes standard with the purchase at the UH-Hilo bookstore. Failure to purchase MML in a timely manner will result in decreased homework scores. Homework will be assigned thrice a week and no late homework will be accepted. Past due homework assignments in MML will count at 0%.

**ATTENDANCE POLICY: Attendance Is Mandatory To All Classes!** If you think that you will be gone for a significant portion of the class, then you should consider taking this course during a different semester. Differential and Integral Calculus are involved topics that require continuous classroom participation. Failure to attend class will drastically reduce your participation grade. In fact, chronic absences will result in a decrease in scores in non-participation categories.

**DISABILITY SERVICES:** Any student with a documented disability who would like to request accommodations should contact the Disability Services Office and the instructor as early in the semester as possible.

Disability Services Office  
Hale Kauano'e A Wing Lounge  
933-0816 (V)  
933-3334 (TTY)  
uds@hawaii.edu