Math 161-701 – Precalculus and Elements of Calculus for Economics and the Social Sciences
UNIVERSITY OF HAWAI'I AT MANOA

Instructor: Ka Lun Wong (Allan)
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Office hours: MTWRF 9:30-10:30am
(or by appointment)

Course Coordinates: MTWRF 10:30-11:45am
Keller 301

Text: Pearson Custom Mathematics for UHM Math 161
(It comes with a Pearson's MyMathLab student access kit)

Course Description: This course will cover algebra review, functions with special attention to polynomials, rational, exponential, and logarithmic functions, algebra of functions, techniques of graphing, differentiation and integration of algebraic functions, and applications in economics and the social sciences. Credit is allowed for only one of the following: MATH 135, MATH 140, or MATH 161. Grade Options: A-F, CR/NC or Audit.

Course Outline:
- **Fundamentals**: Sets of real numbers, review of elementary algebra, solving equations and inequalities, coordinate geometry, and graphs of lines.

- **Polynomial and Rational Functions**: Graphing polynomial and rational functions, asymptotes and singularities, the division algorithm, factor theorem, remainder theorem, and the Fundamental Theorem of Algebra.

- **Logarithmic and Exponential Functions**: Graphing exponential and logarithmic functions, laws of logarithms, modeling and applications.

- **Differentiation**: Tangent lines, differentiability, rules of differentiation and derivatives of algebraic functions, the derivative as rate of change, and applications.

- **Integration**: Integrability, Fundamental Theorem of Calculus, areas under graphs and accumulation, as well as applications.
Grade: Your final grade for the course is determined according to the following scheme:

**Homework(online):** 20%
**Classwork:** 15%
**Quizzes:** 10%
**Midterm 1:** 15%
**Midterm 2:** 15%
**Final:** 25%

**Course Objectives:** Upon successful completion of MATH 161, the student will be able to work with, apply, and answer questions pertaining to Precalculus, differentiate and integrate algebraic functions, and apply basic ideas of calculus to economics and the social sciences. MATH 161 is a course designed to strengthen the mathematical preparation of students in economics and the social sciences, and to expose these students to basic uses of calculus.

**Homework:**

NO late homework is accepted unless you have a doctor-signed medical excuse or a University-approved excuse for off-island athletic events. You are encouraged to work with your classmates. Online homework will utilize Pearson's MyMathLab.

**Quizzes/Classwork:** Quizzes will be given in class at advance notice. Classwork is given and collected in class.

**Exams:** Exams are closed book. No notes. No calculators. The final exam will be a cumulative written exam given in class on August 15, 2013 at 10:30am.