MATH 135   Precalculus: Elementary Functions

INSTRUCTOR: Robert Garry
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OFFICE: Mana'opono 110a
OFFICE HOURS: Tuesday and Thursday 3:00 to 5:30   or by Appointment
TELEPHONE: (808) 236-9276
EFFECTIVE DATE: Spring 2018
CRN 62065   Days TR   Time 11:30 – 12:45   Room   Manao 115

Windward Community College Mission Statement

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O'ahu's Ko'olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

Course Description

An analysis of elementary functions. A study of polynomial, rational, exponential, and logarithmic functions. Topics also include graphing techniques, transformations, applications, and related topics. Emphasis is placed on topics that will prove useful to students planning to take Calculus or to those who are interested in pursuing math related careers. (3 hrs. lecture)

PREREQUISITES: Grade of "C" or better in Math 103 or equivalent, or satisfactory placement test score, or consent of instructor.

Foundation Hallmarks

 Math 135 fulfills 3 credits of the General Education requirements (Foundations: Symbolic) for both an A.A. degree at WCC and a Bachelor's degree at UH Manoa. Consequently, it meets the hallmarks of the symbolic reasoning requirement.

1. Students will be exposed to the beauty, power, clarity and precision of formal systems.

2. Instructors will help students understand the concept of proof as a chain of inferences.

3. Instructors will teach students how to apply formal rules or algorithms.

4. Students will be required to use appropriate symbolic techniques in the context of problem solving, and in the presentation and critical evaluation of evidence.

5. The course will not focus solely on computational skills.

 Instructors will build a bridge from theory to practice and show students how to traverse this bridge.

Student Learning Outcomes

1. Demonstrate proficiency in writing math expressions into different forms and finding the solutions to an equation and inequality using complex numbers where appropriate, by applying formal rules or algorithms.

2. Use appropriate symbolic techniques (such as algebraic techniques) to analyze and solve applied problems, and in the critical evaluation of evidence.

3. Interpret equations geometrically and use geometrical information to obtain the equation of lines and circles.

4. Utilize function concepts.

5. Draw the graphs of functions utilizing behavior information and/or transformations.

6. Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form and in the presentation of evidence.

7. Traverse the bridge from theory to practice by using theorems related to polynomial functions and demonstrate proficiency in working with polynomial functions.

8. Apply concepts and properties of the logarithm functions.

9. Understand the concept of proof as a chain of inferences by doing some proofs.

Note: All SLO assessments are embedded in class activities, homework, or Exams.

Required Materials

Text: <u>Precalculus, Mathematics for Calculus, 7th ed., by Stewart, Redlin & Watson</u>

Calculator: TI-83 or TI-84 (any model)

Course Content

- Ch. 1 Fundamentals
- Ch. 2 Functions
- Ch. 3 Polynomial and Rational Functions
- Ch. 4 Exponential and Logarithmic Functions

Assessment

- Homework and weekly quizzes 40%
- Midterms 40%
- Final Exam 20% Thursday May 10th at 11:30

Letter Grade Definition
 A 90% - 100% of the cumulative points possible
 B 80% - 89% of the cumulative points possible
 C 70% - 79% of the cumulative points possible
 D 60% - 69% of the cumulative points possible
F Less than 60% of the cumulative points

CR/NC CR requires 70% or better of the cumulative points
W grade Official Withdrawl
I See: College Policies.
N grade: not given

Learning Resources:

• Math Lab: La'akea (Library Learning Commons) Room 220
        http://windward.hawaii.edu/About_WCC/Math_Lab/index.php
• Testing Center: La'akea (Library Learning Commons) Room 228
            Phone: 235-7498
            http://windward.hawaii.edu/Testing_Center/index.php
• Brainfuse Online Tutors: http://windward.hawaii.edu/Brainfuse/
• OLA (UH online tutoring program): http://manoa.hawaii.edu/ola/
• TRiO: http://windward.hawaii.edu/TRIO/index.php
• WolframAlpha: http://www.wolframalpha.com
• Kahn Academy Videos: http://www.khanacademy.org

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.
or visit http://windward.hawaii.edu/Disabilities