MATH 135 PRECALCULUS: Elementary Functions
CRN 62365 (3 Credits)
Time: MW 8:30am – 9:45am
Location: Mana’opono 115

INSTRUCTOR: Matthew Radio
OFFICE: Mana’opono 110A
OFFICE HOURS: Mon/Tues/Wed 10:00-11:00am, and by Appointment
TELEPHONE: (808) 236-9276
EMAIL: mradio@hawaii.edu

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 Oʻahu’s Koʻolau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

Math 135 Catalog Description

Investigates linear, quadratic, polynomial, rational, exponential, logarithmic functions, and related topics. This course is the first part of the precalculus sequence. (3 hrs lecture)

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

Learning Resources and Required Materials

REQUIRED MATERIALS:

- Students are required to have access to the book in either hardcover or electronic format. In addition, students must obtain access to WebAssign to complete homework.
  - Option 1: Purchase a textbook with a WebAssign access code.
  - Option 2: Purchase a WebAssign access code online and have access to only the eBook.
- You may register on WebAssign with class key: wcc.cc.hi 3886 5166 at https://www.webassign.net/v4cgi/selfenroll/classkey.html
- Calculator: TI-83 or TI-84 (any model)
SUPPLEMENTAL LEARNING RESOURCES:

- Math Lab: 220 La'akea
  http://windward.hawaii.edu/About_WCC/Math_Lab/index.php
- Brainfuse: http://windward.hawaii.edu/Brainfuse/
- OLA (UH online tutoring program): http://manoa.hawaii.edu/ola/
- Wolfram Alpha: http://www.wolframalpha.com
- Khan Academy Videos: http://www.khanacademy.org

COURSE CONTENT


- Function, Graphs of Functions, Getting Information from the Graph of a Function, Average Rate of Change of a Function, Combining Functions, One-to-One Functions and their Inverses.

- Exponential Functions, Natural Exponential Functions, Logarithmic Functions, Laws of Logarithms, Exponential and Logarithmic Equations, Modeling with Exponential and Logarithmic Functions.

- Quadratic Functions and Models, Polynomial Functions and their Graphs, Dividing Polynomials (Synthetic Division), Real Zeros of Polynomials, Rational Functions.
STUDENT LEARNING OUTCOMES

1. Use appropriate symbolic techniques to analyze and solve applications problems.
2. Utilize elementary function concepts.
3. Graph elementary functions utilizing behavior information and/or transformations.
4. Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.

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

FOUNDATIONS 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 include computational and/or quantitative skills.
6. Instructors will build a bridge from theory to practice and show students how to traverse this bridge.
### Course Assessments and Grading

1. **HOMEWORK** – Homework will be assigned regularly online via WebAssign. It is your responsibility to check WebAssign for homework assignments and due dates. Homework submitted late will receive a score of 0. The two lowest homework grades will be dropped.

2. **CLASSROOM QUIZZES** – A short quiz will be given periodically in class. Students must be present in class to take a quiz. There are NO makeups. Quizzes will be announced at least one class in advance. The two lowest quiz scores will be dropped.

3. **MIDTERM EXAMS** – There will be three midterm exams each covering specific chapters of the textbook (i.e., these exams will not be cumulative). Exam dates and coverage will be announced at least one week in advance. Practice tests will be provided for study.

4. **FINAL EXAM** – There will be one cumulative exam at the end of the course.

**Notes:**

- If you are unable to attend class on an exam day, discuss your situation with me as soon as possible before the exam day. It may be possible for you to take the exam earlier than the specified day/time.
- If you unexpectedly must be absent on an exam day, notify me by 3:00 pm via voicemail or email. If the reason is justified then a make-up exam will be scheduled.
- For each student, no more than one make-up exam may be taken.
- There are no re-tests in this course.

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<tr>
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<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Classroom Quizzes</td>
<td>10%</td>
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<tr>
<td>Midterm Exams</td>
<td>20% each</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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Letter grades for the course are earned as follows:

- **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 possible
- **CR**
  - 70% or above of the cumulative points possible
- **NC**
  - Less than 70% of the cumulative points possible
- **W**
  - Official Withdrawal
- **I**
  - See below
• CR/NC grades require written instructor consent. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline. If a student does not apply for CR/NC grading option at the Admissions Office by the required deadline and if s/he does not withdraw, a letter grade (A, B, C, D, F) will be assigned for the course.

• The W grade is given only when the student officially withdraws from the course by the posted deadline.

• The I grade is a temporary grade given at the instructor's option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. A student may qualify for the I grade if (a) they are unable to take the final exam and (b) taking the final exam could possibly raise their course grade. The I grade is given only after a student’s request and the instructor’s approval.

• The N grade will not be used in this course.

**Additional Instructor Policies**

• I am available to help during office hours. Stop by just to chat about the class or to clear up difficult concepts.

• Daily Homework: Students should come to each class prepared. Read the chapters ahead of time.

• It is your responsibility to attend class. If you are absent, you are responsible for any important announcements or assignments given during the class you missed. Check your UH email, the Laulima class website, and WebAssign for announcements regularly.

• Please respect your fellow students and act accordingly. Cell phones must be silenced when entering the classroom.

• Academic dishonesty will not be tolerated. All suspected cases of academic dishonesty will be investigated and reported to the Dean. Punishments will vary, but may include failure of the course. See [http://windward.hawaii.edu/Policies/](http://windward.hawaii.edu/Policies/) for more information on the UH system-wide student conduct code.

**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.*
<table>
<thead>
<tr>
<th>Week Of</th>
<th>Monday</th>
<th>Wednesday</th>
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<tbody>
<tr>
<td>JAN 8</td>
<td>Orientation, 1.1</td>
<td>1.2, 1.3</td>
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<tr>
<td>JAN 15</td>
<td>No Class – MLK Day</td>
<td>1.4, 1.5</td>
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<td>JAN 22</td>
<td>1.6, 1.7</td>
<td>1.8, 1.19</td>
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<td>JAN 29</td>
<td>1.11</td>
<td>Chapter 1 Review</td>
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<tr>
<td>FEB 5</td>
<td>EXAM 1</td>
<td>Calculators, 2.1</td>
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<td>FEB 12</td>
<td>2.2</td>
<td>2.3, 2.4</td>
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<tr>
<td>FEB 19</td>
<td>No Class – Presidents Day</td>
<td>2.5, 2.6</td>
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<tr>
<td>FEB 26</td>
<td>2.7</td>
<td>Modeling with Functions</td>
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<tr>
<td>MAR 5</td>
<td>Chapter 2 Review</td>
<td>EXAM 2</td>
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<td>MAR 12</td>
<td>3.1</td>
<td>3.2, 3.3</td>
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<td>MAR 19</td>
<td>3.4, 3.7</td>
<td>Chapter 3 Review</td>
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<td>MAR 26</td>
<td>No Class – Spring Break</td>
<td>No Class – Spring Break</td>
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<tr>
<td>APR 2</td>
<td>3.7</td>
<td>4.1, 4.2</td>
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<td>APR 9</td>
<td>4.3</td>
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<td>APR 16</td>
<td>4.5</td>
<td>4.6</td>
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<tr>
<td>APR 23</td>
<td>Chapter 4 Review</td>
<td>EXAM 3</td>
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<tr>
<td>APR 30</td>
<td>Final Review</td>
<td>Final Review</td>
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<td>MAY 7</td>
<td>Final Review</td>
<td>FINAL EXAM, MAY 9 8:30-10:30am</td>
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- This calendar is tentative. Dates of assessments may change slightly based on class progress.
- Last Day to Withdraw without a W grade is February 1, 2018.
- Last Day to Withdraw with a W grade or establish CR/NC option is April 2, 2017.