INSTRUCTOR: Amanda Zerr  
OFFICE: Mana’opono 110A  
OFFICE HOURS: M-Th 12:30-1 and by appointment  
EMAIL: azerr@hawaii.edu  
TERM: Spring 2019

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

CATALOG DESCRIPTION

Linear equations, inequalities, systems of equations, polynomials, functions, fractional expressions and equations, exponents, powers, roots, quadratic equations and functions; rational, exponential and logarithmic functions. (4 hours lecture)

** Students enrolled in this course must also be concurrently enrolled in MATH 88 CRN 64460

Pre-Requisites: C or better in MATH 25, 26, 29, 82 or equivalent, satisfactory math placement test score, or consent of instructor. Co-requisite enrollment in MATH 88.

STUDENT LEARNING OUTCOMES (SLO)

As a result of taking this course, students can expect to attain the following outcomes:

1. Graph or interpret algebraic relations that are relevant to the topics in this course.
2. Employ algebraic techniques to find the solutions to equations or inequalities, or systems of equations or inequalities appropriate to the level of this course.
3. Use algebraic techniques to analyze and solve applied problems.
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, quizzes or exams.

Important Dates

Jan 15 – Last day to register/add/drop with 100% refund
Jan 30 - Last day to withdraw with 50% refund (no “W” on transcript)
March 25 – Last day to withdraw with a “W” or choose CR/NC.

Windward Community College is an equal opportunity, affirmative action institution.
FOUNDATION HALLMARKS

Math 103 fulfills 4 credits of the General Education requirements (Foundations: Symbolic) for both the A.A. degree at WCC and a Bachelor’s degree at UH Manoa. Consequently, it meets the hallmarks of symbolic reasoning requirement.

1. Students will be exposed to the beauty, power, clarity and precision of formal systems.
2. Instructors will help students understand concepts 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 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.

Math 103 fulfills 4 credits of the General Education requirements (Foundations: Quantitative – Effective Fall 2018) for both an A.A. degree at WCC and a Bachelor’s degree at UH Manoa. Consequently, it meets the following hallmarks of the Quantitative Reasoning requirement:

1. Provide students with theoretical justifications for, and limitations of, mathematical or statistical methods, and the formulas, tools, or approaches used in the course.
2. Include application of abstract or theoretical ideas and information to the solution of practical quantitative reasoning problems arising in pure and applied research in specific disciplines, professional settings, and/or daily and civic life.
3. Provide opportunities for practice and feedback that are designed to help students evaluate and improve quantitative reasoning skills by including a course component at least once per week with a maximum 30:1 student-to-teacher ratio.
4. Be designed so that students will be able to:
   a. identify and convert relevant quantitative information into various forms such as equations, graphs, diagrams, tables, and/or words;
   b. select appropriate techniques or formulas, and articulate and evaluate assumptions of the selected approaches;
   c. apply mathematical tools and perform calculations (including correct manipulation of formulas);
   d. make judgments, create logical arguments, and/or draw appropriate conclusions based on the quantitative analysis of data, the assumptions made, the limitations of the analysis, and/or the reasonableness of results; and
   e. effectively communicate those results in a variety of appropriate formats.

COURSE TASKS
Attendance and Class Participation During Lectures – Attend class! Work out the lecture examples and ask specific questions during the lecture to clarify misunderstandings. If we run out of time for all of your questions, make an appointment to meet with me outside of class or get help from a tutor or study group. You are responsible for learning all material introduced in class. Your class grade will be affected if you miss more than one class. All lecture notes will be posted on Laulima.

In Class Work - Students participate with other students in the presence of the instructor. Lab activities generate the opportunity for integration of concepts, critical thinking, modeling, and effective communication of mathematics. Students must be present the entire class period and be actively engaged during a lab to receive credit. In-class work cannot be made up if you are absent.

Homework:
• Homework will be completed online via the Connect Math program as well as additional worksheets that must be completed and turned in to the instructor. Most successful students need to do additional problems and study their lecture notes and quizzes in order to reach mastery.
• Late homework is worth 75% and will be accepted up until the day of the exam. Because it is vital to stay caught up with the new material, no late homework will be accepted after the unit test.
• Your class grade will be affected if you miss more than one homework assignment this term.

Quick Quizzes - In order to give you feedback on your progress learning the material, short timed quizzes will be given regularly and graded on accuracy and completion. Quizzes may not be made up if students are not present at the time they are given. I will drop the lowest 2 quiz scores.

Testing:
• Make sure your questions are answered before test day. Make prior arrangements if you must be gone during an exam. In general, there are no make-up or late tests. However, if you unexpectedly must be absent on an exam day due to an emergency, notify me immediately via email and if the reason is justified then a make-up exam may be arranged.
• There are no re-takes on quizzes, tests or the final exam in this course.

Mathematical Work / Symbolic Reasoning – This class fulfills the hallmarks of symbolic reasoning requirement. This means that in order to receive full credit for problems done on exams, quizzes, in-class activities and homework, you must show sufficient work in a clear and organized manner. Messy and/or disorganized work will not receive full credit.

CLASS EXPECTATIONS
Calculators – No calculators are allowed on quizzes or exams. Calculators may be used on homework.

Cell Phones – Cell phones and other communication devices should be silenced prior to the start of class.

Student Conduct & Academic Honesty - Please be respectful of everyone and their background and refrain from behaviors that disrupt the learning environment. Students are required to comply with the UH Student Conduct Code including policies that prohibit Academic Dishonesty. http://www.hawaii.edu/policy/?action=viewPolicy&policySection=ep&policyChapter=7&policyNumber=208

ASSESSMENT TASKS & GRADING
Grades are posted on the Laulima Gradebook. Grades for this course are based on the following:
15% Final Exam
60% 4 Exams (15% each)
15% Homework
5% Quizzes
5% In Class Activities / Participation

The following letter grades are assigned for the course as follows:

- **A** 90%-100%
- **B** 80%-89%
- **C** 70%-79%
- **D** 60%-69%
- **F** Less than 60%
- **CR** Earned 70% or above (Apply for and get written consent by posted deadline).
- **NC** Earned below 70% (Apply for and get written consent by posted deadline).
- **W** Official Withdrawal (by posted deadline)
- **N** Described below

> A grade N indicates that the student has worked conscientiously, attended class regularly, finished work in a timely manner, and fulfilled course responsibilities. However, student has either not achieved the minimal student learning objectives and is not yet prepared to succeed at the next level, or was unable to complete the class due to extenuating circumstances such as major health, personal, or family emergencies. The instructor is not obligated to offer an N grade, and will only consider it as an option with a detailed written request from the student.

### LEARNING RESOURCES & MATERIALS

#### REQUIRED MATERIALS - Connect Math:

- Connect Math access may be purchased directly online at [www.connectmath.com/login](http://www.connectmath.com/login) or as part of the textbook bundle sold at WCC Bookstore.
- Register online at [www.connectmath.com/login](http://www.connectmath.com/login)
- When you purchase Connect Math use Course Code: 9HQEH-UYP6W
- You are NOT required to purchase the textbook. The eBook *College Algebra Essentials*, by Julie Miller, is included when you purchase Connect Math.
- For a free (temporary) two-week access to the course, use the code: **FFF24-3FD92-B702A-FC801**

#### LEARNING RESOURCES

- **Laulima** – Grades, lecture notes & video links for our class. Log in to windward.hawaii.edu
- **Math Lab** - Free drop-in tutoring. La’akea (Library Learning Commons) Room 220 (windward.hawaii.edu/kapiko/math)
- **Testing Center** – La’akea Room 228.
  Phone number (808)235-7498 (windward.hawaii.edu/kapiko/testing)
- **Tutor.com** [http://go.hawaii.edu/XGG](http://go.hawaii.edu/XGG)
- **Brainfuse Online Tutors** – WCC’s free online tutoring program (windward.hawaii.edu/brainfuse)
- **OLA** – UH online tutoring program (manoa.hawaii.edu/ola)

### Additional Information

The Learning Process: Growth Mindset
When learning new concepts, your brain is creating new synapse connections. Frustration and struggle are signs that you are in the middle of the learning process. Don’t give up! Good strategies and continued practice lead to stronger synapse connections and allows your brain to store the new concepts in long-term memory. You build your intelligence as you practice and learn new concepts.

**Paths to Success**

1) Attend class and make up any missed assignments.
2) Come to class with a growth mindset willing to accept a fast pace and open to learning a large quantity of new concepts.
3) Notice and let go of resistance.
4) Complete homework assignments & ask specific questions to clarify misunderstandings.
5) Be organized. Keep lecture notes, quizzes, tests and homework organized and study these materials daily.
6) Use out of class resources such as tutors, videos, study groups, and appointments with instructor.
7) Stay motivated. Focus on how success in this class will advance your life and career goals.

**DISABILITIES ACCOMMODATIONS**

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.

**TITLE IX**

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: [https://windward.hawaii.edu/Title_IX/](https://windward.hawaii.edu/Title_IX/).

Windward Community College is committed to the pursuit of equal education. If you or someone you know has experienced sex discrimination or gender-based violence, WCC has resources to support you. To speak with someone confidentially, contact the Mental Health & Wellness Office at 808-235-7393 or Kaahu Alo, Designated Confidential Advocate for Students, at 808-235-7354 or kaahualo@hawaii.edu. To make a formal report, contact the Title IX Coordinator, Karla K. Silva-Park, at 808-235-7468 or karlas@hawaii.edu.

**ALTERNATE CONTACT INFORMATION**

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

Location: Alakai 121  
Phone: 808-235-7422  
Email: wccaa@hawaii.edu
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<tr>
<th>WK</th>
<th>MON</th>
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<tr>
<td>1</td>
<td>Jan 7</td>
<td>R.1 Order of Ops &amp; Absolute Value</td>
<td>Jan 8 R.3 Negative Exponents</td>
<td>Jan 9 R.4 part 1 Rational Exponents</td>
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<td>Jan 14</td>
<td>R.4 part 3 Radical Addition</td>
<td>Jan 15 R.5 Polynomials &amp; Multiply Radicals</td>
<td>Jan 16 R.6 Factoring Trinomials</td>
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<td>Jan 21 - No Class Dr. MLK Jr. Day</td>
<td>Jan 22 R.7 Ops w/ Rational Expressions</td>
<td>Jan 23 R.7 part 2 Add/Subtract Radicals</td>
<td>Jan 24 R.7 part 3 Complex Fractions &amp; Rationalize Denominator</td>
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<td>Feb 4</td>
<td>1.1/1.2 Linear &amp; Rational Applications</td>
<td>Feb 5 1.3 Complex Numbers</td>
<td>Feb 6 1.4 Solving Quadratic Equations</td>
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<td>Feb 11</td>
<td>1.6, part 1 Linear &amp; Rational Applications</td>
<td>Feb 12 1.6 part 2 More Equations</td>
<td>Feb 13 1.7 Linear &amp; Compound Inequalities</td>
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<td>2.1 Graphing Equations</td>
<td>Feb 26 2.2 Circles</td>
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<td>2.4 Slope and Writing Equations</td>
<td>March 5 2.4/2.5 Apps &amp; Solving Inequalities w/Graphs</td>
<td>March 6 2.8 Algebra of Functions</td>
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<td>March 11</td>
<td>3.3 Polynomial Long Division</td>
<td>March 12 3.3/3.5 Long Division &amp; Asymptotes</td>
<td>March 13 3.5 Intercepts &amp; Graphing Rational Functions</td>
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<td>April 3 4.2 Exponential Functions</td>
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<td>April 8</td>
<td>4.3, part 2 Logs cont’d</td>
<td>April 9 4.4 Properties of Logs</td>
<td>April 10 4.5, part 1 Solve Exponential Equations</td>
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<td>April 15</td>
<td>5.1, part 1 Systems of Linear Equations (2 Vars.)</td>
<td>April 16 5.1, part 2 Applications of 2 Var. Systems</td>
<td>April 17 5.2, part 1 Systems of Linear Eqtns. (3 Vars.)</td>
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<td>5.4 Systems of Non-Linear Equations</td>
<td>April 23 5.5 Systems of 2 Variable Inequalities</td>
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**Monday, May 6, 1-3pm:** Cumulative Final Exam