MATH 21 - Developmental Math I
3 Credits

INSTRUCTOR: Allyn Fetherolf
OFFICE: Hale Manaʻopono, 110A
OFFICE HOURS: MW 11:15-1:00pm
e-mail: allynf@hawaii.edu
EFFECTIVE DATE: Fall 2015

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

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

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 ʻAkoakoa 213 for more information.

CATALOG DESCRIPTION
Math 21
This course is designed to help student review and master the basics of mathematics. Topics include an introduction to expressions and equations with whole numbers, fractions, decimals, ratios and proportions, percents, geometric formulas, and similar triangles. Pre-Requisite(s): satisfactory math placement test score, or consent of instructor.

STUDENT LEARNING OUTCOMES
Note: All S.L.O. assessments are embedded in class activities, homework, quizzes, or exams.

The student learning outcomes for the course are:

1. Demonstrate proficiency in the skills and competencies for this level of mathematics.
2. Apply concepts and principles to solve applied problems related to the topics covered in this course.
3. Utilize precise language and symbols in written and oral forms.

All SLOs assessments are embedded in class activities, homework, quizzes, or exams.
## COURSE CONTENT

### Module #R: Introduction to Expressions and Equations with Whole Numbers, and Integers

- a. Identify an exponent and a base
- b. Use the rules for order of operations
- c. Evaluate algebraic expressions given values for the variables
- d. Translate phrases from words to algebraic expressions
- e. Identify solutions of equations
- f. Translate sentences to equations
- g. Distinguish between expressions and equations
- h. Solve equations of the form \( x + a = c \), using the Addition Property of Equality
- i. Solve equations of the form \( ax = c \), using the Multiplication Property of Equality
- j. Solve equations of the form \( ax + b = c \)
- k. Solving application problems using equations
- l. Add, Subtract, Multiply, and Divide Integers
- m. Order Relationships and Order of Operations with Integers

### Module #1: Fractions

- a. Write mixed numbers as fractions and vice-versa
- b. Find factors of a number
- c. Use tests for divisibility
- d. Find prime factorizations
- e. Write fractions in lowest terms
- f. Determine whether two fractions are equivalent
- g. Multiply fractions and mixed numbers
- h. Divide fractions and mixed numbers
- i. Solve application problems
- j. Add and subtract like fractions and mixed numbers
- k. Find the least common multiple
- l. Write a fraction with an indicated denominator
- m. Add and Subtract unlike fractions and mixed numbers
- n. Order relations and order of operations

### Module #2: Decimals

- a. Read and write decimals in words
- b. Write decimals as fractions or mixed numbers
- c. Rounding numbers and estimation
- d. Round decimals to any given place
- e. Add and subtract decimals, including applications
- f. Multiply decimals, including applications
- g. Divide decimals, including applications
- h. Order of operations with decimals
- i. Write fractions as equivalent decimals
- j. Order relations

### Module #3: Geometry

- a. Geometric terms and angles
- b. Find the perimeter of polygons
- c. Find the area of polygons
- d. Find circumference and area of circles
- e. Find the perimeter and area of composite figures
- f. Find volume and surface area

### Module #4: Ratios and Proportions, Percents, and Similar Triangles

- a. Write ratios using a fraction, colon or “to”
- b. Write proportions
- c. Determine whether proportions are true or false
- d. Solve proportions using cross-products
- e. Solve application problems using proportions
- f. Solve similar triangle problems using proportions
- g. Write percent as decimals and vice-versa
- h. Write percent as fractions and vice-versa
- i. Write percent proportions
- j. Solve percent problems using proportions
- k. Using the percent equation
- l. Solve percent application problems
- m. Solve simple interest problems
- n. Solve compound interest problems
This is a non-traditional Math course that uses computer software and customized study plan for each student. If you learn Math best through lecture based course then I recommend that you take appropriate level course in our traditional track. The course material is divided into four modules. Students begin each module by taking a Pre-Test, which will help to determine their areas of mastery and areas that need to improve within each module of the course. After the Pre-Test, web based homework is assigned. After completing the required web based homework, students will take the Post-Test and then move on to the next module.

- Upon completion of this course, the student may decide to continue in the next sequential course if it is within the allowable deadline, or choose to wait until the start of the next semester to enroll in another math course. If the student chooses to wait until the next semester to enroll in another math course, then the student is released from the completed class.
- If you cannot finish this course by the end of the term, you may re-register for this course the following semester and continue your work from last module completed, assuming the transition time is less than or equal to a month. You will receive credit for attendance, and passed modules.

**ASSESSMENT TASKS AND GRADING**

Grading for Math 21 will be broken down as follows:

- **Attendance:** 5%
- **Homework:** 15%
- **Pre/Post Tests:** 60%
- **Final Exam:** 20%

All Pre and Post Tests must be taken in the testing center. The minimum passing score on any Post-Test is a 70%. If a student scores a 70% or greater on the module Pre-Test, then the Post-Test for that module becomes optional. If a student scores less than 70% on a Pre-Test then the post test is required.

All Post-Tests have 2 attempts. If you require additional attempts, you will need to meet with the course instructor during class to review the exam.

The minimum passing score on the Final Exam is 60%. If a student does not score a 60% on the first attempt, one retest can be given. The maximum possible score on the retest is 60%.

Class attendance is not optional, and a student must arrive on time and stay for the entire class period to earn credit for attendance.

Failure to complete at least 1 module will result in a failing grade for the course.

**GRADE DEFINITION**

- **A** 90% - 100% of the total possible points
- **B** 80% - 89% of the total possible points
- **C** 70% - 79% of the total possible points
- **Cr** 70% - 100% of the total possible points
- **NC** Less than 70% of the total possible points
- **D** 60% - 69% of the total possible points
- **F** Less than 60% of the total possible points

Note: Students must apply for the Cr/NC grading option at the Admissions Office. Consult the WCC Catalog for deadlines.

Note: W grade is given only when the student officially withdraws from the course at the Admissions Office.
Consult the WCC Catalog for deadlines.

**LEARNING RESOURCES**

An access code for MyMathLab is the only required resource. It can be purchased either in the bookstore or online.

Below is an approximate schedule illustrating the pace at which a student should expect to complete coursework.

<table>
<thead>
<tr>
<th>Week</th>
<th>Assignments to Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Discuss Syllabus, Sign up for MyMathLab,</td>
</tr>
<tr>
<td>2</td>
<td>Begin Review Material/Start First Module</td>
</tr>
<tr>
<td>3</td>
<td>Watch Lecture Videos on First Module and Take Pre-Test</td>
</tr>
<tr>
<td>4</td>
<td>Do Custom Online HW</td>
</tr>
<tr>
<td>5</td>
<td>Finish First Module Online HW and Take Post-Test</td>
</tr>
<tr>
<td>6</td>
<td>Watch Lecture Videos on Second Module and Take Pre-Test</td>
</tr>
<tr>
<td>7</td>
<td>Do Custom Online HW</td>
</tr>
<tr>
<td>8</td>
<td>Finish Second Module Online HW and Take Post-Test</td>
</tr>
<tr>
<td>9</td>
<td>Watch Lecture Videos on Third Module and Take Pre-Test</td>
</tr>
<tr>
<td>10</td>
<td>Do Custom Online HW</td>
</tr>
<tr>
<td>11</td>
<td>Finish Third Module Online HW and Take Post-Test</td>
</tr>
<tr>
<td>12</td>
<td>Watch Lecture Videos on Fourth Module and Take Pre-Test</td>
</tr>
<tr>
<td>13</td>
<td>Do Custom Online HW</td>
</tr>
<tr>
<td>14</td>
<td>Finish Fourth Module Online HW and Take Post-Test</td>
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<tr>
<td>15</td>
<td>Complete Makeup Work and Exit Exam Review</td>
</tr>
<tr>
<td>16</td>
<td>Complete Makeup Work and Exit Exam Review</td>
</tr>
<tr>
<td>17</td>
<td>Final’s Week – All Course Work Must be done prior to taking Exit Exam</td>
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</tbody>
</table>