MATH 28 – Developmental Mathematics II  
(Lecture-based)  
3 Credits

INSTRUCTOR: Clayton K. Akatsuka, Professor, Mathematics

OFFICE: Mana 112

OFFICE HOURS: TBA

TELEPHONE: 236-9279

e-mail: akatsuka@hawaii.edu

EFFECTIVE DATE: Summer 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 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.

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.

CATALOG DESCRIPTION

This course is a continuation of Developmental Mathematics I and a preparation for students to take Math 100, Math 101 or Philosophy 110 to fulfill the Symbolic Reasoning requirement. Topics include an introduction to Real Numbers (including basic roots, signed numbers and properties), Linear equations and inequalities in one variable, linear equations and inequalities in two variables, and selected topics – Quadratic Formula, parabola, systems of equations and inequalities, scientific notation, and variation.

STUDENT LEARNING OUTCOMES

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 mathematical language and symbols in written and oral forms.
## COURSE CONTENT

### Concepts or Topics

- **Real Numbers** – including basic roots, signed numbers and properties.
- **Algebraic Expressions** – including geometric formulas.
- **Linear Equations and Inequalities in One Variable**
- **Linear Equations and Inequalities in Two Variables**
- **Selected Topics** – including Quadratic Formula, Parabola, Systems of Equations and Inequalities, Scientific Notation, and Variation.

### Skills or Competencies/Responsibilities of Students. Success in this course will be enhanced by:

1. a positive, inquiring attitude towards learning mathematics;
2. setting aside adequate time for studying and working of problems;
3. reading the text carefully and making use of other learning materials whenever necessary;
4. seeking assistance from the instructor and the Math Lab personnel whenever necessary;
5. completing assignments by the designated date;
6. regular class attendance, participation and maintaining accurate class notes.

## COURSE TASKS, ASSESSMENT AND GRADING

The mode of instruction is primarily discussion-problem solving where the initial portion of each class period may be utilized to discuss and clarify any questions from the preceding class meeting and/or assignment, and the remaining portion is used to discuss new material. Lectures, directed student explorations, group work, appropriate technologies, and projects will also be used as appropriate. After the completion of each unit, a review and an exam will be conducted.

### ASSESSMENT TASKS AND GRADING

The student will demonstrate competency in the objectives by participating in and completing all class activities, by completing and turning in all assignments as requested, by taking unit tests, and by taking a final exam over concepts and skill covered in the entire course. Class activities, unit tests, and the final exam are to be taken in the classroom and without any references unless otherwise stipulated by the instructor.

It is the student’s responsibility to obtain and complete all assignments that are given in any class meeting for which the student is unable to attend. Unless permission is granted by the instructor beforehand, assignments and tests must be completed and submitted to the instructor at the specified date and time.

Points will be assigned to each graded assignment, class activity, and tests as follows:

1. **Homework.** Homework sets will be graded on a 0 - 3 point scale. Assignments are due at the next class meeting to the instructor. Late homework may be accepted with grade penalty.

2. **Class Activity.** Class activities are done in class only. Class activities will be graded on a 0 - 2 point scale. There is no make-up for a missed class activity. Students must be present in class to participate.
3. **Module Test.** The four module tests are given in class at the end of each unit. A module test will be 75 minutes in length and will be scored on a 100-point scale. The student must achieve a minimum of 70% of the possible points for each module test. Without this minimum requirement, a passing grade for the course is not possible.

**Retests.** After each module test, a module retest deadline will be given. One retest is allowed without penalty for each module test if it is done by the specified module retest deadline. The better of the two test scores will count towards your grade. No retests will be given after the module retest deadline. Retests are arranged by appointments with your instructor.

To take a retest, all of the following must be met:

a) All problems from the Module Test at the end of the unit must be completed and turned in to the instructor.

b) The student must meet with the instructor to review mistakes made on the first form of the test taken.

c) Additional math activities as designated by the instructor must be completed.

d) The retest must be taken by the designated module retest deadline.

4. **Final Exit Exam.** The exit exam will cover the concepts and skills in the entire course. The exit exam is one hour, fifty minutes in length and will be scored on a 200-point scale. The student must achieve a minimum of 60% of the possible points for the exit exam. Without this minimum requirement, a passing grade for the course is not possible.

No retesting for the exit exam is available unless the 60% minimum is not met and the 60% minimum per module test was met. In that event, a retest of the exit exam is possible, however, the maximum score is 60% of the possible points for the exit exam.

**Make-up.** Make-up opportunity for a module test or exit exam will be possible only upon a timely presentation of a serious and justified explanation of the student’s absence from the class test. The instructor has the right to request documentation of the student’s absence from the class and to determine if the absence from the class test is justified. A make-up test must be taken within one week of the in-class test unless otherwise specified by the instructor. No more than one test may be taken by a student on a make-up basis.

**Course grade.** If the student has achieved a minimum of 70% of the possible points for each module test and a minimum of 60% of the possible points for the exit exam, then a letter grade for the course will be assigned according to the level of achievement as provided in the table below:

<table>
<thead>
<tr>
<th>GRADE</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% - 100% of the total possible points</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89% of the total possible points</td>
</tr>
<tr>
<td>C</td>
<td>70% - 79% of the total possible points</td>
</tr>
<tr>
<td>Cr</td>
<td>70% - 100% of the total possible points</td>
</tr>
<tr>
<td>NC</td>
<td>Less than 70% of the total possible points</td>
</tr>
<tr>
<td>D</td>
<td>60% - 69% of the total possible points</td>
</tr>
<tr>
<td>F</td>
<td>Less than 60% of the total possible points</td>
</tr>
</tbody>
</table>

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**


**Activities Required at Scheduled Times Other Than Class Times**
TRiO Computer Lab and other activities as needed.
The Math Center: Mana’ono 103
Testing Center: LLC 228 (Summer hours: M-F, 8:00 am – 4:00 pm)

**Additional Information**
1. Grading on Homework, Class Activities or Tests. To receive full marks for problems done on any graded activity, you must show your work neatly and completely as well as provide clear written explanations when it is asked for. Partial credit may be awarded.

2. Absences. It is your responsibility to attend every class meeting. Even if you are absent, you are responsible for those topics and examples covered in class that you missed. Furthermore, you are responsible for obtaining any important announcements and assignments given during the class you missed. Absences and tardiness to class will have a negative impact on your success in this course.

3. Homework. For each module, it is recommended that you write down the words, phrase or math symbols and their meanings, formulas, and properties/rules that are important for each section. It is important for you to know these.

4. Calculator use is not allowed in class and on tests and exams.
<table>
<thead>
<tr>
<th>June</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
</tr>
</thead>
</table>
| 8    | In Class:  
- Introduction  
- 1.4 Real Numbers  
- 1.5 Add & Subtract  
- 1.6 Mult. & Div.  

Assignment:  
**1.4** pp.34-35 #19-27, 29, 33, 35, 36, 67-75 odds.  
**1.5** pp. 44-45 #1-10, 11-81 odds, 91-105 odds.  
**1.6** pp. 56-58 #1-10, 11-27 odds, 35-49 odds, 51-79 odds, 89, 91-111 odds. | 10 | In Class:  
- Review/Collect HMK  
- 1.7 Properties  
- 1.8 Simplifying Expressions  
- 8.1 Evaluating Roots  

Assignment:  
**1.7** pp. 67-69 #1-20, 23-41 odds, 55-61 odds, 65, 71, 77, 83, 89.  
**1.8** pp. 72-74 #1-34, 37-71 odds, 81, 85.  
**8.1** pp. 500-502 #9, 13, 17, 21, 25, 27, 43-54 (Rational, Irrational, or Exact answers), 65, 67, 69, 71, 76. | 12 | In Class:  
- Review/Collect HMK  
- Review for Module 5  

Assignment:  
Module 5 Test Review  
(Must be completed and turned in before testing). |
| 15 | In Class:  
- Collect HMK  
- **Module 5 Test**  
- 2.1 Using A.P. E.  
- 2.2 Using M.P.E.  

Assignment:  
**2.1** pp. 91-92 #17, 23, 29, 35, 41, 53, 57, 61, 63, 69, 75.  
**2.2** pp. 96-97 #33, 37, 45, 53, 61, 65, 69, 75, 81. | 17 | In Class:  
- Review/Collect HMK  
- 2.3 Linear Equations  
- 2.4 Apps.  

Assignment:  
**2.3** pp. 104-105 #11, 13, 15, 25, 27, 29, 37, 39, 41, 43, 51, 57, 63, 67.  
**2.4** pp. 115-119 #5-9 odds, 13, 17, 19, 23, 27, 31, 33, 37, 41, 45, 47, 49, 51, 55. | 19 | In Class:  
- Review/Collect HMK  
- 2.5 Geometry  
- 2.6 Ratio, Proportions, and Percents  
- 2.7 Apps.  

Assignment:  
**2.6** pp. 136-139 #29, 35, 39, 41, 45, 51, 57, 61, 63, 67, 91, 95, 97, 101, 105.  
**2.7** pp. 145-150 #1, 3, 5, 7, 11, 17, 21, 23, 25, 27, 43, 47, 51, 55. |
<table>
<thead>
<tr>
<th>June</th>
<th>22</th>
<th>June</th>
<th>24</th>
<th>June</th>
<th>26</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In Class:</strong></td>
<td></td>
<td><strong>In Class:</strong></td>
<td></td>
<td><strong>In Class:</strong></td>
<td></td>
</tr>
<tr>
<td>• Review/Collect HMK</td>
<td></td>
<td>• Review/Collect HMK</td>
<td></td>
<td>• Review/Collect HMK</td>
<td></td>
</tr>
<tr>
<td>• 2.8 Linear Inequalities</td>
<td></td>
<td>• Review for Module 6</td>
<td></td>
<td>• Module 6 TEST</td>
<td></td>
</tr>
<tr>
<td><strong>Assignment:</strong></td>
<td></td>
<td>• 3.1 Linear Equations in Two Variables</td>
<td></td>
<td>• 3.2 Graphing Lines</td>
<td></td>
</tr>
<tr>
<td>2.8 pp. 160-162 #5-19, 35, 41, 49, 53, 55, 69, 75, 87-93, 91, 101, 103.</td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td>• 3.3 Slope of Lines</td>
<td></td>
</tr>
<tr>
<td>Module 6 Test Review (Must be completed and turned in before testing).</td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>July</th>
<th>29</th>
<th>June</th>
<th>01</th>
<th>July</th>
<th>02</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In Class:</strong></td>
<td></td>
<td><strong>In Class:</strong></td>
<td></td>
<td><strong>In Class:</strong></td>
<td></td>
</tr>
<tr>
<td>• Review/Collect HMK</td>
<td></td>
<td>• Review/Collect HMK</td>
<td></td>
<td>• Collect HMK</td>
<td></td>
</tr>
<tr>
<td>• 3.4 Equation of Lines</td>
<td></td>
<td>• Review for Module 7</td>
<td></td>
<td>• Module 7 TEST</td>
<td></td>
</tr>
<tr>
<td>• 3.5 Graphing Linear Inequalities in Two Variables</td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td>• 5.3 Scientific Notation</td>
<td></td>
</tr>
<tr>
<td><strong>Assignment:</strong></td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td>• 4.1 Solving Systems of Linear Equations - Graphing</td>
<td></td>
</tr>
<tr>
<td>3.4 pp. 218-220 #6, 7, 9, 11, 13, 15, 17, 19, 23, 25, 32, 39, 55, 56, 59, 69, 73, 75.</td>
<td></td>
<td>Module 7 Test Review (Must be completed and turned in before testing).</td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
</tr>
<tr>
<td>3.5 p. 228 #11, 15, 16, 19, 23, 25, 28, 29.</td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td>5.3 pp. 316-317 1, 13, 19, 25, 33, 41, 47, 51, 57, 59.</td>
<td></td>
</tr>
<tr>
<td><strong>Assignment:</strong></td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td>4.1 pp. 253-254 1-4, 15, 21, 25, 27.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>June</th>
<th>06</th>
<th>June</th>
<th>08</th>
<th>June</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In Class:</strong></td>
<td></td>
<td><strong>In Class:</strong></td>
<td></td>
<td><strong>In Class:</strong></td>
<td></td>
</tr>
<tr>
<td>• Review/Collect HMK</td>
<td></td>
<td>• Review/Collect HMK</td>
<td></td>
<td>• Review/Collect HMK</td>
<td></td>
</tr>
<tr>
<td>• 4.2 Solving Systems of Linear Equations - Substitution</td>
<td></td>
<td>• 4.4 Apps</td>
<td></td>
<td>• 9.3 Solving Quadratic Equations</td>
<td></td>
</tr>
<tr>
<td>• 4.3 Solving Systems of Linear Equations - Elimination</td>
<td></td>
<td>• 4.5 Solving systems of Linear Inequalities</td>
<td></td>
<td>• 9.5 Graphing Parabolas</td>
<td></td>
</tr>
<tr>
<td><strong>Assignment:</strong></td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
</tr>
<tr>
<td>4.2 pp. 199-200 #1, 13, 15, 17, 21, 25, 33, 49, 51, 53, 55; and 4.3 pp. 207-208 #1, 5, 9, 12, 15, 26, 43, 49, 53, 55.</td>
<td></td>
<td>4.4 pp. 276-281 #11, 17, 21, 23, 25, 33, 37, 39.</td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Assignment:</strong></td>
<td></td>
<td>4.5 pp. 284-285 #1-5, 11, 19, 21.</td>
<td></td>
<td>9.3 pp. 371-373 #17, 19, 21, 25, 35, 39(a), 45, 51.</td>
<td></td>
</tr>
<tr>
<td>9.5 p. 585 #1, 3, 7, 9, 11 Using the 5-Step Method</td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
<td><strong>Assignment:</strong></td>
<td></td>
</tr>
</tbody>
</table>
| 13 | In Class:  
• Review/Collect HMK  
• 7.8 Variation  

Assignment:  
7.8 pp. 479-481 #19, 23, 27, 29, 32, 37, 42.  
Module 8 Test Review  
(Must be completed and turned in before testing). |
| 15 | In Class:  
• Review/Collect HMK  
• Review for Module 8  

Assignment:  
Exit Exam Review Sheet |
| 17 | In Class:  
• Review/Collect HMK  
• **Module 8 TEST**  

Assignment:  
Exit Exam Review Sheet |
| 20 | In Class:  
• Review for Exit Exam  

Assignment:  
• Exit Exam Review Sheet |
| 22 | In Class:  
• Review for Exit Exam  

Assignment:  
• Exit Exam Review Sheet |
| *23 THURSDAY | In Class:  
• **EXIT EXAM** |