MATH 21A - Basic College Mathematics I
2 Credits

INSTRUCTOR: Clayton K. Akatsuka, Professor, Mathematics
OFFICE: Mana 110
OFFICE HOURS: MWF 9:30am-10:00 am, 11:15 am – 11:45 am, 1:15 pm – 1:45 pm; T, Th 9:30 am - 10:00 am, 12:00 pm – 12:30 pm; or by appointments.

TELEPHONE: 236-9279
e-mail: akatsuka@hawaii.edu
EFFECTIVE DATE: Spring 2009

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

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

This course is designed to help students review and master the basics of mathematics. Emphasis will be placed on numeration, whole numbers, fractions, mixed numbers, decimals, and ratios and proportions.
STUDENT LEARNING OUTCOMES

The student learning outcomes are:

1. Utilize precise mathematical language and symbols in written and/or oral form.

2. Demonstrate proficiency in performing operations with whole numbers, fractions, mixed numbers, and decimal numbers.

3. Utilize symbolic forms to represent, model, and analyze mathematical situations to solve problems.

4. Use algebraic techniques to analyze and solve applied problems.

COURSE CONTENT

Concepts or Topics

- Whole Numbers
- Fractions
- Decimals
- Ratios and Proportions
- Percents
- Equation Solving

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

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.
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 - 3 point scale. There is no make-up for a missed class activity. Students must be present in class to participate.

3. **Chapter Test.** The five chapter tests are given in class at the end of each chapter. A chapter test will be 50 minutes in length and will be scored on a 100-point scale. The student must achieve a minimum of 60% of the possible points for each unit test. Without this minimum requirement, a passing grade and credit for the course are not possible.

**Retests.** After each chapter test, a chapter retest deadline will be posted. One retest is allowed without penalty for each chapter test if it is done by the posted chapter retest deadline. The better of the two test scores will count towards your grade. No retest will be given after the chapter 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 Chapter Test at the end of the chapter 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 chapter retest deadline.

4. **Final Exam.** The final exam will cover the concepts and skills in the entire course. The final exam is one hour, fifty minutes in length and will be scored on a 200-point scale. The student must achieve a minimum of 50% of the possible points for the final exam. Without this minimum requirement, a passing grade for the course is not possible.

No retesting for the final exam is available unless the 50% minimum is not met and the 60% minimum per chapter test was met. In that event, a retest of the final exam is possible, however, the maximum score is 50% of the possible points for the final exam.
**Make-up.** Make-up opportunity for a chapter test or final 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 60% of the possible points for each unit test and a minimum of 50% of the possible points for the final 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>
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<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>
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<tr>
<td>NC</td>
<td>Less than 70% of the total possible points</td>
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<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>
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</tbody>
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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**

**Required Text:** *Basic College Mathematics*, 7th edition, by Aufmann, Barker and Lockwood.

Although not required, a Student Solution Manual is also available.

**Activities Required at Scheduled Times Other Than Class Times**
Homework, Math Lab or TLC activities as needed.
Math Lab: Mana 103  
TLC: MLeo 113

**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. If you are absent frequently or for an extended period of time, contact the
instructor as soon as possible to discuss your situation. Absences and tardiness to class can have
a negative impact on your success in this course.

3. Homework. For each chapter, as you read through each section, it is recommended that your
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.

After reading through each section carefully, try the suggested odd numbered problems in each
section. The answers to the odd numbered problems are available at the back of the textbook.
Do as many as you feel is necessary to help you learn and understand the material and become
comfortable with the concepts and/or properties. If you have difficulty solving problems in the
section, review the material in the text and your class notes. Many examples are solved. Review
the solutions to these problems. If, after checking these sources and trying to find your mistakes,
you are still unable to solve a problem correctly, make a note of the exercise number so that you
can ask someone for help with that problem.

Mathematics is not a spectator sport. To succeed in mathematics, you must do problems. It is
often necessary to practice a skill more than the instructor requires. For example, a textbook
may provide 50 practice problems in a section and the instructor may assign only 25 of them.
However, some students may need to do 30, 40, or all problems. If you are an accomplished
athlete, musician, or dancer, you know that long hours of practice are necessary to acquire a skill.
Do not cheat yourself of the practice you need to develop skills taught in this course.
Note: (1) Show all your work neatly. (2) Check your answers with those in the back of your textbook. If your answer is incorrect, review your work to find the error. Make the necessary correction. (3) Seek help from your instructor and/or the Math Lab. (4) Ask questions in class. (5) Complete your assignments on time.

1.1 pp. 7-8 #1, 3, 5, 8, 11, 14-17, 22, 30, 33, 41-47 odds.
1.2 pp. 14-16 #35, 43, 45, 47, 51, 69, 75, 79, 81, 85.
1.3 pp. 21-24 #37-45 odds, 91-101 odds, 111, 118.
1.4 pp. 29-32 #41-47 odds, 81, 83, 97, 105, 106.
1.5 pp. 41-44 #21, 23, 53, 67, 82, 114.
1.6 pp. 47-48 #1, 5, 13, 15, 17, 25, 39-75 odds.
1.7 pp. 51-52 #11, 21, 29, 35, 53, 67, 77, 81.
**1 Chapter 1 Test pp. 59-60 #1-25.

2.1 pp. 65-66 #1, 13, 21, 29, 37, 41, 43, 59, 70, 71.
2.2 pp. 69-70 #27-73 odds.
2.3 pp. 73-74 #1-75 odds, 76.
2.4 pp. 79-82 #11, 21, 31, 33, 45, 49, 51, 57, 59, 65, 73, 89, 91, 93, 95, 100.
2.5 pp. 87-90 #11-17 odds, 49, 53, 59, 63, 67, 69, 71, 75.
2.6 pp. 95-98 #13, 25, 31, 37, 39, 41, 45, 51, 69, 75, 89, 91, 93, 95, 97.
2.7 pp. 103-106 #11, 23, 35, 37, 34, 43, 55, 63, 72, 76, 77, 83, 86, 90, 93, 96.
2.8 pp. 109-111 #1, 3, 9, 15, 25, 29, 31, 35, 37, 45, 49.
**2 Chapter 2 Test pp. 117-118 #1-25.

3.1 pp.125-126 #1-5, 19, 33, 37, 41, 45, 47, 58.
3.3 pp.133-134 #1, 11, 13, 18, 19, 25, 33, 35.
3.4 pp.139-144 #7, 17, 27, 39, 63, 83, 93, 95, 103, 126, 130, 135.
3.5 pp.149-162 #11, 57-73 odds, 75, 97, 99, 105.
3.6 pp.155-156 #1, 9, 11, 16, 22, 25, 29, 48, 51-69 odds.
**3 Chapter 3 Test pp.163-164 #1-20.

4.1 pp.171-172 #4, 12, 20, 25, 27, 33.
4.3(a) pp.181-182 #1, 5, 8, 12, 17, 22.
4.3(b) pp. 182-184 #25, 35, 41, 43, 49, 53, 54, 56, 61, 64, 69. (Answer in Fractions)
**4 Chapter 4 Test pp. 191-192 #2, 4-6, 8-10, 12, 16, 18, 20.

Solving Equations Worksheet#1: x + a = b or x – a = b
Solving Equations Worksheet#2: ax = b or x/a = b
Solving Equations Worksheet#3: Applications
Solving Equations Worksheet#4: Review

### Tentative Calendar
#### Spring 2009

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>Jan</td>
<td>12 Introduction, 1.1, 1.2, 1.3</td>
<td>13</td>
<td>14 1.4, 1.5, 1.6</td>
<td>15</td>
<td>16*1 1.7</td>
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<td>19 Holiday Martin Luther King, Jr. Day</td>
<td>20</td>
<td>21 **1, 2.1, 2.2</td>
<td>22</td>
<td>23 Review Chapter 1, 2.2, 2.3</td>
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<tr>
<td></td>
<td>26 Chapter 1 Test</td>
<td>27</td>
<td>28 2.4</td>
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<td>26 Chapter 1 Test</td>
<td>27</td>
<td>28 2.4</td>
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<tr>
<td>Feb</td>
<td>2 2.6, 2.7</td>
<td>3</td>
<td>4 2.8</td>
<td>5</td>
<td>6 **2, 3.1, 3.2</td>
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<td>9 Review Chapter 2, 3.3</td>
<td>10</td>
<td>11 Chapter 2 Test, 3.4</td>
<td>12</td>
<td>13 3.5, 3.6</td>
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<td>16 Holiday Presidents Day</td>
<td>17</td>
<td>18 **3, 4.1, 4.3(a)</td>
<td>19</td>
<td>20 Review Chapter 3, 4.3(b)</td>
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<td></td>
<td>23 Chapter 3 Test, **4, Equations Worksheet#1</td>
<td>24</td>
<td>25 Review Chapter 4, Equations Worksheet#2</td>
<td>26</td>
<td>27 Chapter 4 Quiz, Equations Worksheet#3</td>
</tr>
<tr>
<td>Mar</td>
<td>2 Equations Worksheet#4</td>
<td>3</td>
<td>4 Equations Review</td>
<td>5</td>
<td>6 Excellence in Education (No Class)</td>
</tr>
<tr>
<td></td>
<td>9 Equations Quiz</td>
<td>10</td>
<td>11 Review</td>
<td>12</td>
<td>13*3 Final Exam</td>
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MATH 21A (60149)  Instructor: Clayton K. Akatsuka
Basic College Mathematics I  Office: Mana 110
MWF: 10:00 am - 11:15 am  Office Phone: 236-9279
Man 114

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*1 Last Day of Erase Period  
*2 Last Day of Official Withdrawal  
*3 Last Day of Instruction

Office Hours:  
M, W  9:30 am - 10:00 am, 11:15 am – 11:45 am,  
1:15 pm – 1:45 pm;  
T, Th  9:30 am - 10:00 am, 12:00 pm – 12:30 pm;  
or by appointments.