

MATH 111 MATHEMATICS FOR ELEMENTARY TEACHERS I

3 Credits

TTh 8:30 AM – 9:45 AM

INSTRUCTOR:	Kevin A. Takayama, Instructor, Mathematics		
OFFICE:	Hale Mana‘opono 105		
OFFICE HOURS:	MWF 11:30 AM – 12:30 PM; TTh 10:00 AM – 11:00 AM; or by appointment.		
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EFFECTIVE DATE:	Fall 2016		

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.

CATALOG DESCRIPTION

Math 111 is the first of a two-course sequence designed to give prospective elementary education majors the depth of understanding necessary to teach mathematics in the elementary classroom. Topics include number (natural numbers, integers, fractions, and real numbers) and operations, sets, patterns, functions and algebra. Emphasis will be on communication, connections and problem solving, representations, and reasoning and proof.

Prerequisite: Grade of “C” or better in MATH 25 or placement into MATH 100 or equivalent, and successful completion of ENG 100.

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are:

1. Explain and utilize numbers, ways of representing numbers, relationships among numbers, and number systems.
2. Explain the meaning of operations and how they relate to each other.
3. Describe various types of patterns and functional relationships.
4. Utilize symbolic forms to represent, model, and analyze mathematical situations to solve problems.
5. Communicate mathematical ideas verbally, in writing, and through mathematical representations to various audiences.

COURSE CONTENT

Concepts or Topics

- **Operations and Their Properties**
- **Numeration Systems and Sets**
- **Problem Solving**
- **Geometry – Polygons, Spatial Visualization, and Similarity**

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

1. a positive, inquiring attitude towards mathematics;
2. setting aside adequate time for studying and working of problems;
3. seeking assistance from the instructor and the Math Lab personnel whenever necessary;
4. completing assignments by the designated date;
5. 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.

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, weekly quizzes, 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, weekly quiz, and tests as follows:

1. **Homework.** Homework sets will be graded on a 0 - 10 point scale. Assignments are due at the beginning of class. *Late homework will not be accepted.*
2. **Weekly Quiz.** Weekly quizzes will be graded on a 0 - 5 point scale and will take place at the last meeting of every week. There is no make-up for a missed weekly quiz. Students must be present in class to participate.
3. **Unit Exams.** The three unit exams are given in class at the end of the designated sections. A unit exam will be approximately 50 minutes in length and will be scored on a 100-point scale. There are no retests.

Make-up. Make-up opportunity for a unit 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 unit test and a minimum of 60% 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:

GRADE	DEFINITION
A	90% - 100% of the total possible points
B	80% - <90% of the total possible points
C	70% - <80% of the total possible points
Cr	70% - 100% of the total possible points
NC	<70% of the total possible points
D	60% - <70% of the total possible points
F	< 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

Required Text: *A Problem Solving Approach to Mathematics for Elementary School Teachers* by Billstein, Libeskind and Lott, Pearson, 12th edition.

UH Manoa Online Learning Academy: manoa.hawaii.edu/ola/
Math Lab: Hale La'akea 220

Additional Information

- 1. Grading on Homework, Class Activities, Weekly Quizzes, 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 will have a negative effect on your success and overall grade in this course.
- 3. Homework.** For each chapter, as you read through each section, 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.

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.

4. **Laulima.** The syllabus, course calendar, homework schedule, grades, etc. are all viewable through Laulima. Check Laulima regularly to stay up to date.

5. **Communication.** It is your responsibility to stay in communication with the instructor. If you will be unable to make it to class for any reason, please inform your instructor so it may be determined if the absence is excused. The instructor may need to contact you throughout the semester and will do so via email. It is your responsibility to check your student email on a regular basis.

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.

Revised May 25, 2011