revised 8-22-16

MATH 100 SURVEY OF MATHEMATICS (63530)

3 credits
Monday & Wednesday 10:00 – 11:15 am
Mana‘opono 114

INSTRUCTOR: **Joseph Ciotti**
OFFICE: **‘Imiloa 134**
OFFICE HOURS: **posted on office door**
TELEPHONE: **236-9111**
EMAIL: **ciotti@hawaii.edu**

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

An introduction to quantitative and logical reasoning for the non-science/non-mathematics major. The question of "What is Mathematics?" is explored, while focusing on mathematical systems or models, cultivating an appreciation for mathematics as an aesthetic art, and developing skills in problem-solving and analysis.

PREREQUISITES: Grade of “C” or better in MATH 25 or equivalent, satisfactory math placement test score, or consent of instructor.

Activities Required/Optional at Scheduled Times Other Than Class Times:

- none

STUDENT LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to:

1. Construct diagrams that will facilitate the visual conception of a phenomenon or problem.
2. Utilize basic properties and/or operations related to Set Theory, Logic, Statistics, Linear and Quadratic functions and Counting methods.
3. Employ symbolic/mathematical techniques to solve applied problems.
4. Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.

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COURSE OVERVIEW

A. Goals of the Course

The goals of the course are:

1. To provide the student with plausible answers to the question, "What is mathematics?"

2. To provide the student with the concept of mathematical model, system or structure so that the areas of pure and applied mathematics may be more clearly comprehended.

3. To cultivate in the student an appreciation for mathematics as an aesthetic art.

4. To increase the student's awareness of the diversity, power and relevance of mathematics as a service tool to a broad spectrum of disciplines as well as to realize the limitations of mathematics in quantifying qualitative phenomena.

5. To develop and stimulate the student's problem-solving ability through the utilization of mathematical models.

B. Expectations of Students

Success in this course will be enhanced by:

1. a positive, inquiring attitude toward mathematics and learning in general;
2. setting aside adequate time for studying and working problems;
3. reading the text carefully and making use of other learning materials whenever necessary;
4. seeking assistance from the instructor;
5. class attendance and responsibly fulfilling all course assignments and tasks;
6. keeping abreast with or ahead of the syllabus.

C. Mode of Instruction

Lecture/Discussion: The initial portion of each class period is used to discuss and clarify any questions from the preceding class meeting. The remaining portion is used to present and discuss new materials. Whenever time permits, a review of each unit will be conducted

Foundations Hallmarks:

1. Students will be exposed to the beauty, power, clarity and precision of formal systems.

2. Instructors will help students understand the concept 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 the context of problem solving, and in the presentation and critical evaluation of evidence.

5. The course will not focus solely on computational skills.

6. Instructors will build a bridge from theory to practice and show students how to traverse this bridge.

ASSESSMENT TASKS AND GRADING

Method of Evaluation

1. General Information:

Evaluation of the successful completion of the course outcomes will be determined by scores received on all graded assignments, Chapter Exams and Final Exam.

- **Graded Assignments:** There will be five (5) graded homework assignments for each of the five chapters covered in this course. Each assignment is worth 10 points. Each graded assigment consists of the Chapter Test at the end of the corresponding chapter. All work must be shown on these assignments to receive full credit.

- **Chapter Exams:** Each of the five Chapter Exams will cover material solely from that chapter being assessed. Each exam is worth 50 points.

- **Final Exam**: The comprehensive Final Exam is worth 100 points. The Final Exam will be composed of problems selected from all chapters covered throughout the semester.

All exams are to be taken within the classroom environment (all are closed-book / closed-notes). Calculators may be used on homework and tests.

Point System

• five graded assigments (10 pts each)	50
• five Chapter Exams (50 pts each)	250
• Final Exam	100
TOTAL POINTS	**400**

It is the student's responsibility to obtain, complete and turn in all assignments. The student is also responsible for keeping abreast with any changes in syllabus which are announced in class. Unless permission is granted by the instructor, all assignments and tests must be completed and submitted to the instructor at the specified date and time. **Graded homework for each chapter is due at the beginning of class on the due date listed on the course syllabus.** Homework turned in after this deadline will be penalized 5 points per calendar day or may not be accepted for grading at the instructor's discretion.

Each letter grade and its respective level of achievement is provided in the following table:

Letter Grade Definition

A 90% - 100% of cumulative points possible
B 80% - 89% of cumulative points possible
C 70% - 79% of cumulative points possible
D 60% - 69% of cumulative points possible
F below 60% of cumulative points possible

I Incomplete: This temporary grade given at the instructor's option when a student has failed to complete a small part of a course because of circumstances beyond the student's control. All required work must be completed by the last day of instruction of the succeeding semester.

The Cr/NC option must be declared by the end of the 10th week of classes. Written consent of instructor is required for this option.

Cr Achievement of objectives at the C level or higher.
NC Achievement of objectives at less than C level. (Formal grade)

N Achievement of objectives at less than C level. (Optional instructor's grade)

W Official withdrawal after the third week of a 16-week course and prior to the end of the 10th week. If a student officially withdraws by the end of the 3rd week of a 16-week course, the record of registration in this course will not appear on the student's transcript.

LEARNING RESOURCES

Required Materials

- *Thinking Mathematically: 6th edition* by Robert Blitzer
- calculator
- graph paper
- ruler

Additional Resources

- Math Lab: (Library Learning Commons–La'akea 226)
- The Testing Center (Library Learning Commons–La'akea 228) – phone: 235-7498

Additional Information

1. If a student is unable to take an exam at the scheduled time, the student is responsible for notifying the instructor of the situation and reason(s). The student is responsible for requesting a **make-up exam**. An appropriate scoring penalty may be assigned to this make-up exam at the instructor's discretion.

2. 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, Ann Lemke, to discuss reasonable accommodations that will help you succeed in this class. She can be reached by phone at 235-7448 or via email lemke@hawaii.edu, or you may stop by Hale ʻAkoakoa 213 for more information.

3. A student can determine his/her current grade at any time during the semester by dividing his/her cumulative score by the cumulative points possible and converting into a percentage and referring to the table of Letter Grades.

4. Any student wishing to be informed of his/her Final Exam grade and/or semester grade in advance of the official report of grades should email a request for the grades to the instructor immediately after the Final Exam. The student may also provide the instructor a stamped, self-addressed postcard or envelope on the day of the Final Exam with an enclosed note requesting the grades.

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	MONDAY	WEDNESDAY
AUG	22 Chp 2: Set Theory 2.1	24 2.2 & 2.3
	29 2.3 & 2.4 ***Chp 2 Test Hmwk due***	31 2.5 Review Chp 2
SEP	5 **LABOR DAY**	7 **EXAM 1** Set Theory
	12 Chp 3: Logic 3.1 & 3.2	14 3.2 & 3.3
	19 3.3 & 3.4	21 3.4 & 3.5
	26 3.5 & 3.6	28 3.6 - 3.7 ***Chp 3 Test Hmwk due***
OCT	3 3.8 Review Chp 3.2	5 **EXAM 2** **Logic**
	10 Chp 7: Algebra: Graphs, Functions & Linear Equations 7.1 & 7.2	12 7.2

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	MONDAY	WEDNESDAY
OCT	17 7.6 (Quadratic Functions pp.470-474) ***Chp 7 Test Hmwk due***	19 Review Chp 7
	1 **EXAM 3** **Algebra**	26 Chp 11: Counting Methods & Probability Theory 11.1 & 11.2
	31 11.2 & 11.3	2 11.4 & 11.5
NOV	7 11.5 & 11.6	9 11.6 & 11.7 ***Chp 11 Test Hmwk due***
	14 11.7 Review Chp 11	16 **EXAM 4** **Probability**
	21 Chp 12 Statistics 12.1 & 12.2	23 12.2 & 12.3
	28 12.3 & 12.4 ***Chp 12 Test Hmwk due***	30 12.4 & 12.5 Review Chp 12
	5 **EXAM 5** **Statistics**	7 Review for FINAL EXAM

Monday Dec 12: FINAL EXAM 10:00 am – 12 noon