

**Leeward Community College**  
**Mathematics & Natural Sciences Division**  
**MATH 140X: Accelerated Pre-Calculus (4 credits)**  
**Course Syllabus – Spring 2011 (CRN 53183)**

Class meeting times: Tuesdays and Thursdays, 1:30 to 3:30 pm  
Classroom: BS-107  
Instructor: Eric Matsuoka  
Contact information: Phone (808) 455-0315, Email [eric.matsuoka@hawaii.edu](mailto:eric.matsuoka@hawaii.edu)  
Office location/hours: GT-215, Tuesdays and Thursdays, 3:30 to 5:20 pm (right after class)

Catalog course description: MATH 140X is designed to provide an accelerated path to Calculus to students who have a strong background in College Algebra. Topics include the essential pre-calculus skills needed for success in calculus: functions, with special attention to polynomial, rational, exponential, logarithmic, and trigonometric functions; plane trigonometry; polar coordinates; and conic sections. Credit may not be earned for both MATH 140 and MATH 140X.

Prerequisite: Any one of the following, or an articulated equivalent, within the past two years, will qualify a student for MATH 140X: A in MATH 103 OR C in MATH 135 OR qualified placement test score (62 or higher in the COMPASS college algebra placement domain) OR “well prepared” designation in the Algebra II End-Of-Course exam OR instructor consent.

Co-requisites: None

Recommended preparation: None

### ***STUDENT LEARNING OUTCOMES***

Upon successful completion of Math 140X, a student should:

- Evaluate and simplify algebraic and trigonometric expressions by applying appropriate formal rules or algorithms.
- Analyze and graph functions and equations involving algebra, trigonometry, and analytic geometry.
- Construct proofs using trigonometric identities.
- Apply theory from algebra, trigonometry and analytic geometry to model and solve various real world application problems.
- Select and correctly utilize precise mathematical language and symbols to effectively communicate procedures and results.

### ***REQUIRED COURSE MATERIALS***

- Required textbook bundle (ISBN #0558928552):
  - Fundamentals of Precalculus, Second Edition, by Mark Dugopolski
  - Video Lectures on CD to accompany Fundamentals of Precalculus, Second Edition
  - MyMathLab Student Access Kit
  - A Review of Algebra, by Heidi Howard
- Hand-held scientific calculator
- Off-campus computer and Internet access

### ***“REDESIGNED” COURSE PROCEDURES***

This course is being offered in “redesigned” format. Students spend class time actually working on mathematics rather than watching instructor demonstrations. Students spend their time working on problems that give them a hard time and instructors are on-hand to provide individualized assistance. Graded components of the course are repeatable, which gives students more chances to show what they have learned.

The course is not self-paced. While students are encouraged to work ahead and finish the course before the end of the semester, there are due dates and deadlines (listed in the course calendar) that were established to ensure that students work at a pace that gives them a good chance at passing the course. In addition to meeting the established due dates and deadlines, students are expected to be prepared for class meetings. Starting with chapter 2, students are expected to view AND take notes on the video covering the section that is scheduled PRIOR to the class meeting. The videos are available either from the CDs in the textbook package or in the multimedia library of MyMathLab/CourseCompass.

Though class time will largely be spent working on homework and quiz problems, there the four scheduled weekly hours will probably not be enough time to complete all of the homework. Other course requirements must also be completed outside of the scheduled class time. Each student should expect to spend an ADDITIONAL four to eight hours each week working on the course. This is time that will be spent viewing videos, working on and completing homework problem sets, working on the review and exam preparation assignments, and taking/re-taking quizzes and exams.

### **GRADING POLICY**

C or better eligibility: To be eligible for a C or better letter grade (or equivalently a CR grade for the CR/NC grading option), a student must meet both of the following criteria:

- Exit exam: In order to be eligible to earn a letter grade of C or better (or CR) for MATH 140X, a student must earn a minimum score of 85% on a computerized departmental assessment. This assessment can be taken either on campus or at home. Multiple attempts are allowed. Scoring at least 85% on this assessment by itself does not guarantee a student a C or better; the student must meet the instructor's grading requirements. A student who does not score at least 85% on the departmental exit assessment cannot earn a C or better (or CR) for this course. A student can also meet the exit exam requirement by taking all 6 of the "review and exam preparation" assignments in MyMathLab/CourseCompass and averaging at least 85% on them.
- Attendance requirement: Regular class attendance is critical to learning mathematics. In order to be eligible to earn a C or better (or CR) for MATH 140X, it is program policy that a student practice regular class attendance. Attending class by itself does not guarantee a student a C or better; the student must also meet the instructor's grading requirements. A student who is absent more than 6 class days this semester cannot earn a C or better for the course.

Subject to the "C or better eligibility" requirement listed above, course letter grades are determined by the following three components:

1. Computerized homework
  2. Paper/pencil quizzes
  3. Exams
- A student whose percent average for every component is at least 90% earns an A.
  - A student whose percent average for every component is at least 80% earns a B.
  - A student whose percent average for every component is at least 70% earns a C (or CR).
  - A student whose percent average for every component is at least 60% earns a D.
  - A student who does not earn a D or better earns an F.

Computerized homework: There are computerized pre-tests and homework assignments in MyMathLab/CourseCompass for every section of the textbook except for section 5.5, which will not be covered in the course. The pre-test does not count toward course grading but the big advantage to doing well on it is that the problem types that are done correctly in the pretest are excluded from the homework assignment. Two attempts at the pretest are allowed so careless errors can be corrected in the second try. Each homework problem allows multiple attempts to find the correct answer and earn full credit. Each assignment has a due date that must be met in order to earn full credit. A scoring penalty of 15% will be assessed for problems that are done after the due date. This penalty is applied by the problem, not the assignment, so each problem done correctly by the due date will not be penalized by any late work that might be done after the due date.

Paper/pencil quizzes: There are 4 paper/pencil quizzes that cover the following topics:

1. Graphing polynomial and rational functions (sections 2.6 and 2.7)
2. Graphs of sine and cosine functions (section 3.3)
3. Trigonometric identities (section 3.7)
4. Logarithms (section 4.3)

Quiz 3 is "take-home" and may be submitted in class or to the Math Lab (room MS-204). Quizzes 1, 2, and 4 are closed-book, closed-notes, and must be taken on campus, either during the last 20 minutes of a class session or in the campus (paper) testing center located in room BE-227 during their regular hours. Note that paper quizzes are NOT administered in the evening testing center located in room BS-109. Quiz scoring is based on both the correctness of the work and on the presentation of the work (notation, terminology, use of symbols, etc.). A first attempt at a quiz must be made by the date listed in the course calendar or a 15% penalty will be assessed on all attempts at the corresponding quiz. Students have the opportunity to re-take each quiz to improve their score under the following conditions:

- Only one re-take attempt is allowed each day until the respective exam deadline
- After the quiz deadline, only ONE more re-take is allowed for that quiz
- Tuesday, May 3 is the absolute final day to take or submit a quiz
- The highest score of all attempts on a quiz will be used for course grading purposes

Exams: There are 6 MyMathLab/CourseCompass non-cumulative exams covering the following material:

1. Chapter 1
2. Chapter 2
3. Chapter 3, part 1 (sections 3.1 through 3.5)
4. Chapter 3, part 2 (sections 3.6 through 3.9)
5. Chapter 4
6. Chapter 5 (except for section 5.5)

Exams must be taken in one of the campus Testing Centers (BE-227, where paper quizzes are also given and BS-109, where ONLY online exams are administered). Exam 4 (Chapter 3, part 2) allows one, letter-sized "cheat sheet" but the other exams are closed-book and closed-notes. A first attempt at an exam must be made by the date listed in the course calendar or a 15% penalty will be assessed on all attempts at the corresponding quiz. Students have the opportunity to re-take each exam to improve their score under the following conditions:

- Students must score at least 85% on the "review and exam preparation" quiz in MyMathLab/CourseCompass
- Only one re-take attempt is allowed each day until the respective exam deadline
- After the exam deadline, only ONE more re-take is allowed for that exam AND this final re-take must be scheduled with the instructor in advance
- Thursday, May 12 is the absolute final day to take an exam
- The highest score of all attempts on an exam will be used for course grading purposes

### ***STUDENT ASSESSMENT NOTIFICATION***

With the goal of continuing to improve the quality of educational services offered to students, Leeward CC conducts assessments of student achievement of course, program, and institutional learning outcomes. Student work is used anonymously as the basis of these assessments, and the work you do in this course may be used in these assessment efforts.

### ***STUDENT WITH DISABILITIES STATEMENT***

Leeward Community College abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, which stipulate that no student shall be denied the benefits of an education "solely by reason of a handicap." Students with documented disabilities who believe that they may need accommodations in this class are encouraged to contact the Coordinator of the KAKO'O 'IKE (KI) program as soon as possible to ensure that such accommodations are implemented in a timely fashion. The KI office is located in L-208, across from the elevator in the library building or call for information at 455-0421.

Month	Tue	Thu	Fri	Sat
<a href="#">Jan 2011</a>	11 Start chapter 1	13 Continue chapter 1	14	15
	18 Finish chapter 1	20 Section 2.1 (Chapter 1 homework due)	21	22 First attempt at chapter 1 exam due
	25 Section 2.2 (Section 2.1 homework due)	27 Section 2.3 (Section 2.2 homework due)	28	29
	1 Section 2.4 (Section 2.3 homework due)	3 Section 2.5 (Section 2.4 homework due)	4	5 Chapter 1 exam deadline
<a href="#">Feb 2011</a>	8 Section 2.6 (Section 2.5 homework due)	10 Section 2.7 (Section 2.6 homework due)	11	12
	15 Section 3.1 (Section 2.7 homework due)	17 Section 3.2 (Section 3.1 homework due)	18 First attempt at Quiz #1 due	19 First attempt at chapter 2 exam due
	22 Section 3.3 (Section 3.2 homework due)	24 Section 3.4 (Section 3.3 homework due)	25	26
	1 Section 3.5 (Section 3.4 homework due)	3 Section 3.6 (Section 3.5 homework due)	4 Quiz #1 deadline AND first attempt at Quiz #2 due	5 Chapter 2 exam deadline
<a href="#">Mar 2011</a>	8 Section 3.7 (Section 3.6 homework due)	10 Finish section 3.7 (Section 3.7 homework due)	11 First attempt at Quiz #3 due	12 First attempt at chapter 3, part 1 exam due
	15 Section 3.8	17 Section 3.9 (Section 3.8 homework due)	18 Quiz #2 deadline	19
	22 Spring Break	24 Spring Break	25	26
	29 Section 4.1 (Section 3.9 homework due)	31 Section 4.2 (Section 4.1 homework due)	1 Quiz #3 deadline	2 First attempt at chapter 3, part 2 exam due
<a href="#">Apr 2011</a>	5 Section 4.3 (Section 4.2 homework due)	7 Section 4.4 (Section 4.3 homework due)	8	9 Chapter 3, part 1 exam deadline
	12 Section 5.1 (Section 4.4 homework due)	14 Section 5.2 (Section 5.1 homework due)	15 First attempt at Quiz #4 due	16 First attempt at chapter 4 exam due
	19 Section 5.3 (Section 5.2 homework due)	21 Section 5.4 (Section 5.3 homework due)	22	23 Chapter 3, part 2 exam deadline
	26 Section 5.6 (Section 5.4 homework due)	28 (Section 5.6 homework due)	29 Quiz #4 deadline	30 Chapter 4 exam deadline
<a href="#">May 2011</a>	3 Final deadline for all quizzes and quiz re-takes	5	6	7
	10	12 Final deadline for all exams and exam re-takes	13	14