

**Math 140 - PreCalc: Trigonometry and Analytic Geometry (3 credits)**

**(CRN 60158 - MWF 10:00 AM to 11:15 AM Manao 115)**

INSTRUCTOR: Gretel S. Sia  
OFFICE: Mana'opono 110A  
OFFICE HOURS: 8:30 AM - 10:00 AM (MW)  
9:00 AM - 10:00 AM (F)  
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EFFECTIVE DATE: Spring 2014

**WINDWARD COMMUNITY COLLEGE MISSION STATEMENT**

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawaii and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide Oahu's Koolau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment - inspiring students to excellence.

**COURSE DESCRIPTION**

An analysis of elementary functions. A study of polynomial, rational, exponential, and logarithmic functions. Topics also include graphing techniques, transformations, applications, and related topics. Emphasis is placed on topics that will prove useful to students planning to take Calculus and also to those who are interested in pursuing math related careers. (3 hours lecture)

PREREQUISITES: Grade of "C" or better in Math 103 or Math 27 or equivalent, or satisfactory placement test score, or consent of instructor.

WCC: FS

**LEARNING RESOURCES & MATERIALS**

**Required Textbook: Precalculus, Mathematics for Calculus, 6th edition, by Stewart, Redlin, & Watson**

Required Calculator: TI-83, TI-83+, TI-84, or TI-84+

Learning Resources:

- 1) Supplemental Instruction Leader (SIL) :
- 2) Math Lab: Mana'opono 113
- 3) Testing Center: La'akea (Library Learning Commons) Room 228  
Phone number 235-7498  
[http://windward.hawaii.edu/Testing\\_Center/index.php](http://windward.hawaii.edu/Testing_Center/index.php)
- 4) Smarthinking Online Tutors: <http://windward.hawaii.edu/smarthinking/>
- 5) OLA (UH online tutoring program): <http://manoa.hawaii.edu/ola/>
- 6) TRiO: <http://windward.hawaii.edu/TRIO/index.php>
- 7) Kahn Academy Videos: <http://www.khanacademy.org>

**Email and Laulima Website**

You are responsible for checking your UH email regularly for important announcements. Announcements and weekly homework assignments will be posted under "resources" in Math 25 Laulima site.

**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](mailto:lemke@hawaii.edu), or you may stop by Hale 'Akoakoa 213 for more information.

**STUDENT LEARNING OUTCOMES**

1. Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form and in the presentation of evidence.
2. traverse the bridge from theory to practice by applying concepts and properties of trigonometry, vectors, and complex numbers to solve problems.
3. Analyze and graph trigonometric functions, inverse trigonometric functions, conics, polar equations, and parametric equations.

4. Apply formal rules or algorithms by demonstrating proficiency in performing operations with trigonometric expressions and equations.

5. Use appropriate symbolic techniques to analyze and solve application problems requiring the use of trigonometry and analytical geometry and in the critical evaluation of evidence.

6. Understand the concept of proof as a chain of inferences by demonstrating proficiency at proving trigonometric identities and other types of proofs.

Note: All SLO assessments are embedded in class activities, homework, quizzes, or exams.

### FOUNDATION HALLMARKS

Math 140 fulfills 3 credits of the general education requirements (Foundations: Symbolic) for both an A.A. degree at WCC and a bachelor's degree at UH Manoa. Consequently, it meets the following hallmarks of the symbolic reasoning requirements:

(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.

### COURSE TASKS & GRADING

A student's grade for this course will be based on the following course tasks:

4 exams @100 points		400
Course activities		200
Final Exam		200
<b>Total</b>	<b>=</b>	<b>800</b>

Course activities may include but are not limited to: homework assignments, quizzes, and in-class work.

Each letter grade for the course will be assigned according to the level of achievement as provided in the table below:

<b>Letter Grade</b>	<b>Definition</b>
A	90% -100% of the cumulative points possible
B	80% - 89% of the cumulative points possible
C	70% -79% of the cumulative points possible
D	60%-69% of the cumulative points possible
F	Less than 60% of the cumulative points possible
N	See below
CR	70% or above of the cumulative points
NC	Less than 70% of the cumulative points possible
W	Official Withdrawal
I	See below

Note: *The N grade indicates that the student has worked conscientiously, attended class regularly, finished all work, fulfilled course responsibilities, and has made measurable progress. However, either the student has not achieved the minimal student learning objectives and is not yet prepared to succeed at the next level, or the student has made consistent progress in the class but is unable to complete the class due to extenuating circumstances, such as major health, personal, or family emergencies.*

The N grade is an optional grade that instructors do not have to give. All requests for the N grade must be submitted by the student in writing and is contingent upon the instructor's approval.

Note: CR/NC grades require written instructor consent. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline. If a student does not apply for CR/NC grading option at the Admissions Office by the required deadline and if s/he does not withdraw, a letter grade (A,B,C,D,F,N) will be assigned for the course.

Note: The W grade is given only when the student officially withdraws from the course by the posted deadline.

Note: The I grade is a 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 his or her control.

A student may qualify for the I grade if (a) s/he is unable to take the final exam and (b) taking the final exam could possibly raise his/her course

grade. The *I* grade is given by student request and must be approved by the instructor.

### ADDITIONAL INFORMATION

**Make-up Work:** No late Homework will be accepted. Homework is due on a specified date and must be turned in at the beginning of class on that day. If a student fails to submit his/her homework, he/she gets a score of zero. Also, under any and all circumstances, no make-up quiz or make-up in-class activity shall be given. However, a student's two lowest scores in the Homework and two lowest scores in the Quizzes (which may be announced or unannounced and which lowest scores include the score of zero) will be dropped in the computation of his/her final grade. Only under extraordinary circumstances such as a medical emergency ( as when a student gets hospitalized) or death of a family member, may a special exam be given for a student who would miss to take any of the major exams. In this regard, the instructor will demand from the student some specific proofs to support his/her claim, absent of which, no special exam shall be allowed. No special exam shall be given or administered more than one week from the date it is given.

**Special Condition:** Notwithstanding a student's good performance in the other course tasks, no student will obtain a grade of "C" or higher if he/she should fail to take the comprehensive final exam.

**Academic Honesty:** Cheating, in any form, will not be tolerated in this class. It is the student's responsibility to ensure that he/she does not copy from another student or let another student copy from him/her. He/she can, however, do a collaborative work on a homework with another student, but simply copying his/her classmate's homework is considered cheating. Academic dishonesty will be dealt with accordingly.

**Respect:** Every student should try to respect the personal space of others, i.e., while inside the classroom, he/she should refrain to act in a way that will irritate or distract the attention of his/her classmates and that of the instructor. All cellphones must be set to a silent mode while the class is ongoing. All computing devices must be closed and must not be used during lecture. Tablet PCs will be allowed only for note-taking. The instructor can disallow such use upon a finding that the same is being used for something else. Likewise, the instructor reserves the right to exclude from the class any student who engages in disruptive behaviors which include, but not limited to, texting messages, prolonged chattering, reading materials not relevant to the class, sleeping in class, making noise, packing stuffs before the class is over, coming to class late, and making offensive remarks.

**Attendance:** Attendance is mandatory. My experience tells me that there is a strong correlation between a student's attendance and his/her performance in a course.