## MATH 140 – PRECALCULUS: TRIGONOMETRY  (3 Credits)

INSTRUCTOR:        Jody-Lynn Storm
OFFICE:            Mana'opono 105A
OFFICE HOURS:      MTRF 12:10 pm – 1:10 pm
                   W 10:10 am – 11:10 am
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EFFECTIVE DATE:    Summer 2017 (CRN 60039)

| CRN | DAYS | MEETING TIMES | CLASSROOM |
|-----|------|---------------|-----------|
| 60039 | MTRF | 10:15 am – 12:05 pm | Mana'opono 113 |

## *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

Study of the elements of trigonometry and analytic geometry including trigonometric functions and their inverses, relations, graphs, and applications; conic sections; vector applications; cartesian and polar coordinate systems; parametric equations and applications; and related topics. (3 hours lecture)

Pre-Requisite(s): Grade of "C" or better in MATH 135 or equivalent, satisfactory math placement test score, or consent of instructor.

## 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:

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.

## LEARNING RESOURCES & MATERIALS

REQUIRED MATERIALS:
- Textbook:  <u>Precalculus, Mathematics for Calculus</u>, 6th ed., by Stewart, Redlin & Watson
  - We <u>will not</u> be using the WebAssign online program. The access code is included when you purchase a new textbook. However, if you have taken Math 135 at WCC and would like to use the eBook included with your WebAssign account you may register for course: **wcc.cc.hi 5984 3741**
- Calculator: TI-83 or TI-84 graphing calculator

LEARNING RESOURCES:
- Supplemental Instruction Leader (SIL): TBA
- Math Lab: La'akea (Library Learning Commons) Room 220
     http://windward.hawaii.edu/About_WCC/Math_Lab/index.php

- Testing Center:  La'akea (Library Learning Commons) Room 228
        Phone: 235-7498
     http://windward.hawaii.edu/Testing_Center/index.php

- Brainfuse Online Tutors: http://windward.hawaii.edu/Brainfuse/
- OLA (UH online tutoring program): http://manoa.hawaii.edu/ola/
- TRiO: http://windward.hawaii.edu/TRIO/index.php
- Khan Academy Videos: http://www.khanacademy.org

## COURSE TASKS & GRADING

Grades are posted on the Laulima gradebook and are based on the following course tasks:

| | | |
|---|---|---|
| 3 exams @100 pts each | 300 pts | (60% of possible pts) |
| Final Exam | 100 pts | (20% of possible pts) |
| Homework | 100 pts | (20% of possible pts) |
| Total | 500 pts | |

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

| Letter Grade | Definition |
|---|---|
| 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 |
| CR | 70% - 100% of the cumulative points possible |
| NC | Less than 70% of the cumulative points possible |
| W | Official Withdrawal |
| I | Incomplete - given when a student has failed to complete a SMALL part of the course due to circumstances beyond his/her control. |

Note: CR/NC grades require written instructor consent. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline.

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 discretion 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) they are unable to take the final exam and (b) taking the final exam could possibly raise their course grade. The I grade is given by student request and must be approved by the instructor.

## ADDITIONAL INFORMATION

ABSENCES

It is your responsibility to attend class. If you are absent, you are responsible for any important announcements or assignments given during the class you missed. Please do not send email requests for missed lecture material.

CALCULATORS

Some problems require the use of a graphing calculator. You are free to use any type of graphing device for homework problems, but may only use a TI-83 or TI-84 graphing calculator on exams. You may not use higher models, such as the TI-89 or the TI -Nspire on exams.

Note: The library has a few TI-83 calculators available to borrow for the semester.

## EXAMS

There are no retests on exams. The final exam is cumulative. If you are unable to attend class on an exam day, it may be possible for you to take the exam earlier than the specified day/time.

There are no make-up exams. However, if the percent earned on the final exam is higher than your lowest exam score, then your lowest exam score will be replaced with the percent earned on the final exam.

## HOMEWORK

Homework will be in two parts:
1. Problem sets to be turned in for credit. These problem sets are to be turned in at the start of class. Late submissions are not accepted.
2. Suggested odd problems from the textbook. These problems are provided for additional practice and are not to be turned in.

## SUPPLEMENTAL INSTRUCTION (SI)

For every hour of SI attended 1 point will be added to your homework score. Points earned can bring the homework score to a maximum of 105 points, 5 points above the allotted 100 points.

*This class is supported by the Supplemental Instruction (SI) program. SI is a FREE, collaborative, peer-study program that helps students succeed in difficult classes. Your SI Leader is a peer who has taken this class (or a higher level class) previously and has an understanding of the course material. In SI sessions, students will work together with the SI Leader to explore important concepts, review class notes, discuss test taking strategies, and review for tests. All students in this class are encouraged to attend!*

*Note: At WCC, students who attend SI sessions earn A, B, and C grades at nearly a 20% higher rate than non-attendees and are less likely to withdraw from their courses. WCC data has also shown that the more sessions students attend, the more likely they are to pass.*

## GRADING

Grades are posted on Laulima. To receive full credit for problems done on exams or graded homework you must show sufficient work in a clear and organized manner. Messy and/or disorganized work will not receive full credit.

## CELL PHONES & OTHER DEVICES

Cell phones and other electronic devices should be silenced and put away prior to the start of class.

## DISRUPTIVE BEHAVIOR & ACADEMIC HONESTY

Please respect your fellow students and act accordingly.

Graded homework assignments may be discussed with your classmates. However, the write up of the solution for each problem must be done on your individual effort.

You may not consult with classmates while taking exams. This would fall under the guidelines of academic integrity and any evidence of cheating will result in a score of 0 for all parties involved. An "F" will be assigned to students involved in cheating and will be reported to the Dean. See http://windward.hawaii.edu/Policies/ for more information on the UH system-wide student conduct code.

## MATH 140 TENTATIVE SCHEDULE
## STORM – SUMMER 2017

| IMPORTANT DATES | |
|---|---|
| JUL 4 | Last day to register/add/drop and to receive 100% refund of tuition |
| JUL 10 | Last day for 50% refund of tuition and to withdraw without a "W" grade. |
| JUL 26 | Last day to withdraw with a "W" or choose CR/NC grade option. |

| | MONDAY | | TUESDAY | | THURSDAY | | FRIDAY |
|---|---|---|---|---|---|---|---|
| JUL 3 | Orientation, 5.1, 5.2 | JUL 4 | **NO CLASS** | JUL 6 | 5.2, 5.3 | JUL 7 | 5.4, 5.5 |
| JUL 10 | 5.5, 6.1 | JUL 11 | 6.2, 6.3 | JUL 13 | Exam 1 Review **EXAM 1** | JUL 14 | 6.3, 6.4 |
| JUL 17 | 6.5, 6.6 | JUL 18 | 6.6, 7.1 | JUL 20 | 7.2, 7.3 | JUL 21 | 7.3, 7.4 |
| JUL 24 | Exam 2 Review **EXAM 2** | JUL 25 | 7.5, 8.1 | JUL 27 | 8.1, 8.2 | JUL 28 | 8.2, 8.4 |
| JUL 31 | 8.4, 9.1 | AUG 1 | 9.1, 11.1 | AUG 3 | 11.1, 11.2 | AUG 4 | Exam 3 Review **EXAM 3** |
| AUG 7 | 11.2, 11.3 | AUG 8 | 11.3, 11.4 | AUG 10 | Final Exam Review | AUG 11 | **FINAL EXAM** |