Windward Community College Mission Statement

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

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 hrs. lecture)

PREREQUISITES: Grade of "C" or better in Math 135 or equivalent, satisfactory placement test score, or consent of instructor.

WCC: FS

Suggested Basic Skills

Good study skills and habits; Competency with Pre-Calculus-Elementary Functions.

Learning Resources and Materials


Required Technology Tool: TI-83, TI-83+, or TI-84+ graphing calculator

MATH LAB: Mana`opono 103

THE TESTING CENTER (TTC): Alaka`i 106 – phone number 235-7498
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.

FOUNDATIONS 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 requirement:

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 Goals

1. To provide the student with mathematical skills and with an understanding of analytic geometry and trigonometric concepts which are prerequisite for further studies in mathematics, business and/or the sciences.

2. To demonstrate the relevance and applicability of analytic geometry and trigonometry to "real world" problems.

3. To nurture the student's problem-solving skills.

4. To promote awareness and appreciation for the role of mathematics in contemporary society.

5. To cultivate and enhance the student's mathematical reasoning ability.

Activities Required at Scheduled Times Other Than Class Times

Homework; possibly quizzes or exams; consultation with instructor.

It is expected that students spend, at the minimum, 12 hours per week outside of class time studying and doing homework and readings for this class.

Responsibilities of Students

Success in this course will be enhanced by:

1. A positive, inquiring attitude toward mathematics;

2. Setting aside adequate time for studying, working on problems, and careful cogitation of the material;

3. Reading the text carefully and making use of other learning materials whenever necessary;

4. Seeking assistance from the instructor and the Math Lab whenever necessary;

5. Regularly attending class and, notifying the instructor of an absence and responsibly obtaining and completing assignments by the designated date.

Email and Laulima Website

Students are responsible for checking their UH email regularly for important announcements. Students are also expected to check the Math 140 course homepage at the Laulima website for important resources for the course.
Course Tasks and Grading Information

Grades for this course are based on the following course tasks:

<table>
<thead>
<tr>
<th>Task</th>
<th>Points</th>
<th>Percentage of Possible Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 exams @100 pts</td>
<td>400</td>
<td>(64% of possible pts)</td>
</tr>
<tr>
<td>Course Activities</td>
<td>100</td>
<td>(16% of possible pts)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>125</td>
<td>(20% of possible pts)</td>
</tr>
<tr>
<td>Total points</td>
<td>625</td>
<td></td>
</tr>
</tbody>
</table>

Course activities may include but are not limited to:
- Graded Homework Problems
- In-Class Problems
- Journal entries (writing assignments)
- Math Resource Activities
- Reports or Presentations
- Additional Problems

Most course activities will be graded homework problems and in-class or other additional problems. Although there are points associated only with graded problems for the course activities portion of the grade, it is expected that students do recommended problems that are problems from the text or on handouts that have answers provided as a way to practice the strategies learned. Not doing recommended problems and/or waiting to work on recommended problems until right before an exam generally results in poor exam results and a lack of success in this course.

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

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% - 100% of the cumulative points possible</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89% of the cumulative points possible</td>
</tr>
<tr>
<td>C</td>
<td>70% - 79% of the cumulative points possible</td>
</tr>
<tr>
<td>D</td>
<td>60% - 69% of the cumulative points possible</td>
</tr>
<tr>
<td>F</td>
<td>Less than 60% of the cumulative points possible</td>
</tr>
<tr>
<td>Cr</td>
<td>70% - 100% of the cumulative points possible</td>
</tr>
<tr>
<td>NC</td>
<td>Less than 70% of the cumulative points possible</td>
</tr>
<tr>
<td>W</td>
<td>Official Withdrawal</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete - given when a student has failed to complete a SMALL part of the course due to circumstances beyond his/her control.</td>
</tr>
</tbody>
</table>

Note: Cr/NC grades require written instructor consent. Students must apply for Cr/NC grading option at the Admissions Office by the 10th week of classes (for summer: by the 5th week of classes). 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) will be assigned for the course.

Note: W grade is given only when the student officially withdraws from the course at the Admissions Office by the 10th week of classes (for summer: by the 5th week of classes).
**Additional Information**

1. **ABSENCES:**

   It is your responsibility to attend class. If you are absent, borrow a classmate’s notes and copy them for the day you were absent. You are responsible for those topics and examples discussed on the day of your absence. Furthermore, you are responsible for any important announcements or homework assignments given during the class you missed. Frequent or lengthy absences can negatively affect your grade primarily because you fall so far behind in learning the material in the class.

2. **MAKE-UP POLICY:**

   There are no make-up opportunities for any quizzes, graded assignments, or graded in-class activities that you miss due to absences or tardiness. Some extra credit opportunities are available for the course activities (CA) portion of your grade. However, the maximum possible points that can be earned for CA portion of your grade is 100 points.

   If you are unable to attend class on an exam day, discuss your situation with the instructor as soon as possible before the exam day. It may be possible for you to take the exam earlier than the specified day/time. **IF YOU UNEXPECTEDLY MUST BE ABSENT ON AN EXAM DAY, NOTIFY THE INSTRUCTOR BY THE END OF THAT EXAM DAY (By 6 pm). YOU CAN LEAVE A VOICE MAIL MESSAGE FOR THE INSTRUCTOR (236-9282). BE SURE TO STATE THE REASON FOR THE ABSENCE.** If no notification is received by the day of the exam or if the reason is not justified, then you will receive a 0 for that exam and no make-up will be allowed. If notification is received and the reason is justified then a make-up exam will be scheduled. You must take the make-up exam as soon as possible after you return to school. The instructor has the right to request documentation of the student’s absence and determine if the reason for the absence is justified. **FOR EACH STUDENT, NOT MORE THAN ONE MAKE-UP EXAM MAY BE TAKEN.**

3. **There are NO RETESTS for this course.**

4. **FINAL EXAM:** The final exam is cumulative.

5. **CALCULATOR:**

   A TI-83, TI-83+, TI-84+ calculator is required for this class. Calculators are not allowed for some tests and required for others.
6. **HOMEWORK:**

Read the sections to be covered in a class session prior to that class session. As you read each section, write down terminology or symbols and its definition and properties/rules that are important. Redo the example problems on a separate sheet of paper and show all the steps involved. This will become helpful textbook notes. Try to do as much of the preview problems as possible.

After the class lecture/discussion on a section, you should complete as many of the recommended homework problems from those sections as you can. Those problems and concepts that you do not understand or need further clarification should be asked about in the class meeting after the section is discussed in class. Because there is very little class time, you will probably need to seek assistance from the instructor or from the Math Lab tutor if not all your questions on problems are handled during class time or if you are still having difficulties. Complete, review, and analyze your errors for all of the recommended homework problems to help you learn and get a better understanding of the material. You may need to do more than the recommended problems to become comfortable with the concepts and skills.

After the section(s) are covered in class, graded homework that count towards the course activities (CA) portion of your grade will be given with a due date. This graded homework must be turned in on time and at the beginning of the class, unless otherwise specified. LATE GRADED HOMEWORK WILL NOT RECEIVE ANY POINTS. You may turn in your graded homework before the due date and/or time without losing points. Otherwise, there will be opportunities to earn some earn extra credit points towards your course activities (CA) portion of your grade. However, the maximum number of points for the CA portion of your grade is 100 points.

Course activities may also include other activities such as journals (writing assignments), oral presentations, etc. Any item collected for grading purposes for the course activities portion of your grade are due at the BEGINNING OF CLASS unless otherwise specified by the instructor and WILL NOT RECEIVE ANY POINTS IF TURNED IN LATE.

Be sure to review and analyze the errors on your graded homework and other course activities after it is returned to you. This will help you to get a better understanding of the material and concepts.

7. **CELL PHONES:** Please put your cell phone on silent mode or turn it off prior to the start of the class so that it does not disturb the class session.
8. **HELP:**

Your instructor is your primary human resource for help when you are lost or having trouble. Seek help immediately if you are encountering problems even after reading and re-reading the text section(s) and listening to/thinking about the discussion in class on that section(s). See the instructor during office hours, make an appointment, email or call. Don’t wait too long to get help!! The Math Lab tutor is also available for drop-in assistance on the course material.

If a crisis comes up that interferes with the class, communicate with your instructor in a timely manner. Too many students wait until it is too late to inform their instructor about their crisis and that reduces the options that students may have to complete the course with a grade of C or better.

9. **GRADING ON HOMEWORK, QUIZZES, OR EXAMS:**

To receive full credit for problems done on exams, on quizzes, or for graded homework, you must show sufficient work in a clear and organized manner. It helps me determine where your error is (hence, you might be able to obtain partial credit) and if you are logically applying the mathematical tools learned to solve the given problem. Your work must be neat and organized. “Messy” and/or disorganized work will not be accepted.

10. **DON’T PROCRASTINATE**

Mathematics is not a subject that you can consistently be successful in by "cramming" a day or two before the test. By "cramming" you don't develop proficiency in doing the problems, knowledge of what to do on a particular problem and long-term understanding of the process. Also, if you procrastinate, you may fall so hopelessly behind that it becomes impossible to catch up. It requires constant work to keep on top of the material.

**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 ʻAkoakoa 213 for more information.*
Grades for this course are based on the following:

- 4 exams @100 pts  = 400 pts (64% of possible points)
- Course Activities = 100 pts (16% of possible points)
- Final Exam = 125 pts (20% of possible points)
- Total Possible Points = 625 pts

Course activities include but are not limited to:
- Graded Homework Problems
- Math Resource Activities
- Journal entries (writing assignments)
- Presentations
- Group work Activities
- In-class Problems

**COURSE ACTIVITIES THAT ARE TURNED IN LATE WILL NOT RECEIVE ANY POINTS (no matter what the reason).** All assignments are due at the **BEGINNING** of class unless otherwise specified by the instructor. The "beginning of class" means that assignments must be given to the instructor by 5 minutes after the start of class. For example, if the class meets 1:30 - 2:20 then, the assignment must be turned in by 1:35. The clock of the classroom is used to determine the time.

**There are no make-up opportunities for missed assignments, in-class activities, or other activities that are graded for the Course Activities portion of your grade.** There will be some opportunities to earn extra credit points for the course activities portion of your grade. However, the **maximum** score for the course activities portion of your grade is 100 points. This will allow students to miss **A FEW** course activities especially for legitimate absences or tardiness to "make-up" the points lost.

In addition, extra credit quizzes will be given for each unit and will be used as a form of extra credit for unit exams. The points earned for these extra credit quizzes for a unit will be called the Unit Extra Credit Quizzes Score. A maximum of 20 points can be earned for the Unit Extra Credit Quizzes Score. In calculating your unit exam score, I will follow the given formula:

\[
\text{Raw Score on Unit Exam} + \text{Unit Extra Credit Quizzes Score} \\
\frac{100 + \text{Unit Extra Credit Quizzes Score}}{}
\]

This number will be rounded to the nearest whole percent to determine your score for the unit exam. Quizzes are given outside of class time in the classroom on specified Mondays from 12:15 – 12:45 p.m. or in The Testing Center (Alaka‘i 106). **There are no make-up opportunities for missed quizzes.**

The aforementioned scoring procedure will not be used for the final exam.

**Instructor:** Jean Okumura  
**Office:** Mana‘opono 112  
**Email:** jokumura@hawaii.edu  
**Office Hrs:**  
**WF:** 1:00 p.m. – 1:30 p.m.  
**TR:** 9:45 a.m. – 10:45 a.m.  
**School Fax Number:** 247-5362  
**Attention:** Jean Okumura
<table>
<thead>
<tr>
<th></th>
<th>MONDAY</th>
<th>WEDNESDAY</th>
<th>FRIDAY</th>
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<tbody>
<tr>
<td>AUG 24</td>
<td></td>
<td>AUG 26 Orientation, Geometry, 5.1</td>
<td>AUG 28 5.1, 5.2</td>
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<tr>
<td>AUG 31</td>
<td>Optional Problem</td>
<td>SEPT 2 5.2, 5.3</td>
<td>SEPT 4 5.3, 5.4</td>
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<td>SEPT 7</td>
<td>HOLIDAY: Labor Day</td>
<td>SEPT 9 5.4</td>
<td>SEPT 11 7.1</td>
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<td>SEPT 14</td>
<td>Optional Problem</td>
<td>SEPT 16 6.1, 6.2</td>
<td>SEPT 18 6.2, 6.3</td>
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<td>SEPT 21</td>
<td>Optional Problem</td>
<td>SEPT 23 7.1</td>
<td>SEPT 25 6.3, 6.4</td>
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<td>SEPT 28</td>
<td>Optional Problem</td>
<td>SEPT 30 6.4, 6.5</td>
<td>OCT 1 6.5, 7.2</td>
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<td>OCT 5</td>
<td>Optional Problem</td>
<td>OCT 7 7.2, 7.3</td>
<td>OCT 9 7.4, 7.6</td>
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<td>OCT 12</td>
<td>Optional Problem</td>
<td>OCT 14 7.3, 7.4</td>
<td>OCT 16 7.4</td>
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<td>OCT 19</td>
<td>Optional Problem</td>
<td>OCT 21 7.5</td>
<td>OCT 23 8.1, 8.2</td>
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<td>OCT 26</td>
<td>Optional Problem</td>
<td>OCT 28 8.2</td>
<td>OCT 30 8.4</td>
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<td>NOV 2</td>
<td>Optional Problem</td>
<td>NOV 4 8.4, 8.5</td>
<td>NOV 6 8.4, 10.1</td>
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<td>NOV 9</td>
<td>Optional Problem</td>
<td>NOV 11 HOLIDAY: Veteran’s Day</td>
<td>NOV 13 10.2, 10.3</td>
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<td>NOV 16</td>
<td>Optional Problem</td>
<td>NOV 18 10.3, 10.4</td>
<td>NOV 20 10.4, 10.7</td>
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<td>NOV 23</td>
<td>Optional Problem</td>
<td>NOV 25 10.7</td>
<td>NOV 27 NO CLASS: Thanksgiving Recess</td>
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<td>NOV 30</td>
<td>Optional Problem</td>
<td>DEC 2 8.3</td>
<td>DEC 4 8.4</td>
</tr>
<tr>
<td>DEC 7</td>
<td>Optional Problem</td>
<td>DEC 9 Final Exam Review</td>
<td>DEC 11 No Class Study for Final</td>
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<td>DEC 14</td>
<td>FINAL EXAM</td>
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<td>11:30 - 1:20</td>
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