MATH 140 - PRECALCULUS: Trigonometry and Analytic Geometry - 3 credits
TR 10:00 a.m. – 11:15 a.m.

INSTRUCTOR:	**Jean Okumura**
OFFICE:	**Mana'opono 112A**
OFFICE HOURS:	**M: 8:30 – 9:30 am**
	W: 1:00 – 2:00 pm
	R: 11:30 am – 12:30 pm
	Other Hours by Appointment
TELEPHONE:	**236-9282**
FAX NUMBER:	**247-5362 Attention: Jean Okumura**
EMAIL ADDRESS:	**jokumura@hawaii.edu**
EFFECTIVE DATE:	**Spring 2016**

WEBASSIGN CLASS KEY: wcc.cc.hi 8383 7588

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 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 (Math 135).

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 'Akoakoa 213 for more information.

Learning Resources and Materials

Required Texts: Precalculus, Mathematics for Calculus 6th ed., by Stewart, Redlin & Watson with WebAssign access code

Optional Book: Student's Solutions Manual for Precalculus, Mathematics for Calculus 6th ed, by Steward, Redlin & Watson.

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

Required Online Tool: WebAssign access code

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MATH LAB: La'akea 220 – free drop-in tutorial assistance

THE LEARNING CENTER (TLC): La'akea 228 – phone number 235-7498

UH Manoa Online Learning Academy: http://manoa.hawaii.edu/ola/
        Free online tutorial assistance M – F: 9 am to 10 pm and Sundays: 5 to 10 pm

Brainfuse: http://windward.hawaii.edu/Brainfuse/
          Free online tutorial assistance accessed via the MyUH portal.

STUDENT LEARNING OUTCOMES

These student learning outcomes will be assessed via course activities (homework, in-class work, and/or additional assignments) and via tests or quizzes.

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.

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

6.   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.

7.   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 include computational and/or quantitative 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; Supplemental Instruction (SI) sessions; consultation with instructor.

It is expected that students spend, at the minimum, 9 hours per week outside of class time studying, attending SI sessions, 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.

Course Content

- The Unit Circle, Trigonometric Functions of Real Numbers, Trigonometric Graphs, Inverse Trigonometric Functions and their Graphs.

- Angle Measure, Trigonometry of Right Triangles, Trigonometric Functions of Angles, Inverse Trigonometric Functions and Right Triangles, Law of Sines, Law of Cosines.

- Trigonometric Identities, Addition and Subtractions Formulas, Double-Angle, Half-Angle Formulas, Trigonometric Equations.

- Polar Coordinates, Grphs of Polar Equations, Plane Curves and Parametric Equations.

- Vectors in Two Dimensions.

- Conic Sections: Parabolas, Ellipses, Hyperbolas, Shifted Conics.

Email and MyUH 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 MyUH website for important resources for the course.

Disruptive Behavior

Disruptive Behavior leads to a loss of learning time. Examples are activated beepers and cell phones, texting messages, making offensive remarks, packing books before class is over, making noise, leaving class early, coming to class late, sleeping in class, prolonged chattering, reading other materials not relevant to this class, etc. If a student takes part in disruptive behavior, the instructor reserves the right to exclude the student immediately from the class meeting, and will be marked absent.

Remember that class time is learning time.   Also, be respectful of others and their learning time.

Academic Honesty

All quizzes and exams are **closed books and notes and must be done by your individual effort.** You may not consult with any classmates while taking quizzes or exams. You are not allowed to tell a friend the type of questions on the quiz or exam, the answers, or help a classmate in any way (e.g. by explaining how to solve the problem). This would fall under the guidelines of academic integrity and any evidence of cheating will result in a score of 0 for the quiz or exam for all parties involved. Also keep in mind that we are assessing your knowledge and understanding of the concepts and strategies – attempting to find the answers online or through other sources is not in the spirit of academic honesty. If cheating persists, an "F" will be assigned to students involved in **cheating** and this will be reported to the Dean.

Graded assignments that apply to the course activities portion of your grade may be discussed with your classmates and you may seek guidance from the instructor, the Math Lab tutors, online tutors, or the Trio tutors (if you are a Trio client), however, the write up of the solution for each problem must be done on **your individual effort** unless otherwise specified by the instructor. Graded assignments are **not group assignments** where all members of the group write the same responses for each problem. Any evidence of plagiarism will result in a score of 0 for the assignment for all parties involved. If plagiarism persists, then an "F" will be assigned to the students involved in **plagiarism** and this will be reported to the Dean.

All students are required to follow the Student Conduct Code described at http://www.hawaii.edu/policy/?action=viewPolicy&&policySection=ep&policyChapter=7&policyNumber=208

WebAssign

This course will utilize WebAssign for many assignments. A new textbook purchased from the WCC bookstore is packaged with a WebAssign access code. If you purchase a used book from the bookstore, be sure that it is packaged with a WebAssign access code as there are some used books with no WebAssign access code being sold in the bookstore. If you purchase the textbook from elsewhere, be sure that it comes with the WebAssign access code.

The WebAssign access code also provides an e-book so if you prefer, you may purchase just the WebAssign access code online for $82.

Before you start using WebAssign for assignments, be sure to check the system requirements and browser settings. Then, do the first assignment – "Intro to WebAssign" found at the Homework site of WebAssign.

For most WebAssign problems, you will have 3 chances to get the right answer for a given problem. If you still get the problem wrong after 3 chances, then the correct answer is given. If after 3 chances, you still get the problem wrong, you may be able to request a similar problem and have another 3 chances to get the problem correct. When the WebAssign problem is a multiple choice problem with very few choices or if the problem is just a true or false problem, you will not be able to have as many chances or similar problems to be able to get the problem correct.

For WebAssign homework/course activities, a deadline will be given. Within 2 days from the original deadline for a WebAssign homework assignment, you may request an automatic extension for WebAssign homework/activities and a 25% penalty on the points earned after the initial due date will be assessed. Automatic extension requests between 2 and 4 days after the original deadline will result in less than a 2 day extension because the final deadline for doing any late WebAssign Homework is 4 days from the original deadline.

Supplemental Instruction

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, Aspen Morgan, 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 SI Leader Aspen to explore important concepts, review class notes, discuss reading assignments, and review for tests. All students in this class are encouraged to attend!

Note: WCC data has shown that students who attend SI sessions are 20% more likely to receive A, B, or C grades than non-attendees and are less likely to withdraw from their courses. This data has also shown that the more sessions students attend, the more likely they are to pass.

Students are encouraged to attend 2 one-hour sessions per week. **A minimum of one hour of SI session participation per week is required for this class. You will lose 5 points for every one-hour (or portion of an hour) of SI participation that you do not complete and these points will be deducted from the course activities portion of your grade.**

For every one full hour of SI session beyond the minimum one hour per week that you participate in, you will earn 1 point extra credit for the course up to a maximum of 3 points per exam period (not including the final exam period).

If you are already committed to other activities during SI sessions and absolutely cannot rearrange your schedule to attend any SI session at all then please discuss your situation with the SI leader first. If some other arrangements cannot be worked out with the SI leader, then please discuss your situation with the instructor right away.

Students who earn a grade of A for an exam are automatically given credit for the minimum SI requirement between that exam and the next exam. Students who earn a grade of B for an exam are automatically given credit for 1/2 hour per week for SI participation between that exam and the next exam. Students who earn a grade of B for an exam must still attend a minimum of 1/2 hour per week for SI participation between that exam and the next exam.

Course Tasks and Grading Information

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

4 exams @100 pts	400 pts	(62% of possible pts)
Course Activities	125 pts	(19% of possible pts)
(Total percent earned)(125) = pts for CA		
Final Exam	125 pts	(19% of possible pts)
Total points	650 pts	

Course activities may include but are not limited to:

Textbook, in-class, or other problems	Quizzes
Journal entries (writing assignments)	WebAssign Problems
Reports or Presentations	SI Participation

There are no make-up opportunities for missed or late assignments, in-class activities, quizzes or other activities that are graded for the course activities portion of your grade. However, you will have 5 one-business day late graces (LG) for the written homework for course activities. There may also be a <u>few</u> opportunities to earn extra credit points for the course activities portion of your grade. The total percent correct will be multiplied by 125 and will be rounded to the nearest whole number to obtain your score for the course activities portion of your grade. The <u>maximum</u> score for the course activities portion of your grade is 125 points.

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 <u>must</u> 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. Or, you may see the instructor to copy her notes. You are responsible for any important announcements or homework assignments given and those topics and examples discussed on the day of your absence. Frequent absences can negatively affect your grade.

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, tardiness, or leaving class early. A _few_ extra credit opportunities may be available for the course activities portion of your grade. You will have 5 one-business day late graces (LG) for the written homework for course activities.

	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. YOU MAY LEAVE A VOICE MAIL MESSAGE FOR THE INSTRUCTOR (236-9282) OR EMAIL JOKUMURA@HAWAII.EDU. 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+, or TI-84+ calculator is required for this class. The calculator may be required for some parts of the exams, quizzes, and assignments and not allowed for other parts. The TI-89 and TI-NSPIRE calculators are not allowed for exams or quizzes.

6.	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. Put your cell phones away during class time.

Additional Information (continued)

7.   HOMEWORK:

Read the sections to be covered in a class session prior to that class session (you may also watch the tutorials available at WebAssign under Media for the e-book). As you read and/or view the tutorial for each section, write down terminology (words or phrases) or symbols and their meaning, formulas, and properties/rules that are important. This will become helpful additional notes. Redo the example problems on a separate sheet of paper and show all the steps involved. It is important for you to know these. Do some of the "Now Try" exercises given in the section. Start working on your WebAssign Homework for that section.

After the class discussion on a section, continue to work on your online (WebAssign) homework problems and written homework problems that count towards the course activities (CA) portion of your grade. Those problems and concepts that you still do not understand or that you need further clarification on 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 further assistance from the instructor, from the SI Leader, from the Math Lab, or from other resources such Brainfuse or the Online Learning Academy, if not all your questions on problems are handled during class time or if you are still having difficulties. Complete, review, and analyze as much of the homework problems as needed to help you learn and get a better understanding of the material.

The online homework and/or written homework that count towards the course activities (CA) portion of your grade will be given with a due date. Refer to the section on WebAssign for more information about the online homework.

Besides online homework and written homework, course activities may also include other activities such as journals (writing assignments), oral presentations, etc. Any written homework items collected for grading purposes for the course activities portion of your grade are due at the <u>BEGINNING OF CLASS</u> on the due date unless otherwise specified by the instructor and <u>WILL NOT RECEIVE ANY POINTS IF TURNED IN LATE</u>. However, you will have 5 one-business day late graces (LG) for written homework course activities. You may turn in your graded work before the due date and/or time without losing points. There will be opportunities to earn some extra credit points towards the CA portion of your grade but the maximum number of points that may be earned for the entire semester for the CA portion of your grade is 125 points.

Be sure to review and analyze your graded homework and other course activities after it is returned to you. This will help you to better learn the material, concepts, and the proper way to show your work.

Additional Information (continued)

8. HELP:

    Your instructor and SI Leader are your primary human resources 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, see the SI leader during SI sessions, make an appointment, email or call. Don't wait too long to get help!!

    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.

11. N Grade

    The N grade indicates that the student worked conscientiously, attended 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. Instructors do not have to give an N grade.

GRADING INFORMATION
MATH 140 - OKUMURA

Grades for this course are based on the following:

4 exams @100 pts	400 pts	(62% of possible pts)
Course Activities	125 pts	(19% of possible pts)
(Total percent earned)(125) = pts for CA		
Final Exam	<u>125 pts</u>	(19% of possible pts)
Total Possible Points	650 pts	

Course activities may include but are not limited to:

Homework, in-class, or other problems	Quizzes
Journals (writing assignments)	WebAssign Problems
Reports or Presentations	SI Participation

WRITTEN GRADED ASSIGNMENTS TURNED IN LATE WILL NOT RECEIVE ANY POINTS (no matter what the reason). Written graded 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 8:30 - 9:45 then, the assignment must be turned in by 8:35. The clock of the classroom is the official time clock.

There are no make-up opportunities for missed written assignments, quizzes or in-class activities that are graded. However, you will have 5 one-business day late graces (LG) for written graded homework assignments. Some extra credit opportunities may be available for the course activities portion of your grade. However, the <u>maximum</u> score for the course activities portion of your grade is 125 points.

This course will utilize Supplemental Instruction (SI). Students are encouraged to attend 2 one-hour sessions per week. **A minimum of one hour of SI session participation per week is required for this class. You will lose 5 points for every one-hour (or portion of an hour) of SI participation that you do not complete.**

For every one full hour of SI session beyond the minimum one hour per week that you participate in, you will earn 1 point extra credit for the course up to a maximum of 3 points per exam period (not including the final exam period).

Instructor:	Jean Okumura	Office phone: 236-9282
Office:	Mana`opono 112A	Email: jokumura@hawaii.edu
Office Hrs:	M: 8:30 – 9:30 am	School Fax Number: 247-5362
	W: 1:00 – 2:00 pm	Attention: Jean Okumura
	TH: 11:30 – 12:30 pm	
	Other hours by appointment	

TENTATIVE SCHEDULE - MATH 140
SPRING 2016 - OKUMURA – TR 10:00 a.m. - 11:15 a.m.

	TUESDAY		THURSDAY
JAN 12	Orientation, Geometry	JAN 14	5.1, 5.2 ***Last Day for 100% Refund – 1/15***
JAN 19	5.2, 5.3	JAN 21	5.3, 5.4
JAN 26	5.4, 5.5	JAN 28	5.5 ***50% Refund Deadline – 2/1***
FEB 02	6.1, 6.2	FEB 04	6.3
FEB 09	6.4	FEB 11	**EXAM 1 !!!** **Sections 5.1 – 5.5, 6.1**
FEB 16	6.4, 6.5	FEB 18	6.5, 6.6
FEB 23	6.6, 7.1	FEB 25	7.2
MAR 01	7.3	MAR 03	**EXAM 2 !!!** **Sections 6.2 – 6.6, 7.1**
MAR 08	7.3, 7.4	MAR 10	7.4
MAR 15	7.5	MAR 17	8.1, 8.2
MAR 22	No Class Spring Recess	MAR 24	No Class Spring Recess
MAR 29	8.2 ***W & CR/NC Deadline***	MAR 31	9.1
APR 05	8.4	APR 07	**EXAM 3 !!!** **Sections 7.2 – 7.5, 8.1, 8.2**
APR 12	11.1	APR 14	11.2, 11.3
APR 19	11.3, 11.4	APR 21	11.4
APR 26	Exam 4 Review	APR 28	**EXAM 4 !!!** **Sections 8.4, 9.1, 11.1 – 11.4**
MAY 03	Final Exam Review	MAY 05	No Class Study for Final Exam
MAY 10	**FINAL EXAM !!!** **9:30 am-12:30 pm**		