Trigonometry (Mth 112) Summer 2014

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Times & Locations CRN 30020 TR: 1:15 – 3:00 SCI 190, Bend Campus

Required Software: WebAssign Available through the COCC Bookstore or at www.webassign.net

Text Options: Paperback: College Algebra, 111; Stewart, et al w/ WebAssign: ISBN 978-1-13-353289-7
OR e-book version of above textbook ISBN 0538738103. Class Key [cocc-4360-2936]

Supplemental Materials: Graphing Calculator, scratch paper.

Help! Lunch & Learn: TR 12:00 – 1:00 GRV 107, Office Time: 3:00 – 3:30 (Bend). I encourage all of you to contact me anytime you are having difficulties with the course material or assignments. You are welcome to stop by my office anytime or arrange another time to meet. Just let me know. You may check your grade, locate assignments and find quizzes on COCC's Blackboard.

Free drop-in tutoring is available 7 days a week in the Bend Tutoring Center (library's lower level). In addition to Bend, there is tutoring available in Redmond. See COCC's web site for the tutoring schedule (tutortest.cocc.edu). I encourage you to take advantage of the free tutoring and it's a good place to do homework because you can get instant help when you need it.

If you have experienced test anxiety consider attending HD_100_TT. Additional courses are offered for those who want to improve their study skills. If you have any issues that would affect your success at COCC please check with the CAP center in the basement of the Library or visit their web sites.

cap.cocc.edu/CAP+Testing/testtips/ or cap.cocc.edu/Personal+counseling/

Course Description: Mth 112 is an introductory course covering the geometric relationships as well as the function relationships in trigonometry. Real-world applications and group projects are emphasized. A graphing calculator is required.

Preparation: You should have successfully (B- or better) completed COCC's Mth 111 or its equivalent or tested into this class. If you decide to take this class even though you do not meet these prerequisites, be aware that you will have to work extra diligently to succeed in the class. If you have any concerns as to your preparedness for this class please speak to me the first day so I can help get you on track.

Outside Effort: For this course, like most College courses, students should expect to spend two hours outside of class for every hour inside of class. (~8 hrs/wk) Those of you with less than stellar math skills should plan to spend extra time outside of class. As with most classes, what you get out of this course is directly proportional to what you put in.

Calculators and Technology: A graphing calculator is a must. I recommend the TI-83 (any model). I will use the TI-83+ in classroom demonstrations since that is what most students have. Some of you may already have another calculator which is fine. – However, you are responsible for knowing how to use it. There are very few restrictions on your calculator use. Calculators that are part of cell phones or PDA's will not be allowed in testing situations, so it is highly recommended that you get a stand-alone calculator for use in daily work.

Evaluation

Class Participation: You are expected to participate in class. Bring your calculator and scratch paper each day.

Homework: Math is not a spectator sport. Practice might not lead to perfection but it will lead to excellence. Textbook 'homework' is handled electronically by WebAssign. I generally assign 'homework' every day and it is due Sunday night. Since there may be problems you could not complete or have questions about, you may request a 1-week extension on homework assignments. Please ask me about anything you don't understand -- during class or outside of class. WebAssign also provides free on-line help.

Getting Started

- I recommend running a current Browser with the latest Java version.
- Go to www.webassign.net. Choose the 'I have a Class Key ' option: Class Key [cocc-4360-2936]
  (verify class information, create account)
- You do not need to purchase anything at this time! Choose Free Trial Period option.
- The WebAssign Calendar shows due dates for each assignment.
- My Assignments page shows assignments on the day they are given out.
- After the due date, you may request a 1-week extension within WebAssign. Valid for each assignment.
- You are encouraged to ask questions concerning the homework during class, by e-mail or by phone.
- You are highly encouraged to **work in groups**, **use the COCC tutors** and drop by my office anytime.

Tests: There are two in-class exams scheduled. You will not be allowed to consult your notes or textbook during an exam. You will need to use a calculator. In all cases, you must show your work and it must be legible for full credit. If you need to reschedule an exam, you must contact me prior to the exam.

⇨ *In all cases, if you are going to miss an exam you must make **prior arrangements** for rescheduling that exam. Failure to make prior arrangements will result in a **zero** for that exam.* ⇦

Labs/Projects: A Lab/Project is more extensive than a homework problem. Usually, there will be a written component that complements the mathematics. They will generally begin during Fridays' classes in a group setting -- sometimes I will assign groups, sometimes I'll let you choose your own groups. Learning to communicate your ideas to your peers and to work together effectively is a part of this course. I highly encourage you to work in teams but I realize you may not be able to work with others outside of class so I will let you turn in individual labs. Late or messy projects will be severely penalized.

Labs are an important part of this class!
If you are not committed to attending class on Fridays then you should not take this class!

Final Grade: Your grade will be based on:

Homework	20%
Projects/Labs:	20%
Two Midterm Exams:	60%

Grading Scale: 100% -- **A** -- 90% -- **B** -- 80% -- **C** -- 70% -- **D** -- 60% -- **F** -- 0%.

At any time you may check your grade or locate assignments at Bb or my on-line class schedule.

Cheating or Plagiarism: You are highly encouraged to work together and help each other. However cheating or plagiarism on any assignment or test will result in a zero being recorded for that item, and may result in an F for your final course grade.

Behavior: At all times, I expect you to abide by the behavior guidelines for COCC students. Your rights and responsibilities are detailed at studentlife.cocc.edu/Policies/Rights+and+Responsibilities/. Failure to abide by these guidelines will result in notification to Student Life and can result in dismissal from the class.

Discrimination Policy: Faculty, staff and students are protected from discrimination and harassment under Title VII of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972. It is the policy of the Central Oregon Community College Board of Directors that there will be no discrimination or harassment on the basis of age, disability, gender, marital status, national origin, color, race, religion, sexual orientation or veteran status in any educational programs, activities or employment. Persons having questions about equal opportunity and nondiscrimination should contact the Equal Employment Officer, c/o COCC's Human Resources office, (541) 383-7216. COCC is an affirmative action, equal opportunity institution.

ADA Statement: Students with documented disabilities who may need accommodations, those who have any emergency medical information the instructor should know of, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, no later than the first week of the term. Students may also wish to contact Anne Walker, the **Coordinator of Services for Students with Disabilities**, (541) 383-7743.

Withdrawing from the Course: You may drop this class (and receive no grade) by submitting a drop form at the Boyle Center (BEC) or using the on-line BANNER system, without an instructor's signature, through the 7th week. After that, if you want to withdraw from the class, you must obtain your instructor's signature then turn in the drop slip at BEC; your grade will be a W. The last day to withdraw is Wednesday, the last week of regular classes. If you do not formally drop the class, but just stop coming, you will receive an F.

Cell phone use during class is absolutely inappropriate.
Cell phones must be off and out of sight.

Math 112: Trigonometry
Course Description:
Mth 112 is a course designed to examine in detail the applied, real-world, and theoretical mathematical implications of the trigonometric functions. The symbolic, numerical, and graphical representations of these functions and their applications form the core of the course. Emphasis will be on solving problems symbolically, numerically and graphically and understanding the connections among these methods in interpreting and analyzing results.

Mth 112 has the competencies from Mth 111 (precalculus) which is a prerequisite; the course is college-transferable. Mth 112 is a 4 credit hour (quarter system) course.

Performance Based Outcomes in Mathematics

Students who successfully complete any mathematics course at COCC will be able to:

1. *Work independently to explore mathematical applications and models, and to develop algebraic/symbolic, graphical, numerical, and narrative skills in solving mathematics problems.*

2. *Work as a member of a group/team on projects or activities that are designed to explore mathematical applications and models.*

3. *Use both written and oral skills to communicate about mathematical concepts, processes, complete mathematical solutions and their implications.*

4. *Use a variety of problem solving tools including symbolic/algebraic notation, graphs, tables, and narratives to identify, analyze, and solve mathematical problems.*

5. *Develop mathematical conjectures and use examples and counterexamples to examine the validity and reasonableness of those conjectures.*

6. *Create and analyze mathematical models of real world and theoretical situations, including the implications and limitations of those models.*

7. *Use appropriate technologies to analyze and solve mathematics problems, and verify the appropriateness and reasonableness of the solution(s).*

Specifically, students who complete Math 112: Trigonometry will be able to:

- model and solve applied, real-world, and theoretical mathematical problems involving right-triangle and oblique-triangle trigonometry. [1, 2, 4, 5, 6]

- model and solve problems using symbolic, graphic and numeric strategies and translate among written descriptions, symbolic, graphic and numeric representations of trigonometric functions.

- use a graphing calculator to create trigonometric graphs that represent mathematical models, determine appropriate viewing windows and accurately interpret and draw inferences regarding the meaning and limitations of the graphs. [4, 5, 6, 7]

- understand, apply, and interpret the meaning of trigonometric identities to solve trigonometric equations.

- model and solve problems involving vectors in two dimensions both algebraically and graphically and understand the relationship between the methods and solutions.

Mth 112, ASSIGNMENTS

Week	Tuesday	Thursday
1	Syllabus Degrees (DMS), Radians, Circles Standard Angle, Bearing, Azimuth Worksheet 1	WA #1, WA #2, WA #3; Lab#1 Circles & Triangles w/o Trig
2	The Trig Ratios (Sin, Cos, Tan) Worksheet 2, WA #4	Trig Practice WA #5; Lab #2
3	Right Angle Trig Applications xy-Grid Method; WA #6	Inverse Trig Functions 7WA #8, WA #9; Lab #3
4	Circle & Trig Functions WA #8, WA #10	Law of Sines & Law of Cosines WA #11; Bonus Lab
5	Review 1	Exam 1 (in class)
6	Obliques Triangle Apps, WA #12	Sine Waves and Periodic Functions WA #13; Lab #4
7	The Pendulum; WA #14	WA #15; Lab#5 YourBiorhythms Fri: Last day to drop w/o W
8	Middle Fork Salmon, Temperatures,	The Great Circle Route, WA #16
9	Trig Identities Wed: Last day to drop class (signature req'd)	Catch up
10	Review 2	Exam 2 (in class)