CASPER COLLEGE COURSE SYLLABUS
MATH 1405-N1
TRIGONOMETRY

Semester/Year: Spring 2016

Lecture Hours: 3 Lab Hours: 0 Credit Hours: 3
Class Time: N/A Days: N/A Room: N/A

Instructor’s Name: Jake McIntyre
Instructor's Office: PS 337 Office Phone: 268-2769 Email: jjmcintyre@caspercollege.edu

Office Hours: MTWThF from 10-10:50 a.m. and TTh from 11-11:50 a.m. or by appointment. I will also be in the Math Learning Center (PS 104) for an hour a week which I’ll announce once class starts. I will also offer optional telephone or google hangout sessions as requested for those not near campus.

Statement of Prerequisites: A “C” or better in MATH 1400; or an ACT score of 26 or better; or a COMPASS placement score in the College Algebra domain of 65-100 or Trigonometry domain of 0-60, within the past year.

Course Description: The study of the Unit Circle and right triangle approaches, including identities, trigonometric equations, applications of trigonometric functions, and conics. Designed for mathematics, science and engineering majors preparing for the regular calculus sequence.

Goal: The goal of this trigonometry course is to stress an algebraic, graphic and numeric approach to the study of angles, trig functions, equations, inequalities, identities and circular motion that would apply to math, science and engineering majors. This class should also provide you with a background in trigonometry for further study in Calculus.

Outcomes: Students should:
1. Be able to evaluate trigonometric functions.
2. Be able to graph trigonometric functions.
3. Be able to solve right triangles, and oblique triangles using the Law of Sines and Cosines.
4. Be able to solve trigonometric equations and relate and interpret these solutions.
5. Be able to verify trigonometric identities.
6. Be able to apply concepts of trigonometry such as: parametric equations, polar coordinates, vectors, complex number representation, or conic sections.
7. Solve problems using critical thinking and creativity
8. Use quantitative analytical skills to evaluate and process numerical data

Required Text, Readings, Materials:
- MyOpenMath Account (MyOpenMath is free!). You MUST sign-up for MyOpenMath, all assignments, grade keeping, and announcements will be done through MyOpenMath! (We will not be using Moodle). On the first day of class you will receive instructions on how to register for this course in MyOpenMath.
**Internet:** You will be required to have access to the Internet and a MyOpenMath account. All lecture videos will be posted in MyOpenMath and all homework and quizzes will be done through MyOpenMath. All communication and grades will also be recorded through MyOpenMath so make sure you use your current email when registering. WE WILL NOT BE USING MOODLE.

**Methodology:** This is a distance course–online videos of each lecture will be uploaded on most Mondays, Wednesdays and Fridays. After each lecture video is posted, homework assignments will be opened and/or written quizzes will be posted online in MyOpenMath. It will be YOUR responsibility to watch the lectures, read the notes (or optional free downloadable text) and keep up with the assignments and quizzes, asking for help when needed. I recommend that you study with the intent to understand and not just to get by on the exam. You will also be encouraged to stop by for individual help as needed. I will also offer optional telephone or google hangout sessions as requested for those not near campus.

**Online Work:**

Online homework will be given through MyOpenMath and can be taken any time after they are opened until the due date which will be one week after the corresponding section is covered in class. Each section will also have a Practice assignment. These homework assignments are done through MyOpenMath and will not be counted towards the grade unless you want to **LEVEL UP**!

**Written Work:**

Section Take-Home Quizzes: For each section a paper and pencil quiz will be posted in MyOpenMath which is to be printed out and completed within a week the section is covered in class. The problems in the quizzes will cover that section’s material and usually be more challenging; being applications, requiring of a proof, or some other written justification. These written quizzes are to be done using a pencil and paper and you must show all work to receive proper credit.

In-Class Projects/Labs: There will also be on occasion where we will do a project or lab. Some of these projects/labs will require technology (wolframalpha.com, Mathematica, Sage, Excel, etc.). Projects/Labs will also be due a week after assigned.

**Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work.**

**Exams:** There will be four exams during the semester, three midterms and a final and they will require an approved proctoring center. In Moodle you must select a proctoring location that you’ll use during the semester. Please complete this process as early as you can so all arrangements are made well prior the first exam. Copies of the exams with instructions will be sent to your proctoring center for each exam. You must take all exams during the exam window (usually a week). Any exceptions must be approved in advance. In the event a unit exam is unavoidably missed, you should contact the instructor ASAP. Anyone who does not take the final exam will automatically receive a grade of “F” for the course.

**Leveling Up:** You can level up your grades in two ways. If you complete the online Practice assignments in a section with a 100% score I will add 10 percentage points onto your online section homework score for that homework’s final score. Also if your online homework **average** is an 80% before a Unit Exam, I will give you a 10 point bonus on that Unit exam.
Evaluation Criteria:

**Grade distribution**
- Exams: 60%
- Online Work: 20%
- Written Work: 20%

**Percent needed for a specific grade**
- A = 90 – 100%
- B = 80-89%
- C = 79-79%
- D = 60-69%
- F = below 60%

Class Policies:

Calculator: You will be allowed to use a scientific (non-graphing) calculator for this course. It must have buttons for trigonometric functions (sin, cos, tan).

Dates: Refer to the Casper College Class Schedule for important dates such as holidays and Finals.

Withdraw Deadline: **April 14th** (I will not give a “W” after the withdrawal deadline!)

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor to attempt to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take the matter through the appropriate chain of command starting with the Department Head/Program Director, the Dean, and lastly the Vice President for Academic Affairs.

Academic Dishonesty - Cheating & Plagiarism: Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college’s Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu. The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly.
Changes: The instructor reserves the right to make any changes if deemed necessary. Information contained in this syllabus, other than the grading, make-up, and attendance policies, may be subject to change with advance notice, as deemed appropriate by the instructor. All changed will be announced in class or emailed to you, so absenteeism is no excuse for not being aware of all changes.

Tentative Calendar:
This schedule is tentative and subject to change.

Unit 1
1.1 Angles and Radian Measure
1.2 Right Triangle Trigonometry
1.3 Trigonometric Functions; The Unit Circle
1.4 Trigonometric Functions of Any Angle
1.5 Inverse Trigonometric Functions
1.6 Applications of Trigonometric Functions
Review
Exam 1

Unit 2
2.1 Graphs of Sine and Cosine Functions
2.2 Graphs of Other Trigonometric Functions
2.3 Verifying Trigonometric Identities
2.4 Sum and Difference Formulas
2.5 Double-Angle and Half-Angle Formulas
2.6 Trigonometric Equations
Review
Exam 2

Unit 3
3.1 The Law of Sines
3.2 The Law of Cosines
3.3 Area of a Triangle
3.4 Parametric Equations
3.5 Polar Coordinates
3.6 Vectors
3.7 The Dot Product
Review
Exam 3

Unit 4
8.1 The Parabola
8.2 The Ellipse
8.3 The Hyperbola
Review
Exam 4/Final Exam