CASPER COLLEGE COURSE SYLLABUS

Course: MATH 1405 –Trigonometry **Semester:** Fall 2015

Lecture Hours: 3 **Credits:** 3

Instructor: Kendall Jacobs **Office:** PS 338

Class Time: 8:00 – 8:50 MWF **Room:** PS 216

Phone: 268-2043 **Email:** kjacobs@caspercollege.edu

Office Hours:
TTH 8:00-8:50 TTH11:00-11:50 MWF 1:00-1:50
If the above times don't work for you, please feel free to make an appointment- or just drop by!

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.

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.

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:
1. Solve problems using critical thinking and creativity.
2. Use appropriate technology and information to conduct research.
3. Use quantitative analytical skills to evaluate and process numerical data.

Course Objectives: Students should:

1) Be able to use the definition of the six trigonometric functions using either the right triangle or the unit circle to evaluate trigonometric functions at standard angles without technology.
2) Be able to use trigonometric definitions to solve right triangle application problems.
3) Be able to graph functions involving sin(x), cos(x), and tan(x) and should understand the concepts of period, amplitude and phase shift. Students should understand how to use technology to produce and analyze graphs.
4) Be able to use the basic trigonometric identities, the angle sum identities, and the multiple angle identities to prove or disprove additional statements concerning the six trigonometric functions.
5) Be able to use the law of cosines and the law of sines to solve application problems.
6) Be able to solve simple trigonometric equations both with and without technology.
7) Be able to apply their knowledge of trigonometry to at least two of the following application areas: vectors, parametric equations, polar coordinates, complex number representations, or conic sections.

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

Methodology: This is a FAST moving class – you are expected to know the content taught in Math 1400. Class will be a combination of lecture, group work, and explorations. You will be expected to OWN everything taught in class (whether or not you are present). I recommend that you study with the intent to understand and not just to get by on the test. You will be strongly encouraged to participate in class. I hope you ask LOTS of questions.

Evaluation Criteria: Your letter grade will be based on your performance on the following:

Exams (approx. 70%): Four exams have been scheduled. These exams will be paper and pencil. All exams are comprehensive. You are **required** to take all exams and the final exam at the scheduled hours. If you miss an exam, you MUST contact the instructor ASAP In the event an exam is unavoidably missed; the instructor may approve a 200 point final depending on the reason for the missed exam.

Homework/Quizzes (approx. 30%) Proficiency in mathematics requires practice! Consequently, daily homework assignments will be assigned and collected. In general, there will be 5-10 Webwork questions assigned every day. I will also assign paper and pencil work and give an occasional in class quiz. Some assignment may require technology (spreadsheets, Maple/Mathematica/Sage). We may flip a few classes – which means you will watch a video before coming to class and will compete a problem solving assignment during class.
Late work is usually not accepted – if so, it is subject to a grade reduction. If you are absent for one week or more due to accident, illness, etc., contact the dean of students and explain your reason. In these cases I can make arrangements with you to make up assignments.

Grading Scale: You are guaranteed a traditional grading scale of 90% + A, 80-89% B, 70-79% C, 60-69% D, 59%-F. But I reserve the right to lower this without notice if I deem it necessary.

Materials Needed for the Course:

BOOK**:** *Precalculus with Modeling and Visualiztion* by Rockswold, 5th Edition - Pearson

MY MATH LAB: My Math Lab is NOT required for this course. However, if there is an interest, I will set up a class in My Math Lab for those who would like to use the My Math Lab Learning Tools. Instead we will be using WebWork.

CALCULATOR: A graphing/programmable calculator would be required for this course. Calculators that perform symbolic calculations are advantageous. I recommend a TI 83 or TI 84. If you have any questions about your calculator, please do not hesitate to ask. I may disallow the use of some calculators on portions of the exams.

PROGRAMS: We will also be doing some spreadsheet work as well as a few explorations with Maple/Mathematica/Sage. You will also need to be able to submit assignments in drop-boxes via Moodle.

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.

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. This is also, where you will find course evaluation links during course evaluation periods.

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.

Course Content: See attached schedule:

Last Day to Change to Audit or Withdraw: Nov 12, 2015 will be the LAST day to drop this class. If you are thinking about changing your course status, please see me BEFORE this date.

Help: I recommend you keep up with the class. If you need help, then get it . . . FAST! I will be available to help individuals during my office hours or by appointment. PLEASE don't hesitate to stop by or give me a call. I want you to succeed! The Math Lab (PS 104) is also a great place to go for assistance.

IF YOU ARE HAVING TROUBLE IN THIS CLASS, PLEASE SEE ME AS SOON AS POSSIBLE!!!

Let's have a GREAT semester!

TENTATIVE SCHEDULE WITH COURSE CONTENT

Course: Math 1405 Trigonometry **Semester:** Fall 2015

WEEK	TOPICS
WEEK ONE Aug 24-28	Chapter 6 Angle- Right Angle Trigonometry-Trig Functions and Graphs
WEEK TWO Aug 31-Sept 4	Chapter 6 Angle- Right Angle Trigonometry-Trig Functions and Graphs
WEEK THREE Sept 7 – Sept 11	Chapter 6 Trig Functions - Inverse Trig Functions **Sept 7 Labor Day – No Class**
WEEK FOUR Sept 14-Sept 18	Chapter 6 Trig Functions - Inverse Trig Functions **Exam 1**
WEEK FIVE Sept 21-Sept 25	Chapter 7 Trig Identities and Equations
WEEK SIX Sept 28-Oct 1	Chapter 7 Trig Identities and Equations
WEEK SEVEN Oct 5 – Oct 9	Chapter 7 Trig Identities and Equations
WEEK EIGHT Oct 12-Oct 16	Chapter 7 Trig Identities and Equations **Exam 2**
WEEK NINE Oct 19-Oct 23	Sections 8.1-8.3 Law of Sines and Cosines - Vectors **Oct 19-20 Fall Break No Class**
WEEK TEN Oct 26-Oct 30	Sections 8.1-8.3 Law of Sines and Cosines - Vectors
WEEK ELEVEN Nov 2-Nov 6	Sections 8.4-8.6 Parametric Equations – Polar Equations – De Moivre's Tm **Nov 6 – Advising Day**
WEEK TWELVE Nov 9 – Nov 13	Sections 8.4-8.6 Parametric Equations – Polar Equations – De Moivre's Tm **Nov 12-Withdrawal Deadline**
WEEK THIRTEEN Nov 16-Nov 20	Chapter 10 Conic Sections – Parabolas – Ellipses-Hyperbolas **Exam 3**
WEEK FOURTEEN Nov 23-Nov 26	Chapter 10 Conic Sections – Parabolas – Ellipses-Hyperbolas **Nov 25 – 27 Thanksgiving Holiday – No Class**
WEEK FIFTEEN Nov 30-Dec 4	Topics from Chapter 11 Series – Binomial Tm – Mathematical Induction
WEEK SIXTEEN Dec 7 – Dec 10	Topics from Chapter 11 Series – Binomial Tm – Mathematical Induction
Dec 14-Dec 18	**Finals Week: Comprehensive Final Exam TBA**