Math 1450-02
Algebra & Trigonometry
Spring 2013

Textbook: PRECALCULUS: a unit circle approach by Ratti & McWaters
Calculator: TI-86 graphing calculator – see your instructor if you own another model.
Course Instructor: Keivan Hassani Monfared
Office Hours: T 11-12, Math Lab & by appointment
Office Location: RH 207
Contact Information: khassani@uwyo.edu or leave a message at the Math Department Office, 766-4221
Class Location: CR118, 10-10:50, M-F

Course Supervisor:
Cynthia Vadnais (220 Ross Hall, 766-6432, cynv@uwyo.edu); office hours: MW 1-3 pm, and by appt. Please direct questions or complaints about the course to the supervisor in a TIMELY fashion.

Course Website:
Copies of the syllabus, the course calendar and other pertinent course information can be found at the course net site: http://www.uwyo.edu/cvadnais/1450.html . Likewise, look to this site for links to useful information on being successful in the course.

Prerequisites:

- The prerequisite for M1450 is either a placement level III, an ACT Math score ≥ 23, a passing grade in Math 925 (C or better), or a previous grade in either M1400 or M1450 of D or better. Math 1450 students are expected to possess the algebra skills taught in Math 925 AND experience with trigonometry. Others should enroll in the sequence M1400/1450. You must earn a grade of C or better to enroll in M2200.
- Should you withdraw from M1450 (or receive an F) and you enrolled based on a placement score, you will need a valid placement score or appreciate ACT score to re-enroll in M1450.

University Studies Requirements & Course Learning Goals:
Math 1450 is not intended to meet the specialized need of most majors. Instead, Math 1450 meets their QA Requirement. This requirement overlaps with the overarching course goal to teach skills and concepts that will support success in specialized courses.

- The goal of the University Studies Program (USP) is met by a variety of courses, each of which addresses a subset of the seven skills and perspectives showcased by USP. QA courses must address students' abilities to examine problems from quantitative, qualitative and scientific perspectives.
- A QA experience may include numerical, logical, geometric and algorithmic thinking as well as the integration of modes of analysis with verbal, creative, and critical-thinking skills. QA students should demonstrate mathematical and logical skill needed to formulate, analyze, and interpret quantitative arguments in a variety of settings.

- The overarching goal of Math 1450 is to equip students with the skills and conceptual ideas to support success in courses that have a trigonometric or functional component. The specific learning goals are listed below. Part of this support is a strong emphasis on (1) appropriate uses of technology, (2) multiple representation, and (3) application problems.

Math 1450 students shall:

1. Display an understanding of the specific categories of functions typical in a calculus series, e.g. polynomial, rational, trigonometric, logarithmic, and exponential;
2. Display a variety of algebraic skills including those utilized in finding inverses, transformations, compositions and solutions;
3. Work with trigonometric functions, their properties, graphs, identities, formulas and inverses.
4. Display an understanding of sequences, especially linear and geometric.

Testing and Grading:

- Your final grade is determined on a scale common to all sections. For the final grade:
  † Semester exams count as 45 percent † Final Exam counts as 15 percent
  † MyLab counts as 10 percent † Quizzes/Homework counts as 30 percent

- Exams during the semester will be given in the AG Auditorium from 5 to 7:30 P.M. on Thursdays. Exam times were posted in the course schedule booklet (see http://uwadmnweb.uwyo.edu/REGISTRAR/Spring2011/MATH.html). You do not have the option of making other time arrangements for taking the exams.
  Instructions as to what you need to bring for each exam will be posted to the website at least a week in advance. The final exam is Wednesday, May 8th, 1:15 -3:15 P.M. The exam room(s) for the final will be announced near the end of the semester, and posted to the course website.
  It is your responsibility to be in class so that you are aware of any changes on exams, or on the final.

- The schedule of exams is:

February 7th (AG Aud)	Exam 1	Chapter 1, Appendix 6, Appendix 8, Section 2.1
March 7th (AG Aud)	Exam 2	Sections 2.2, 2.3, 2.5, Appendix 1-4, Appendix 9, Sections 3.1-3.5
April 18th (AG Aud)	Exam 3	Sections 4.1-4.4, 4.6, 5.1-5.4, 6.1-6.3
May 8th	Final Exam	Comprehensive

Make-up Exams:

Make-up quizzes, homework, and exams are allowed only with a "University authorized absence" slip. Authorized Absences (unireg 713): For participation in a University-sponsored activity or for unusual circumstances, such as personal hardship, an authorized absence may be issued to the student by the Director of Student Life or the Director's authorized representative. If a student has been hospitalized, or if the student has been directed by the Student Health Service or the student's private physician to stay at the student's place of residence because of illness, the Health Service medical staff or the student's private physician may issue a statement to the student giving the dates of the student's confinement. All make-ups must be done in a timely fashion.
There are no make-ups for the final. If you have three or more finals on December 13th, you may arrange with registration and records to move one of your finals. To do this a form must be filled out in a timely fashion and then they tell you which final will be changed.

MyMathLab (MML) Online Homework:

10% of your final grade is based on homework problems worked online via Pearson's **MML**. I will provide you with a separate set of instructions for online registration.
Online assignments are usually around 10-12 questions. These problems are chosen as representative of the basic concepts presented in the sections. These few questions will not adequately prepare you for the exams. Instead, these will help you develop a basic proficiency in the topics, and give you immediate feedback so you

know how well you are doing. More in-depth problems are in the textbook, and you are encouraged to work odd numbered problems in addition to any assignments given.
Most homework assignments on **MML** can be revisited as many times as you like. If you miss a question, you should redo that question until you succeed. You should settle for nothing less than 100% on each online homework assignment.
Due dates are shown in **MML** and on the course calendar. You will not be able to access an assignment after the due date.
Your 4 lowest scores will be dropped at the end of the semester.

Quizzes/Homework:
30% of your final grade is based on quizzes and homework. At least 3 times a week you will either be given a quiz or have a homework assignment to turn in. Each will be worth 10 points. You will not be allowed to take the quiz or turn in the homework assignment if you are not present the entire lecture time.
Your 4 lowest scores will be dropped at the end of the semester.
Only those students with a university excused absence will be allowed to make up any missed assignments and all make ups must be done in a timely fashion. Also, each will be returned to you in a timely fashion.

Additional Comments:
Be prepared, have your book, calculator, and notebook out and be ready to go.
Be respectful of your fellow students.
As stipulated in the UW regulations, you are expected to avoid any behavior which is disruptive to the class. If you are disruptive, I may ask you to leave the classroom. In such an event, you may return only with the permission of the course supervisor. If you are subsequently disruptive, your name may be removed from the class roster.

Available Resources:
- Help is available at the Math Lab (Ross Hall 29) M-Th 9-5, F from 9-1, and evenings TWTh. It is closed during Spring break and the schedule changes during Finals Week.
- Students with disabilities (physical, learning, or psychological) who need modified testing arrangements may arrange accommodations by contacting University Disability Support Services at 766-6189/3073 or in Room 330 Knight Hall.

Your Learning: In Math 1450 you are expected to begin to assume greater responsibility for your learning. For example, since **you** must decide when you need help, **you** must understand yourself as a learner. Help is available on the Internet. For example, try the Idea Sheets: **www.usu.edu/arc/idea_sheets/ .** Another good way to start taking control of your learning is to take a learning styles inventory. You might try one for engineering majors by Richard Felder and Linda Silverman: **http://www.engr.ncsu.edu/learningstyles** . During the next few weeks take time to look at other strategies for success posted at **http://math.uwyo.edu/MathlabTutoringServicesIndex.asp .**

Studying in college is most likely different from what is was in high school. For the big picture, check out the UW LeaRN Center: **http://uwadmnweb.uwyo.edu/bettergrades/** and their award-winning handbook: "A Road to Academic Success" **http://uwadmnweb.uwyo.edu/bettergrades/guide.htm .**

Course Outline
Math 1450 – Spring 2013

The table below shows the assigned problems for the course. Your instructor may assign additional problems. Work these problems & come prepared to class with your questions over these problems. Exams & quizzes will reward your understanding of these concepts.

Week of:	Topics:	Sections:	Homework (page/problems):
January 14th	Graphs of Equations Lines Linear Equations; Applications	1.1 1.2 A.6	pp. 13-15: 2, 4, 13, 17, 43, 49, 53, 57, 63, 67, 81, 85 pp. 26-28: 5, 13, 18, 23, 35, 39, 45, 47, 53, 67-69, 89, 91, 99 pp. 801-802: 17, 23, 33, 38, 43, 46, 53, 61
January 22nd	Functions A Library of Functions	1.3 1.4	pp. 43-46: 2, 9, 26, 33, 41, 45, 57, 61, 69, 73, 78, 83, 91, 95, 99, 101 pp. 58-61: 3, 13, 29, 35, 45, 53, 61, 65, 67, 83
January 27th	Transformations Combining Functions: Composite Functions Inverse Functions Quadratic Functions	1.5 1.6 1.7 2.1	pp. 74-76: 9, 11, 13, 15, 27, 31, 57, 69, 75, 81, 85 pp. 84-86: 9, 15, 23, 29, 31, 35, 47, 55, 67, 71 pp. 96-99: 5, 13, 17, 27, 31, 37, 67, 77 pp. 114-117: 2, 15, 19, 25, 31, 39, 45, 53, 61, 67, 71, 73, 81
February 3rd	Quadratic Equations **Review for Exam 1** Polynomial Functions	A.8 2.2	pp. 815-816: 11, 17, 31, 37, 49, 65, 95, 99 (omit complex solutions) pp. 130-133: 1, 31, 37, 43, 59, 71, 79
February 10th	Dividing Polynomial Functions & the Rational Zero Test Polynomials Rational Expressions Rational Functions	2.3 A.2 A.3 2.5	PP. 142-144: 9, 17, 23, 25, 37, 43, 57, 61, 70 PP. 771-772: 17, 25, 39, 69, 73, 87, 105, 109, 117, 137, 143 pp. 780-781: 9, 17, 23, 31, 35, 45, 51, 55, 61, 65, 73, 79, 85, 91 pp. 167-169: 11, 15, 18, 23, 33, 37, 39, 45, 57, 71, 77, 81
February 17th	The Real Numbers; Integer Exponents Rational Exponents & Radicals Solving Other Types of Equations Exponential Functions	A.1 A.4 A.9 3.1	pp. 760-762: 9, 13, 32, 35, 41,73, 85, 87, 101, 113, 135, 143, 149, 157 pp. 787-788: 9, 15, 21, 29, 31, 35, 39, 47, 53, 61, 63, 77, 81 pp. 821-822: 9, 19, 35, 41, 53, 67 pp. 197-199: 3, 15, 23, 29, 44, 65, 67, 71, 81, 87, 89
February 24th	The Natural Exponential Function Exponential & Logarithmic Functions Rules of Logarithms	3.2 3.3 3.4	pp. 208-209: 11, 13, 17, 25, 37, 39c pp. 222-224: 9, 13, 21, 27, 33, 37, 47, 51, 53, 63, 79, 81, 85, 97 pp. 232-233: 7, 11, 17, 23, 29, 33, 37, 47, 55, 61, 71
March 3rd	Exponential & Logarithmic Equations **Review for Exam 2** Angles & Their Measure	3.5 4.1	pp. 243-245: 19, 25, 35, 43, 53, 57, 81 pp. 264-265: 31, 35, 39, 43, 47, 51, 55, 61, 65, 75, 77, 81 (Omit DMS, Linear & Angular Speed)
March 10th	The Unit Circle: Trigonometric Functions of an Angle Some Properties of Trigonometric Functions Graphs of the Sine & Cosine Functions	4.2 4.3 4.4	pp. 277-278: 9, 19, 23, 31, 39, 45, 49, 55, 69 pp. 285-287: 5, 13, 19, 29, 37, 47, 53, 57, 65, 69, 71, 75b, 77 pp. 302-303: 7, 19, 25, 31, 35, 39, 47, 51, 57ab
March 24th	Inverse Trigonometric Functions Trigonometric Identities & Equations	4.6 5.1	pp. 322-323: 5, 11, 15, 19, 25, 35, 41, 47, 59, 69 pp. 340-341: 7, 15, 19, 27, 33, 49, 53, 61, 67, 69, 73, 81, 83
March 31st	Trigonometric Equations Sum & Difference Formulas Double-Angle & Half-Angle Formulas	5.2 5.3 5.4	pp. 352-353: 3, 9, 11, 19, 25, 39, 41, 47, 55, 57, 71, 81, 85, 89 pp. 364-365: 5, 9, 13, 21, 27, 31, 33, 41, 47, 51, 57, 63 pp. 376-378: 5, 9, 13, 21, 25, 33, 35, 43, 47, 55, 63, 69
April 7th	Right-Triangle Trigonometry The Law of Sines The Law of Cosines	6.1 6.2 6.3	pp. 401-404: 5, 7, 17, 23, 25, 29, 33, 37, 41, 43, 47, 49, 53, 57, 63 pp. 415-416: 7, 11, 21, 27, 31, 39, 55, 61, 63 pp. 423-425: 5, 7, 9, 15, 23, 37, 41, 45, 47
April 14th	Systems of Linear Equations in Two Variables **Review for Exam 3**	7.1	pp. 489-491: 3, 11, 23, 27, 37, 55, 65, 75, 79, 85, 87, 91, 93
April 21st	Sequences & Series Arithmetic Sequences; Partial Sums	10.1 10.2	pp. 689-690: 5, 13, 23, 27, 31, 39, 45, 63, 69, 77, 83, 91, 93, 99 pp. 697-698: 3, 11, 15, 27, 33, 41, 45, 49, 57, 59, 61, 63, 65
April 28th	Geometric Sequences & Series **Review for Final Exam**	10.3	pp. 706-708: 3, 11, 21, 29, 35, 41, 45, 51, 65, 69, 73, 75, 81, 87