

Math 105-001 **Summer 2009** MWF 10:50-1:30 ENG 105

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**Course Description:** An intensive study of the elementary functions required for calculus. These functions will include polynomial, rational, exponential, logarithmic, and trigonometric functions. Emphasis is on their algebraic structure and graphs. Analysis of conic sections and analytic geometry will be included.

**Pre-requisite:** MATH 104 or score 20 or more on algebra diagnostic exam.

**Course Text:** Beecher/Penna/Bittinger Precalculus Third Edition

**Calculator policy:** Approved calculators may be used in this course on all tests and to aid in the homework. Graphing calculator, cell phone calculators, and any other calculators with QWERTY capabilities are not allowed.

**Additional Assistance:** If a student would like additional assistance or is concerned about his/her grade, contact the instructor. Also students may take advantage of **free instructional help** from the Math Learning Center (MLC). The MLC is located in ENG 136 and the hours are M-F 9-5. This course is also supported by the Supplemental Instruction (SI) Program. The SI for this course is Les TeKamp and his hours are MWF 9-10:30 in ENG 105 (the same place as the classroom) and Sat 9-11 in ENG 136(the MLC).

**Military Students:** If you are a military student with the potential of being called to military service and /or training during the course of the semester, you are encouraged to contact your UCCS course instructor no later than the first week of class to discuss the class attendance policy. Please see the Military Students website for more information: <http://www.uccs.edu/~military/>.

### **Grading Policy:**

1. **Homework** is how you achieve mastery on a topic in math. Homework will be picked up and graded and is due every class period except on exam days.. **NO LATE HOMEWORK WILL BE ACCEPTED FOR ANY REASON, however your two lowest homework scores will be dropped.** Homework is worth 15% of your overall grade. A tentative class schedule is attached to this syllabus. Homework will be assigned in class throughout the semester.

2. **Tests, Final.** You will be given three tests and a comprehensive final. Each test is worth 20% of your grade and the final will count for 25% of your grade. Please **show all of your work** on tests and homework in order to receive full or partial credit. Approximate dates of the exams are attached with the tentative class schedule.

3. Missing a test on a given test day is not allowed for any reason. If you must miss a test, your grade on the final can replace the grade on the missed test which will initially be scored as a 0. **THE FINAL EXAM MUST BE TAKEN ON THE DAY SCHEDULED OR YOU WILL RECEIVE A ZERO.**

4. It is your responsibility to withdraw from this class. The last to drop this course for a full refund is Jun 22 and the last day to withdraw from this course without special permission from the dean is July 17.

5. An incomplete "I" grade will be issued only if the student has completed more than 75% of the course requirements, and has an emergency that cannot be resolved before the end of the semester. An Incomplete "I" is rarely issued. If an incomplete is given, all remaining work must be satisfactorily completed by the contracted date prior to the end of the next semester or a grade of "F" will be issued for the course.

# Math 105- Elementary Functions of Calculus

Text: *Precalculus*, 3<sup>rd</sup> edition, by Beecher/Penna/Bittinger published by Addison/Wesley

Intro and 1.1	Introduction to Graphing	Jun 15
1.2	Functions and Graphs	Jun 15
1.3-1.4, 2.1	Linear functions, slope, equations and applications	Jun 17
1.5-1.6	Properties of functions	Jun 17
1.7	Symmetry and Transformations	Jun 19
2.2-2.3	Complex numbers and Quadratics	Jun 19
2.3-2.4	Graphing Quadratics	Jun 22
2.5-2.6	More equation solving, linear inequalities	Jun 22
3.1-3.3	Polynomials	Jun 24
3.3-3.4	Polynomials	Jun 24
3.5	Rationals	Jun 26
3.6-3.7	Polynomial and Rational Inequalities and Variation	Jun 26
4.1	Inverses	Jun 29
	Exam Review for Chapters 1-3	Jun 29
<b>Exam 1</b>	<b>Chapter 1-3</b>	<b>July 1</b>
4.2-4.3	Exponentials and Logarithms	July 1
4.3-4.4	Exponentials and Logarithms	July 3
4.5-4.6	Exponentials and Logarithms	July 3
5.1	Trig functions of acute angles	July 6
5.2	Applications of right triangles	July 6
5.3	Trig functions of any angles	July 8
5.4	Radians, Arc Length and Angular Speed	July 8
5.5	Circular Functions	July 10
5.6	Graphs of Transformed Sine and Cosine	July 10
6.1	Identities	July 13
	Exam Review for Chapters 4-5	July 13
<b>Exam 2</b>	<b>Chapters 4-5</b>	<b>July 15</b>
6.2	Identities	July 15
6.3	Identities	July 17
6.4	Inverse Trig Functions	July 17
6.5	Solving Trig Equations	July 20
7.1-7.2	Law of Sines, Law of Cosines	July 20
7.5	Vectors	July 22
7.6	Vectors	July 22
8.1,9.4	Systems of equations	July 24
9.4	Systems of Equations	July 24
9.1	Parabolas	July 27
	Exam Review for Chapters 6-7.2, 7.5-7.6, 8.1, 9.4	July 27
<b>Exam 3</b>	<b>Chapters 6-7.2, 7.5-7.6, 8.1, 9.4</b>	<b>July 29</b>
9.2	Circles and ellipses	July 29
9.3	Hyperbolas	July 31
	Final Exam Review	Aug 3,5
<b>Final Exam</b>	<b>Comprehensive Final Exam</b> <b>You must be here on this date at this time, NO EXCEPTIONS</b>	<b>Aug 7</b> <b>10:50-1:30</b>