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**KELLOGG COMMUNITY COLLEGE**  
**MATH 140**  
**Pre-Calculus**  
**MTR 8:30-9:45 in C 203**

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**Last Day to Drop:** September 7, 2014

**Last Day to Withdraw:** November 30, 2014

**COURSE NUMBER/TITLE/CREDITS:**

MATH 140 – Pre-Calculus - 4 Credit Hours

**INSTRUCTOR INFORMATION:**

Anna Cox

Kellogg Community College

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Office: Classroom Building 401X

Office Hours: Found on web page, due to possible last minute changes:

<http://academic.kellogg.edu/coxa/>

Additional office hours are available by appointment (*Don't hesitate to make one!*) Also remember there is help available in The Learning Place on a walk-in basis. It is located in the Ohm Technology Building on the second floor.

**TEXTBOOK:** *Precalculus 5<sup>th</sup> Edition*, by Blitzer; Published by Prentice Hall.

**GENERAL COURSE GOALS:**

The learner will be prepared for calculus by mastering the following topics:

Sets and notations;

Algebraic functions and graphs;

Introduction to theory of equations;

Exponential, logarithmic, and trigonometric functions and graphs;

Analytic geometry of the line and the conics.

**BELIEFS ABOUT STUDENT LEARNING:**

Learning is a life-long process that is enhanced through formal classroom experiences. While textbooks, tutors, and instructors exist to assist in learning, ultimately the responsibility and reward of learning rests on the learner.

**BELIEFS ABOUT TEACHER'S ROLE:**

The teacher provides an environment which enables and encourages each learner to achieve his/her educational goals. The teacher clearly defines expectations for success in Pre-Calculus. The teacher is accessible to student needs and is open to students' ideas, yet remains consistent and demanding. The teacher expects each student to strive for excellence.

**METHOD OF EVALUATION:**

Students will earn points for successful completion of:

- |    |                                |               |
|----|--------------------------------|---------------|
| 1. | Tests                          | @100 points   |
| 2. | Daily Work (homework, quizzes) | @10-50 points |
| 3. | Comprehensive Final Exam       | @150 points   |

The total number of points will be approximately 1000. Because the problem sets and quizzes are given in a sporadic, spontaneous manner, it is not possible to predict the exact number of points for the term.

Grading Scale:	90 - 100	A
	80 - 89	B
	70 - 79	C
	60 - 69	D
	0 - 59	F

Plus and minus grades will be determined by the instructor at the end of the semester.

**POLICIES ON ATTENDANCE:**

Regular class attendance is an important part of educational success and is expected of all students. The student is responsible for all work missed due to absence. I also expect to be notified before class that a student will not be attending a class, this can be done via a phone call or even leaving a message on my answering machine. I consider this common courtesy. Class begins promptly at the scheduled time. I expect that everyone will be attentive. In the event that you must arrive late, please enter the room unobtrusively. Excessive absences will directly affect a students grade. Please be considerate and turn off cellular phones and pagers.

**POLICIES ON ASSIGNMENTS/TEST/MAKE-UP:**

Problem sets and quizzes: All problem sets and quizzes are due at the time announced. Late papers or make-up quizzes will not be accepted. The student is responsible for completing work on time even if s/he is absent when it is assigned or when it is due!!

Tests: The tests will cover specific material from the lecture, problem sets, and text reading. In the event that you must be absent from a test, advance notice to the instructor is **MANDATORY. If you do not notify the instructor IN ADVANCE when you will be absent from a test, make-up privilege will NOT be extended and your grade will be ZERO!!**

Final Exam: The final exam is comprehensive. If you must be absent from the final exam, advance notification is mandatory.

DEPARTMENTAL OUTLINE

TITLE OF COURSE: Math 140--Preparation for Calculus

DESCRIPTION OF COURSE:

[Grad Competencies: II.A,B] *Prerequisite: ASSET College Algebra Assessment score of at least 37 or COMPASS college algebra Assessment score of at least 43 or a of "C" or better in MATH 122.*  
Introductory plane analytic geometry; algebraic functions and their graphs; introduction to theory of equations; combinations and binomial theorem; exponential and logarithmic functions; trigonometric functions; arithmetic and geometric sequences. This course or an appropriate ASSET or COMPASS assessment score is required prior to enrollment in MATH 141. [64-0-64] LAB FEE

LENGTH: One semester, 64 hours, 4 hours credit.

TEXT: *Precalculus 5<sup>th</sup> Edition*, by Blitzer; Published by Prentice Hall.

SUPPLEMENTAL MATERIALS:

1. Graphical calculator is required.
2. *Student's Solutions Manual* is packaged with the textbook.

ATTENDANCE REQUIREMENTS: The college policy is that regular class attendance is considered an essential part of a student's educational experience and a requirement for an adequate evaluation of student academic progress. The instructor's policy is given in writing during the first week of the course.

When repeated or extended absence reaches levels where successful completion is jeopardized, an "excessive absence" report may be given to the counseling staff who will attempt to contact the student to resolve any problems. Excessive absenteeism may lead to administrative action.

ADA STATEMENT: Kellogg Community College does not discriminate in the admissions or treatment of students on the basis of disability. KCC is committed to compliance with the American With Disabilities Act and Section 504 of the Rehabilitation Act.

DISCLAIMER: Information contained in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the semester. However, this syllabus should not be considered a contract between Kellogg Community College and any student, nor between the instructor and any student. The instructor reserves the right, acting within the policies and procedures of Kellogg Community College, to make changes in course content or instructional techniques without notice or obligation.

COURSE OUTLINE:APPROX. CLASS HOURS:

I.	Sets and Numbers	4
	A.	Sets and notation
	B.	The real number system
	C.	Order relations and absolute value
	D.	Equations and inequalities
II.	Introduction to Analytic Geometry	5
	A.	Cartesian coordinate system and distance formulas
	B.	The circle; translation of axes
	C.	Equations of lines
	D.	The parabola
	E.	Quadratic inequalities
III.	Functions	6
	A.	Functions and their properties; graphs
	B.	Algebra of functions and compositions of functions
	C.	Quadratic functions
	D.	Inverse functions
IV.	Polynomial Functions, Rational Functions and Theory of Equations	6
	A.	Remainder and factor theorems
	B.	Rational zeros
	C.	Graphs of polynomial functions
	D.	Graphs of rational functions
	E.	Real roots of polynomial equations
	F.	Partial fractions (at the discretion of the instructor)
V.	Exponential and Logarithmic Functions	6
	A.	Properties of exponents
	B.	Exponential functions and their properties
	C.	Logarithmic functions and their properties
	D.	Properties of logarithms
	E.	Computations using logarithms (at the discretion of the instructor)
	F.	Exponential and logarithmic equations
VI.	Trigonometric Functions	6
	A.	Six trigonometric functions of real numbers
	B.	Properties and evaluation of trigonometric functions
	C.	Graphs
	D.	Trigonometric functions of angles
	E.	Solutions of triangles
VII.	Analytic Trigonometry	6
	A.	Fundamental identities
	B.	Trigonometric formulas
	C.	Inverse trigonometric functions
	D.	Trigonometric equations
VIII.	Analytic Geometry	5
	A.	Tangent function and slope of line
	B.	Cartesian equations of the conics
	C.	Ellipse
	D.	Hyperbola
	E.	Polar coordinates (at the discretion of the instructor)
IX.	Systems of Equations and Inequalities	6
	A.	Systems of equations in two and three variables

	B.	Matrix solutions	
	C.	Determinants and Cramer's Rule	
	D.	Systems involving quadratic equations	
	E.	Systems of linear inequalities (at the discretion of the instructor)	
X.		Sequences, Series, The Binomial Theorem	5
	A.	Sequences and series; arithmetic and geometric	
	B.	Mathematical induction (at the discretion of the instructor)	
	C.	Infinite geometric series	
	D.	Binomial theorem	
XI.		Complex Numbers	3
	A.	Set of complex numbers	
	B.	Complex roots of equations	
	C.	Complex zeros of polynomial functions	
XII.		Testing	6

\*\* Suggestions for Success in this Class \*\*\*

If you are feeling like you need help: come see me!!! We can discuss options like a tutor and video lectures to help you be successful.

Tutoring is available through the Learning Place in the Ohm building. You may use The Learning Place on a walk-in basis but must sign in at the front desk.

Keep an organized notebook!!! Review your notes and homework on a regular basis.

I. AS SOON AS YOU CAN AFTER CLASS, SIT DOWN AND . . .

A. Begin to list everything you can remember doing in class.

B. Read your notes from class and write examples of things discussed.

C. Write ten questions involving simple skills, concepts, and ideas presented in class. Place them each on a 3 x 5 card.

D. Read the text for the next day's lecture. Just because this is a math course, don't think you're excused from reading the text!!

E. Attempt to do all example problems in the text without looking at the given solutions.

F. Add facts to your 3 x 5 cards as you learn from the text.

G. Review your 3 x 5 cards every few days.

II. Do the assigned homework problems - they are specially chosen to prepare you for the exams!

III. Ask questions in class about problems or concepts you don't understand before you get "too lost".

IV. Seek help outside of class with myself and/or the available tutors if you are still having trouble.