

Mathematics 110 Pre-Calculus, Fall 2010
Tu-Th 8:00AM-9:20 AM
Eiben Hall Room 201

Instructor: Eric Dodson Office: Wesselkamper 110
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Office Hours: M,Tu,W,F 1:00-2:00 PM; and by appointment
I will also hold a weekly problem solving session
[Time and location to be announced]

Text : **Precalculus** (Fifth Edition) ; Stewart, Redlin and Watson

Prerequisites: MA 103 or placement

Grading: The course grade will be based on:

Homework	20%
Quizzes	20%
Midterms	40%
Final Exam	20%

With the following cutoffs: A=86-100, B=76-85, C=66-75, D=56-65, F=<55

Homework: Homework will be assigned on Tuesdays and collected on the following Tuesday .
I will set up a help session for Monday afternoons. I encourage you to work together on homework, but you must turn in your own work. Remember the main purpose of the homework is to help you understand the material.

Quizzes: A ten to fifteen minute quiz will be given promptly at the beginning of class on Thursdays. The topic of the quiz will be announced the previous class period. No make-up quizzes will be given. Your lowest quiz score will be dropped at the end of the semester.

Midterms: Three midterms will be given. The dates for the midterms are listed below

Midterm I	Tuesday, September 14
Midterm II	Tuesday, October 12
Midterm III	Tuesday, November 9

Final Exam: Date and time: Tuesday, December 8 8:00 – 10:00 AM
The final exam will be comprehensive

Helpful advice: Come to class every day. Read the sections to be covered before class.
Ask questions. Get an early start on the homework and come get help if you get stuck.
Stay on top of the material (Don't cram). If you are having difficulty come see me ASAP
Math is not a spectator sport, the only way to get better is to practice.

Material to be covered:

Chapter 1: Fundamentals (Review)

- 1.1: Real Numbers (Fractions)
- 1.2: Exponents & Radicals
- 1.5: Equations
- 1.10: Lines

Chapter 2: Functions

- 2.1: What is a Function?
- 2.2: Graphs of Functions
- 2.3: Increasing and Decreasing Functions; Average Rate of Change
- 2.4: Transformation of Functions
- 2.5: Quadratic Functions; Maxima and Minima
- 2.7: Combining Functions
- 2.8: One-to-One functions and Their Inverses

Chapter 3: Polynomials and Rational Functions

- 3.1: Polynomial Functions and Their Graphs
- 3.2: Dividing Polynomials
- 3.3: Real Zeros of Polynomials
- 3.4: Complex Numbers
- 3.5: Complex Zeros and the Fundamental Theorem of Algebra
- 3.6: Rational Functions

Chapter 4: Exponential and Logarithmic Functions

- 4.1: Exponential Functions
- 4.2: Logarithmic Functions
- 4.3: Laws of Logarithms
- 4.4: Exponential and Logarithmic Equations

Chapter 6: Trigonometric Functions of Angles

- 6.1: Angle Measure
- 6.2: Trigonometry of Right Angles
- 6.3: Trigonometric Functions of Angles
- 6.4: The Law of Sines
- 6.5: The Law of Cosines

Chapter 5: Trigonometric Functions of Real Numbers

- 5.1: The Unit Circle
- 5.2: Trigonometric Functions of Real Numbers
- 5.3: Trigonometric Graphs
- 5.5: Modeling Harmonic Motion

Chapter 7: Analytic Trigonometry

- 7.1: Trigonometric Identities
- 7.2: Addition and Subtraction Formulas
- 7.4: Inverse Trigonometric Functions
- 7.5: Trigonometric Equations

Chapter 8: Polar Coordinates and Vectors

- 8.1: Polar Coordinates
- 8.3: Polar Form of Complex Numbers; DeMoivre's Theorem
- 8.4: Vectors
- 8.5: The Dot Product

Selected Topics from Chapters 9-12 (time permitting)