MATH 107 - Precalculus

4 credits
Instructor: Tracy Chisholm

Course Description: This course covers the following topics:

- Equations and Inequalities
- Polynomial and Rational Functions
- Exponential and Logarithmic Functions
- Trigonometric Functions
- Trigonometric Identities, Inverse Functions and Equations
- Applications of Trigonometry
- Analytic Geometry

Prerequisite: MATH 103 College Algebra, placement by math placement test or instructor approval.

Course Objectives: The student will be introduced to the topics above which require certain techniques for solutions. We will develop ideas and methods for applying these techniques leading to a solution or resolution of the question. During the course the application of the graphics calculator will be emphasized.

Class Schedule: MTWRF 7:45am - 8:35am
We will meet 5 days a week for the first 8 weeks, then 3 days a week (MWF) the second 8 weeks.

Monday	Tuesday	Wednesday	Thursday	Friday
Thatcher 2212	Thatcher 2212	Thatcher 2212	Thatcher 2212	Thatcher 2212
10:59am-11:44am	10:59am-11:44am	10:59am-11:44am	10:59am-11:44am	10:59am-11:44am

Instructor: Tracy Chisholm

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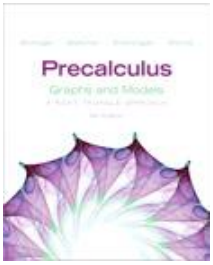
Office Hours: Mon-Fri 3-4pm and Thursday 2-4pm or by appointment

Tentative Course Outline:

Chapter	*Topics*	*Timeline*
Chapter 1 – Graphs, Functions & Models	Review	Week 1
Chapter 2 – More on Functions	Review	Week 1
Chapter 3 – Quadratic Functions and Equations; Inequalities	Review	Week 1
Chapter 4 – Polynomial Functions and Rational Functions	Review	Week 2
Chapter 5 – Exponential Functions and Logarithmic Functions	• Inverse Functions • Exponential Functions and Graphs • Logarithmic Functions and Graphs • Properties of Logarithmic Functions • Solving Exponential Equations and Logarithmic Equations • Applications and Models	Week 2-4
Chapter 6 – The Trigonometric Functions	• Trigonometric Functions of Acute Angles • Applications of Right Triangles • Trigonometric Functions of Any Angle • Radians, Arc Length, and Angular Speed • Circular Functions: Graphs and Properties • Graphs of Transformed Sine Functions and Cosine Functions	Week 5-7
Chapter 7 – Trigonometric Identities, Invers Functions, and Equations	• Identities: Pythagorean and Sum and Difference • Identities: Cofunction, Double-Angle, and Half-Angle • Proving Trigonometric Identities • Inverses of the Trigonometric Functions • Solving Trigonometric Equations	Week 8-10
Chapter 8 – Applications of Trigonometry	• The Law of Sines • The Law of Cosines • Complex Numbers: Trigonometric Notation • Polar Coordinates and Graphs • Vectors and Applications • Vector Operations	Week 11-13
Chapter 10 – Analytic Geometry Topics	• The Parabola • The Circle and the Ellipse • The Hyperbola • Nonlinear Systems of Equations and Inequalities • Rotation of Axes • Polar Equations of Conics • Parametric Equations	Week 14-16

Required Text: *Precalculus 5th Edition* by Bittinger, Beecher, Ellenbogen & Penna with MyMathLab online learning software; Pearson publishing



MyMathLab Learning Software Website: www.mymathlab.com

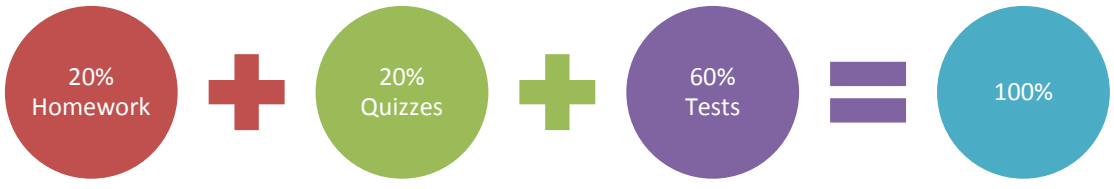
Course Requirements:

The sequential nature of mathematics deems it necessary for students to attend class on a regular basis, therefore one of the course requirements is regular attendance. Learning math is an investment of time. Math is learned best by practice, reflect, and practice some more. Understanding the examples provided by the instructor and textbook is a good first step. However, to truly know the material, you should be able to look at a problem, know how to proceed, and carry out the steps WITHOUT ASSISTANCE. The independent practice and graded homework provide opportunities for you to get to that point. Passing grades on quizzes and tests demonstrate that you have indeed learned the skills taught.

Homework Assignments: These are graded assignments that can be done multiple times. Only the highest score will be used. These assignments close at 11:59 PM, Central Daylight Time on the night before the corresponding chapter test. Do the work well in advance. If the assignment is done after the posted due date, 30% will be deducted from your score.

Quizzes: Quizzes will be given periodically. These may be announced or unannounced. Only announced quizzes can be made up. You will be deducted 10% for each day it is late up to two days. You cannot make it up after that point.

Tests: Six graded tests are administered over the semester. Students are allowed one attempt on each test. Tests must be taken on the day they are given or previous arrangements must be made prior to the test day. If arrangements are not made and you miss a test, you will receive a 0.



A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%

General Education Goals/Objectives:

- Goal 2: Demonstrates knowledge and application of technology.
    - Objective 2: Uses electronic resources for course related assignments and information
        - Skill 1: Selects appropriate program on the graphing calculator to solve problems

- Goal 3: Demonstrates the ability to convert, calculate, and analyze a variety of mathematical problems
    - Objective 1: Utilizes mathematical equations to solve problems
        - Skill1: Solves equations and problems using the appropriate method
    - Objective 2: Applies practical application of mathematics to everyday life
        - Skill3: Solves word problems

Relationship to Campus Theme: The student will use the graphing calculator to model application problems in nature, economics, science, psychology, etc. Communication with others will be emphasized.

Classroom Policies: Please refrain from any behavior that would disrupt the class. Cell phones can only be used in emergency situations and they must be turned to vibrate. The academic environment is an open and harassment free environment. Participation is encouraged.

- Regular participation is expected.
- Learning activities and evaluation will occur in the MyMathLab learning system and requires Internet connectivity.

Academic Integrity: The academic community is operated on the basis of honesty, integrity and fair play. It is the expectation that all students, as members of the college community, adhere to the highest levels of academic integrity. This means that:

- Students are responsible for submitting their own work. Student work must not be plagiarized.
- Students must not cooperate on oral or written examinations or work together on evaluated assignments without authorization.
- If there is evidence of cheating on an exam the student will receive an F on the respective exam.

Disabilities and Special Needs: If you have a disability for which you need accommodation, contact the Learning Center to request disability support services: phone 701-228-5477 or toll-free 1-888-918-5623.