



## Math 1113 – Precalculus

### Master Syllabus and Course Content

#### Course Description:

Credit Hours: 3-0-3.

This course is an intensive study of the basic functions needed for the study of calculus. Topics include algebraic, functional, and graphical techniques for solving problems with algebraic, exponential, logarithmic, and trigonometric functions and their inverses.

Prerequisite: MATH 1111 – College Algebra with a grade of C or better or satisfactory placement scores.

#### Course Learning Objectives:

- Differentiate between types of functions and their properties (such as rational, exponential, logarithmic, and trigonometric functions)
- Interpret the structure and content of the unit circle
- Relate trigonometric functions to their graphs and transformations
- Justify trigonometric identities
- Use appropriate models and techniques to solve applications

#### Topics Covered

- Rational Functions
- Exponential Functions
- Logarithmic Functions
- Trigonometric Functions
  - Right Triangle Perspective
  - Unit Circle Perspective
  - Graphs
- Inverse Trigonometric Functions
- Trigonometric Identities
- Trigonometric Equations
- Law of Sines
- Law of Cosines
- Polar Coordinates



## Course Materials

### Textbook:

Blitzer, R. (2018). *Precalculus* (6<sup>th</sup> ed.). United States, NJ: Pearson.

### Technology:

- MyMathLab: <https://www.mymathlab.com>
- TI-83, TI-84, or equivalent graphing calculator is required.

## Textbook Sections<sup>1</sup>

### Precalculus – Blitzer

*Chapter 2 – Polynomial and Rational Functions*

2.6 Rational Functions

*Chapter 3 – Exponential and Logarithmic Functions*

3.1 Exponential Functions

3.2 Logarithmic Functions

3.3 Properties of Logarithms

3.4 Exponential and Logarithmic Equations

*Chapter 4 – Trigonometric Functions*

4.1 Angles and Radian Measure

4.2 Trigonometric Functions: The Unit Circle

4.3 Right Triangle Trigonometry

4.4 Trigonometric Functions of Any Angle

4.5 Graphs of Sine and Cosine Functions

4.6 Graphs of Other Trigonometric Functions

4.7 Inverse Trigonometric Functions

*Chapter 5 – Analytic Trigonometry*

5.1 Verifying Trigonometric Functions

5.2 Sum and Difference Formulas

5.3 Double-Angle, Power-Reducing, and Half-Angle Formulas (Omit Half-Angle)

5.5 Trigonometric Functions

*Chapter 6 – Additional Topics in Trigonometry*

6.1 Law of Sines

6.2 Law of Cosines

6.3 Polar Coordinates

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<sup>1</sup> A suggested schedule is provided at the end of this syllabus.



## Required Syllabus Content

### Important College Dates

Please see the appropriate academic [calendar](#) on the Georgia Highlands Website.

### Required College Policies

Please see the Center for Excellence in Teaching and Learning's faculty resources for the [required syllabus statements and policies](#).

## Suggested Pearson/MyMathLab Pacing Guide

Week 1	Day 1	Cover the Syllabus	Day 2	Cover 4.1 Angles and Radian Measure
Week 2	Day 3	Cover 4.2 Trigonometric Functions: The Unit Circle	Day 4	Cover 4.3 Right Triangle Trigonometry
Week 3	Day 5	Cover 4.4 Trigonometric Functions of Any Angle	Day 6	Cover 4.5 Graphs of Sine and Cosine Functions
Week 4	Day 7	Cover 4.6 Graphs of Other Trigonometric Functions	Day 8	Review Day or Catch Up Day
Week 5	Day 9	<b>Exam 1</b>	Day 10	Cover 4.7 Inverse Trigonometric Functions
Week 6	Day 11	Cover 5.1 Verifying Trigonometric Functions	Day 12	Cover 5.2 Sum and Difference Formulas
Week 7	Day 13	Cover 5.3 Double-Angle, Power-Reducing, and Half-Angle Formulas (Omit Half-Angle)	Day 14	Cover 5.5 Trigonometric Functions
Week 8	Day 15	Cover 5.5 Trigonometric Functions	Day 16	Review Day or Catch Up Day
Week 9	Day 17	<b>Exam 2</b>	Day 18	Cover 6.1 Law of Sines
Week 10	Day 19	Cover 6.2 Law of Cosines	Day 20	Cover 6.3 Polar Coordinates
Week 11	Day 21	Review Day or Catch Up Day	Day 22	<b>Exam 3</b>
Week 12	Day 23	Cover 2.6 Rational Functions	Day 24	Cover 3.1 Exponential Functions
Week 13	Day 25	Cover 3.2 Logarithmic Functions	Day 26	Cover 3.3 Properties of Logarithms
Week 14	Day 27	Cover 3.4 Exponential and Logarithmic Equations	Day 28	Review Day or Catch Up Day
Week 15	Day 29	<b>Exam 4</b>	Day 30	Final Exam Review Day or Catch Up Day

This guide is only a suggestion. No matter the order, please be sure to cover all of the required material.