

Math 1113/057- FALL 2017

Precalculus

Instructor: Dr. Nicolae R. Pascu
Office: D205, Phone: (470) 578-4989
E-mail: npascu@kennesaw.edu



TEXTBOOK: *Precalculus, Graphs and Models*, Bittinger, Beecher, Ellenbogen, and Penna, 6th Edition.

MEETING TIMES/LOCATION: TuTh 11:00-12:15 / D113

Goals: Upon completing this course students should be able to:

Upon completing this course students should be able to:

1. Students will understand the concept of functions and will be able to perform operations with functions algebraically, graphically, and analytically.
2. Students will recognize characteristics of linear and quadratic equations and functions analytically and graphically.
3. Students will learn the basic properties and graphs of elementary functions and will use transformations to graph functions.
4. Students will understand the concept of inverse functions and will be able to perform inverse operations with some elementary functions, as well as exponential, logarithmic, and trigonometric functions.
5. Students will work with exponential and logarithmic functions analytically and graphically and will see some applications.
6. Students will solve exponential and logarithmic equations.
7. Students will understand trigonometric functions in terms of both the right triangle definition and the circular definition.
8. Students will study basic properties and graphs of trigonometric functions and transformed trigonometric functions.
9. Students will understand the development of the trigonometric identities and will manipulate trigonometric functions including simplifying trigonometric expressions and verifying trigonometric identities.
10. Students will be able to solve trigonometric equations.

OFFICE HOURS: MW 11:00 - 12:00, or by appointment.

.PREREQUISITE: Completion of Math 0098 with a grade of “C” or better OR Successful completion of all Learning Support Mathematics requirements. A grade of C or better is required for course credit, and is a prerequisite for MATH 1190 - Calculus I, and MATH 1160 - Elementary Applied Calculus.

COURSE DESCRIPTION: 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.

CLASS ATTENDANCE: I strongly suggest the attendance to class. If you miss a class, it is your responsibility to find out what has been taught in that lesson and to learn this material. Active participation is necessary if you wish to do well in this course.

HOMEWORK: For each section, there will be a minimum number of problems, which I strongly suggest to be done by the next class meeting. Homework sets will not be collected. In addition, occasionally we might have a short quiz/project (10-15 minutes -please see the course outline). Do not forget: the only way **TO LEARN** math is **TO DO** math.

COURSE POLICY: There will three in-class tests tentatively scheduled for September 7th, October 5th and November 2nd respectively. The final exam is cumulative,(the date/time will be announced later in class). There will be NO MAKE-UP quizzes, exams. Should there be a special circumstance giving you a valid reason for a makeup exam (such as a medical emergency), let me know in advance of this situation by sending me an email (npascu@spsu.edu) BEFORE the exam takes place.

CALCULATOR: The TI-83 calculator is the only calculator that *may* be allowed for *some* exams. A calculator policy will be given for each exam.

Evaluation: There will be SIX SHORT QUIZZES, THREE ONE-HOUR TESTS and a MANDATORY TWO-HOUR COMPREHENSIVE FINAL EXAM Input into semester grades will be as follows:

- 20% Exam 1
- 20% Exam 2
- 20% Exam 3
- 20% Final Exam
- 20% other activities: homework, quizzes, and projects.

The scale for converting your score to letter grades is the usual one (90% or more is an A, 80-89% is a B, 70-79% is a C, 60 - 69% is a D, below 60% is a F).

EPECTATIONS: I expect you to read the textbook (solved examples, especially). The only way to get through this course is to work constantly. This includes doing your homework exercises and going over the notes, and textbook. The only way to know math is to practice. This is the only "secret".

IMPORTANT DATES: Labor Day Holiday September 2nd - 4th / The last day to withdraw from class with a grade of "W" is October 4th/ Thanksgiving Holiday November 20th - 26th/ Last day of classes December 4th.

STUDENTS WITH DISABILITIES: Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the counselor working with disabilities at (678) 915-7244 as soon as possible to better ensure that such accommodations are implemented in a timely fashion. Written verification from the KSU Student Disability Services (http://www.kennesaw.edu/stu_dev/dsss/welcome.html) is required.

HONESTY: KSU has an Honor Code and a procedure for handling cases when academic misconduct is alleged. All students should be aware of them. Information about the Honor Code and the misconduct procedure may be found at <https://web.kennesaw.edu/scail/content/ksu-student-code-conduct>.

NOTE: The pace may vary, so the following is a weekly rather than daily outline.

MATH 1113 PRECALCULUS
TENTATIVE COURSE COVERAGE

WEEK	SECTIONS/TOPICS
Aug 15 th -Aug 17 th	1.2 Functions and Graphs 1.3 Linear Functions, Slope, and Applications 1.4 Equations of Lines and Modeling
Aug 22 nd -Aug 24 th	1.5 Linear Equations, Functions, Zeros, and Applications 2.1 Increasing, Decreasing, and Piecewise Functions; Applications 2.2 The Algebra of Functions Quiz 1 (on sections 1.2 and 2.1)
Aug 29 th -Aug 31 st	2.3 The Composition of Functions 2.4 Symmetry 2.5 Transformations
Sep 5 th -Sep 7 th Labor Day September 2-4	2.6 Variation and Applications Review for Exam I Exam 1
Sep 11 th -Sep 14 th	3.2 Quadratic Equations, Functions, Zeros and Models 3.3 Analyzing Graphs of Quadratic Functions Quiz 2 (on sections 3.2 and 3.3)
Sep 19 th -Sep 21 st	5.1 Inverse Functions 5.2 Exponential Functions and Graphs

	Quiz 3 (on sections 5.1, 5.2) 5.3 Logarithmic Functions and Graphs
Sep 26 th -Sep 28 th	5.4 Properties of Logarithmic Functions 5.5 Solving Exponential and Logarithmic Equations
Oct 3 rd -Oct 5 th	6.1 Trigonometric Functions of Acute Angles Review for Exam 2 Exam 2
Oct 10 th -Oct 12 th	6.2 Applications of Right Triangles Quiz 4 (on sections 6.1 and 6.2) 6.3 Trigonometric Functions of Any Angle 6.4 Radians, Arc Length, and Angular Speed
Oct 17 th -Oct 19 th	6.5 Circular Functions: Graphs and Properties 6.6 Graphs of Transformed Sine and Cosine Functions
Oct 24 th - Oct 26 th	7.1 Identities: Pythagorean and Sum and Difference 7.2 Identities: Co-function, Double-Angle, and Half-Angle Quiz 5 (on sections 7.1 and 7.2)
Oct 31 st -Nov 2 nd	7.3 Proving Trigonometric Identities Review for Exam 3 Exam 3
Nov 7 th -Nov 9 th	7.4 Inverses of the Trigonometric Functions Quiz 6 (on sections 7.3 and 7.4)
Nov 14 th – Nov 16 th	7.5 Solving Trigonometric Equations
Nov 28 nd – Nov 30 th	Review for Final Examination FINAL EXAM
Thanksgiving Nov 20 th – Nov 26 th	