MATH 1300—Pre-Calculus QV
Four Semester Hours 12/13

PREREQUISITES:

University Requisite: (C or better in MATH 1200 or MATH 1321) or math placement level 2 or higher WARNING: No credit for both this course and MATH 1322 (first course taken deducted)

COURSE OVERVIEW:

Graphs, inverses, and operations of functions. Study of polynomial, rational, exponential, logarithmic, and trigonometric functions. Additional topics from trigonometry and analytic geometry. Recommended only for students intending to enroll in MATH 2301.

METHODS OF COURSE INSTRUCTION:

All material for this course is print-based. Instructor and students communicate and exchange materials through postal mail.

E-PRINT OPTION:

In this course, an option exists to use e-mail to submit your lesson assignments. Your assignment will be returned to you either as an e-mail attachment or as a hard copy sent through the postal mail, depending on the preferences of the instructor and/or program.

TEXTBOOKS AND SUPPLIES:

Faires, J. Douglas and James DeFranza. *Pre-Calculus.* 5th ed.
[ISBN: 9780840068620]

Note: The use of calculators has become a standard part of the pre-calculus and calculus experience, and we recognize and value the contributions to understanding that a properly used calculator can bring. With this in mind, we encourage the use of calculators and related technology as a means to attain understanding of the material. However, the use of calculators will not be permitted on the midcourse or final exams for the course.

NUMBER OF LESSONS:

The course has 12 lessons, including one midcourse examination and a final examination. The topics include:

- Lesson 1: The Real Line, Coordinate Plane, Functions, Graphs, and Linear Functions
- Lesson 2: Quadratic Functions, Other Common Functions, and Arithmetic Combinations of Functions
- Lesson 3: Composition of Functions, Inverse Functions, and Polynomials
- Lesson 4: Polynomial Functions, Zeros, and Factors of Polynomial Functions, and Rational Functions
- Lesson 5: Horizontal and Vertical Translations (Revisited)
- Lesson 6: Midcourse Examination

- Lesson 7: Measuring Angles, the Sine and Cosine Functions and Their Graph, and Other Trigonometric Functions
- Lesson 8: Trigonometric Identities, Inverse Trigonometric Functions, and Applications of Trigonometric Functions
- Lesson 9: Exponential Functions
- Lesson 10: Logarithmic Functions and Exponential Growth and Decay
- Lesson 11: Parabolas, Ellipses, and Hyperbolas
- Lesson 12: Final Examination

TYPES OF WRITING ASSIGNMENTS:

Each lesson contains one or more reading assignments and a writing assignment that you are to submit for my evaluation. Each writing assignment will ask you to solve 20–30 problems from the textbook. These problems should be worked in detail (showing all your work), so that I can follow your line of reasoning in the solution of the problem and can comment on the solution.

GRADING CRITERIA:

Your final grade will be determined by your grades on the submitted writing assignments and the two examinations, as follows:

Submitted Assignments	=	30%
Midcourse Examination	=	35%
Final Examination	=	35%
Total	=	100%