

MATH 115 Pre-Calculus Algebra I (Stretch)

1. Catalog Description

MATH 115 Pre-Calculus Algebra I (3)

For Math 115 and 117: GE B1

Precalculus topics with built-in review of basic algebra skills necessary to be successful in pre-calculus delivered in a 'just in time' format (required registration in the corequisite **MATH 95**). MATH 115 and MATH 117 are equivalent to MATH 118, but are taught at a slower pace. Upon completion of MATH 115 and MATH 117, a student will receive 4 units of GE credit for Area B1. 3 unit for baccalaureate credit. 3 lectures. **MATH 115** Prerequisite: Appropriate placement score. MATH 117 prerequisite: MATH 115 OR 116 with a grade of C- or better or consent of instructor. **Corequisite: MATH 95**

2. Required Background or Experience

The ability to perform routine arithmetical operations with accuracy and confidence, and an appropriate placement score.

3. Learning Objectives

The student should be able to:

- a. Understand and use the skills of algebra.
- b. Use and understand the language and notation of the algebra of functions.
- c. Use and understand the basic algebraic principles of graphing.
- d. Solve linear and quadratic equations and inequalities.
- e. Perform arithmetic operations with complex numbers

4. Text and References

For students:

Assessment and Learning in Knowledge Spaces (ALEKS) Online Program

ALEKS Online Support

Course pack

For instructors:

ALEKS Online Training Center: http://www.aleks.com/highered/math/training_center

ALEKS Instructor User Guides: http://www.aleks.com/highered/math/user_guides

Course pack

5. Minimum Student Materials

Paper, pencils, and notebook.

6. Minimum University Facilities

Classroom with ample chalkboard or white board space for demonstration and class use.
Computer laboratory (for the activity time).

7. Content and Method

Content

Real numbers and linear equations

Linear and quadratic equations and inequalities

Functions and graphs

Complex numbers

Exponents and polynomials

Radicals and quadratic equations

Graphing polynomial functions

Method

ALEKS (Assessment and LEarning in Knowledge Spaces), an internet-based software program, will help guide student learning. ALEKS diagnostic assessments determine which concepts within the course topics a student needs to master. Students receive explanations of the concepts and work practice problems with feedback to facilitate learning. Online homework assignments and additional ALEKS assessments are administered to measure understanding and mastery.

Classes will incorporate lecture and class discussion based on the course pack. Students are encouraged to seek tutorial assistance.

8. Methods of Assessment

Students will be assessed via homework, ALEKS knowledge checks, timely completion of intermediate course objectives, and scheduled in-class exams.