

Course Proposal Format

Details

- a. Course Title: Basic Algebra II
- b. Sponsor(s): Ron Czocho, Tonya Davenport, James Poinsett, Jay Schiffman, and the Mathematics Department
- c. Credit Hours: 2 SH
- d. Course Level: Developmental (09* level)
- e. Prerequisites: Basic Algebra I or a score of between 56 and 71 on Accuplacer (or other comparable placement test) This course, **in conjunction with BA I**, will replace the 3 SH developmental course entitled Basic Algebra and the 3 SH Intermediate Algebra. It will be the second of a two course sequence for all students.
- f. Suggested time and scale of implementation. Beginning Fall 2008 and continuing every subsequent semester.

Curricular Effect

Include a description of how the course implementation will affect other department, college, and university.

- Offerings – This course will replace the 3 SH developmental course entitled Basic Algebra and the 3 SH Intermediate Algebra. It will be the second of a two course sequence for all students.
- Adequacy of the present staff, resources, space needs, and any other additional requirements for implementation. This will be part of a sequence that will replace Basic Algebra and Intermediate Algebra. The sequence of Basic Algebra I and II should have no more of a demand on resources than the current Basic Algebra course. The current resources for Basic Algebra are inadequate. Currently the Basic Algebra course at the Glassboro campus has one instructor and one half-time graduate assistant. In the recent past there was one instructor, one full-time graduate assistant, one half-time graduate assistant, and some work-study help. While the resources have been reduced, the demand has climbed. The space assigned for the class and tutoring sessions is also inadequate.
- Recommended Library Resources: No library resources will be needed for this course.

Rationale

Currently students majoring in any discipline at the university who are deficient in basic skills as determined by the Accuplacer Instrument are required to enroll in Basic Algebra for 3 non-degree credits and subsequently are strongly advised to select Intermediate Algebra if their major dictates the need for College Algebra, Precalculus or beyond. Many of our students avoid Intermediate Algebra either by choice or due to poor advisement. Currently Intermediate Algebra provides 3 elective credits that do not

satisfy general education requirements as a mathematics course. We have reviewed the topics covered in the current sequence of Basic Algebra, Intermediate Algebra, and College Algebra (or Precalculus) and based upon this review, we can confidently state that there is enough overlap of content for this redesign of Basic Algebra. Most of the ideas in Intermediate algebra will be folded into Basic Algebra II with the remainder being covered in College Algebra. The new arrangement will provide a better transition from Basic Algebra to College Algebra or Precalculus. It will move the material from Intermediate Algebra into developmental math where it belongs and the modular form of the courses will lead to better placement for students. We hence desire to split Basic Algebra and Intermediate Algebra into two 2 credit modules called Basic Algebra I and Basic Algebra II.

Essence of the Course

- a. Objectives of the course in relation to student outcomes. After completing this course, students will be able:
 - To graph linear functions and state the domain and range
 - To solve problems involving systems of linear equations
 - To use set notation and absolute value with inequalities
 - To use rational exponents in describing radical expressions
 - Graph and find roots for quadratic functions
- b. Topical Outline/Content (This may be replaced by attaching a syllabus or by indicating that the objectives are specific and reflect the exact content).

Basic Algebra II

Topical Outline/Content

1. Review of Rational Equations
 - a. Solving Rational Equations and Applications
 - b. Complex Rational Expressions.
2. Graphs, Functions and Applications
 - a. Functions and their graphs
 - b. Domain and Range
 - c. Graphing linear functions
3. Systems of Equations
 - a. Systems of linear equations in two variables
 - b. Solving systems of equations
 - c. Using graphing calculator with systems
4. Inequalities and Absolute value
 - a. Inequalities and interval notation
 - b. Set notation and operations
 - c. Absolute-value equations and inequalities