Washtenaw Community College Comprehensive Report

MTH 176 College Algebra
Proposed start term: Fall 2010

Course Cover

Division: Math, Natural and Behavioral Sciences
Department: Mathematics
Discipline: Mathematics
Course Number: 176
Org Number: 12200
Full Course Title: College Algebra
Transcript Title: College Algebra
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Three Year Review / Assessment Report, Course Change
Change Information:
Course description
Objectives/Evaluation
Rationale: Adding some content in order to minimize overlap with math 169.
Proposed Start: Fall 2010

Course Description: This course provides the necessary background for pre-calculus. Topics include graphs of functions including transformations, function composition, variation, polynomial functions of degree two and higher, polynomial and synthetic division, roots of polynomials, complex numbers, rational functions and equations, non-linear equations and inequalities, inverse functions, exponential functions equations and models, logarithmic functions equations and models, and applications. A graphing calculator is required for this course. See the time schedule for the current brand and model. This course was formerly MTH 179.

Course Credit Hours

Variable hours: No
Credits: 4
Lecture Hours: Instructor: 60 **Student:** 60
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0
Other: Instructor: 0 **Student:** 0
Total Contact Hours: Instructor: Student:
Repeatable for Credit: NO
Grading Methods: Letter Grades
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

Requisites

Prerequisite
Academic Reading and Writing Levels of 6; Academic Math Level 4.

General Education

Degree Attributes
AP3 - Assoc in Applied Sci - Area 3
AS3 - Assoc in Science - Area 3
AA3 - Assoc in Arts - Area 3

Lv logged 3/1/10 sfv

MASM - MACRAO Math & Science

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Solve equations and inequalities.
   Assessment 1
   Assessment Tool: Common departmental exam questions for all outcomes given to all students and scored for a random sampling of students with a written report and analysis of results every three years.
   Assessment Date: Fall 2008
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: Number of students to be assessed is 100
   How the assessment will be scored: Common exam questions will be collected and scored for all students by a subcommittee of the full time faculty
   Standard of success to be used for this assessment: 70% of students who earned a transferable grade must score at least 70% on the common exam questions.
   Who will score and analyze the data: A subcommittee of the full time math faculty.

2. Graph equations and inequalities.
   Assessment 1
   Assessment Tool: Common departmental exam questions for all outcomes given to all students and scored for a random sampling of students with a written report and analysis of results every three years.
   Assessment Date: Fall 2008
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: Number of students to be assessed is 100
   How the assessment will be scored: Common exam questions will be collected and scored for all students by a subcommittee of the full time faculty.
   Standard of success to be used for this assessment: 70% of students who earn a transferable grade must score at least 70% on the common exam questions.
   Who will score and analyze the data: A subcommittee of the full time math faculty.

3. Perform functional operations.
   Assessment 1
   Assessment Tool: Common departmental exam questions for all outcomes given to all students and scored for a random sampling of students with a written report and analysis of results every three years.
   Assessment Date: Fall 2008
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: Number of students to be assessed is 100
   How the assessment will be scored: Common exam questions will be collected and scored for all students by a subcommittee of the full time faculty
   Standard of success to be used for this assessment: 70% of students who earn a transferable grade must score at least 70% on the common exam questions.
   Who will score and analyze the data: A subcommittee of the full time math faculty.

4. Translate and solve applications.
   Assessment 1
   Assessment Tool: Common departmental exam questions for all outcomes given to all students

and scored for a random sampling of students with a written report and analysis of results every three years.
Assessment Date: Fall 2008
Assessment Cycle: Every Three Years
Course section(s)/other population: All sections
Number students to be assessed: Number of students to be assessed is 100
How the assessment will be scored: Common exam questions will be collected and scored for all students by a subcommittee of the full time faculty.
Standard of success to be used for this assessment: 70% of students who earn a transferable grade must score at least 70% on the common exam questions.
Who will score and analyze the data: A subcommittee of the full time math faculty.

Course Objectives

1. Solve radical, polynomial, rational, absolute value, logarithmic, and exponential equations, and applications.
   Methods of Evaluation
   Matched Outcomes
   1. Solve equations and inequalities.
   3. Perform functional operations.

2. Solve non-linear, quadratic, and absolute value inequalities.
   Methods of Evaluation
   Exams/Tests
   Matched Outcomes
   1. Solve equations and inequalities.

3. Graph functions, non-linear inequalities, absolute value, rational, radical, exponential, logarithmic, and polynomial equations.
   Methods of Evaluation
   Exams/Tests
   Matched Outcomes
   2. Graph equations and inequalities.

4. Add, subtract, multiply and divide polynomials.
   Methods of Evaluation
   Exams/Tests
   Matched Outcomes
   3. Perform functional operations.

5. Determine the inverse of a function.
   Methods of Evaluation
   Exams/Tests
   Matched Outcomes
   2. Graph equations and inequalities.
   3. Perform functional operations.

6. Transform functions.
   Methods of Evaluation
   Exams/Tests
   Matched Outcomes
   2. Graph equations and inequalities.
   3. Perform functional operations.

7. Compose functions.

Methods of Evaluation
Exams/Tests
Matched Outcomes
3. Perform functional operations.
4. Translate and solve applications.

8. Interpret, solve and check application problems involving the above stated objectives.
Methods of Evaluation
Exams/Tests
Matched Outcomes
1. Solve equations and inequalities.
2. Graph equations and inequalities.
3. Perform functional operations.
4. Translate and solve applications.

New Resources for Course

Course Textbooks/Resources

Textbooks
Larson/Hostetlar. *Precalculus with limits*, ed. Cengage, 2010
Manuals
Periodicals
Software
Other

Equipment/Facilities

Level I classroom
Data projector/computer