

Washtenaw Community College Comprehensive Report

MTH 181 Mathematical Analysis I

Effective Term: Fall 2012

Course Cover

Division: Math, Science and Health

Department: Mathematics

Discipline: Mathematics

Course Number: 181

Org Number: 12200

Full Course Title: Mathematical Analysis I

Transcript Title: Math Analysis I

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

Change Information:

Consultation with all departments affected by this course is required.

Pre-requisite, co-requisite, or enrollment restrictions

Outcomes/Assessment

Objectives/Evaluation

Rationale: Three-year syllabus review.

Proposed Start Semester: Fall 2012

Course Description: This course teaches the methods and applications of finite mathematics applied to social science and business. Topics covered include solutions to linear equations and inequalities, mathematics of finance, matrices, linear programming, sets, probability and statistics. A graphing calculator is required for this course. See the time schedule for current brand and model.

Course Credit Hours

Variable hours: No

Credits: 4

Lecture Hours: Instructor: 60 Student: 60

Lab: Instructor: 0 Student: 0

Clinical: Instructor: 0 Student: 0

Total Contact Hours: Instructor: 60 Student: 60

Repeatable for Credit: NO

Grading Methods: Letter Grades

Audit

Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Level 4

Requisites

General Education

Degree Attributes

Assoc in Applied Sci - Area 3

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Use mathematical tools of linear equations, system of linear equations and linear programming in a business application.

Assessment 1

Assessment Tool: Common final exam questions

Assessment Date: Fall 2012

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All students

How the assessment will be scored: Departmental rubric

Standard of success to be used for this assessment: 70% of students must meet 70% of all learning outcomes.

Who will score and analyze the data: Members of the math department

2. Use the mathematical tools of sets, counting, probability, and descriptive statistics in business applications.

Assessment 1

Assessment Tool: Common final exam questions

Assessment Date: Fall 2012

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All students

How the assessment will be scored: Departmental rubric

Standard of success to be used for this assessment: 70% of students must meet 70% of all learning outcomes.

Who will score and analyze the data: Members of the math department

3. Apply basic financial models.

Assessment 1

Assessment Tool: Common final exam questions

Assessment Date: Fall 2012

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All students

How the assessment will be scored: Departmental rubric

Standard of success to be used for this assessment: 70% of students must meet 70% of all learning outcomes.

Who will score and analyze the data: Members of the math department

Course Objectives

1. Graph equations.

Matched Outcomes

1. Use mathematical tools of linear equations, system of linear equations and linear programming in a business application.

2. Derive linear equations from graphs.

Matched Outcomes

1. Use mathematical tools of linear equations, system of linear equations and linear programming in a business application.

3. Perform a linear regression on a data set using a graphing calculator. Determine the

regression equation, graph the points and the linear regression equation. Prepare an appropriate analysis of the derived model.

Matched Outcomes

1. Use mathematical tools of linear equations, system of linear equations and linear programming in a business application.
4. Graph, set up and solve a linear programming problem involving two variables.

Matched Outcomes

1. Use mathematical tools of linear equations, system of linear equations and linear programming in a business application.
5. Use rules of sets and counting.

Matched Outcomes

6. Calculate probabilities of compound events using given basic probabilities.

Matched Outcomes

7. Calculate the measures of central tendencies, variance and standard deviation given the appropriate conditions in a textual setting.

Matched Outcomes

8. Solve select financial problems which may include topics such as simple interest, compound interest, annuities, loans and bounds.

Matched Outcomes

3. Apply basic financial models.

New Resources for Course

Course Textbooks/Resources

Textbooks

Waner, S. *Finite Mathematics*, ed. Cengage, 2010

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Testing Center

Data projector/computer

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Michael Quail</i>	<i>Faculty Preparer</i>	<i>Dec 30, 2011</i>
Department Chair/Area Director: <i>Kristin Good</i>	<i>Recommend Approval</i>	<i>Feb 20, 2012</i>
Dean: <i>Martha Showalter</i>	<i>Recommend Approval</i>	<i>Mar 02, 2012</i>
Vice President for Instruction: <i>Stuart Blacklaw</i>	<i>Approve</i>	<i>Apr 11, 2012</i>