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Foundations of Intermediate Algebra

Course Number: MTH 95L

Transcript Title: Foundations of Interm Algebra

Created: Jan 23, 2023

Updated: Jan 23, 2023

Total Credits: 1

Lecture Hours: 0

Lecture / Lab Hours: 0

Lab Hours: 30

Satisfies Cultural Literacy requirement: No

Satisfies General Education requirement: No

Grading Options A-F, P/NP

Default Grading Options A-F

Repeats available for credit: O

Prerequisites

MTH 95 (https://www.cgcc.edu/courses/mth-95)

Course Description

Focuses on the foundational skills, concepts, and communication needed to be successful in MTH 95 Intermediate Algebra. Provides appropriate support in arithmetic, algebra, technology, and study skills in an interactive setting. Co-requisite: MTH 95.

Course Outcomes

Upon successful completion of this course, students will be able to:

- Demonstrate relevant skills to effectively engage with the concepts and skills needed in MTH 95.
- 2. Utilize study habits and learning strategies that promote success in MTH 95.
- Communicate results mathematically and in writing using mathematical vocabulary effectively.
- 4. Develop strategies to solve application problems.

Suggested Outcome Assessment Strategies

The determination of assessment strategies is generally left to the discretion of the instructor. Here are some strategies that you might consider when designing your course: writings (journals, self-reflections, pre writing exercises, essays), quizzes, tests,

midterm and final exams, group projects, presentations (in person, videos, etc), self-assessments, experimentations, lab reports, peer critiques, responses (to texts, podcasts, videos, films, etc), student generated questions, Escape Room, interviews, and/or portfolios.

Course Activities and Design

The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. Here are some strategies that you might consider when designing your course: lecture, small group/forum discussion, flipped classroom, dyads, oral presentation, role play, simulation scenarios, group projects, service learning projects, hands-on lab, peer review/workshops, cooperative learning (jigsaw, fishbowl), inquiry based instruction, differentiated instruction (learning centers), graphic organizers, etc.

Course Content

Outcome #1: Demonstrate relevant skills to effectively engage with the concepts and skills needed in MTH 95.

- Simplifying exponents
- Arithmetic with exponents (add/subtract/multiply/divide)
- Polynomials in several variables
- Factoring polynomials
- Simplifying rational expressions
- Arithmetic of rational expressions
- Operations with radicals

• Rational exponents

Outcome #2: Utilize study habits and learning strategies that promote success in MTH 95.

- Responding to feedback
- Preparing for tests
- Recognizing areas of struggle
- Studying what you need to study
- Recognize when and how to get help
- Persistence and resilience in problem solving

Outcome #3: Communicate results mathematically and in writing

- Function notation
- Set builder notation
- Interval notation
- Radical notation

Outcome #4: Develop strategies to solve application problems

- Defining the problem
- Visualizing the problem
- Drawing a diagram
- Working backwards

Algebraically

Suggested Texts and Materials

College Algebra: A Collection of Activities edition 2 by Melanie Yosko

Department Notes

The first 8 labs in the College Algebra: A Collection of Activities are geared toward MTH 95. The rest of the book will be used in MTH 111.



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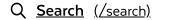
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Foundations of Math in Society

Course Number: MTH 105L

Transcript Title: Foundations of Math in Society

Created: Aug 15, 2022

Updated: Aug 15, 2022

Total Credits: 1

Lecture Hours: 0

Lecture / Lab Hours: 0

Lab Hours: 30

Satisfies Cultural Literacy requirement: No

Satisfies General Education requirement: No

Grading Options A-F, P/NP

Default Grading Options A-F

Repeats available for credit: O

Prerequisites

Corequisite

MTH 105 (/courses/mth-105-0)

Course Description

Focuses on the foundational skills, concepts, and communication needed to be successful in MTH 105 Math in Society. Provides appropriate support in arithmetic skills, algebra skills, technology, and study skills in an interactive setting. Corequisite: MTH 105.

Course Outcomes

Upon successful completion of this course, students will be able to:

- 1. Solve application problems, and communicate and interpret the results in context.
- Demonstrate relevant skills to effectively engage with the concepts and skills needed in MTH 105.
- 3. Utilize study habits and learning strategies that promote success in MTH 105.

Suggested Outcome Assessment Strategies

Quizzes, reflections, lab assessments, projects

Course Activities and Design

The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. Here are some strategies that you might consider when designing your course: lecture, small group/forum discussion, flipped classroom, dyads, oral presentation, role play, simulation scenarios, group projects, service learning projects, hands-on lab, peer review/workshops, cooperative learning (jigsaw, fishbowl), inquiry based instruction, differentiated instruction (learning centers), graphic organizers, etc.

Course Content

Outcome #1: Solve application problems, and communicate and interpret the results in context.

- Functional notation
- Probability notation
- Set notation
- Technology skills, calculator skills
- Mathematical vocabulary
- Communicating mathematics
- Interpreting results and judging reasonableness of results
- Problem solving strategies
- Arithmetic of fractions, decimals, percentages, signed integers, exponents, roots
- Order of operations
- Rounding

- Estimation
- Evaluating formulas
- Solving equations in one variable
- Solving formulas for a variable
- Geometry, area, volume, units of measurement
- Graphing
- Logic concepts and notation

Outcome #2: Demonstrate relevant skills to effectively engage with the concepts and skills needed in MTH 105.

- Functional notation
- Probability notation
- Set notation
- Technology skills, calculator skills
- Mathematical vocabulary
- Communicating mathematics
- Interpreting results and judging reasonableness of results
- Problem solving strategies
- Arithmetic of fractions, decimals, percentages, signed integers, exponents, roots
- Order of operations
- Rounding
- Estimation

- Evaluating formulas
- Solving equations in one variable
- Solving formulas for a variable
- · Geometry, area, volume, units of measurement
- Graphing
- Logic concepts and notation

Outcome #3: Utilize study habits and learning strategies that promote success in MTH 105.

- Responding to feedback
- Preparing for tests
- Recognizing areas of struggle
- Studying what you need to study
- Recognizing when and how to get help
- Persistence and resilience in problem solving

Suggested Texts and Materials

- Math in Society, Lippman
- MyOpenMath software/LMS



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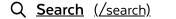
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Foundations of College Algebra

Course Number: MTH 111L

Transcript Title: Foundations of College Algebra

Created: Aug 15, 2022

Updated: Aug 15, 2022

Total Credits: 1

Lecture Hours: 0

Lecture / Lab Hours: 0

Lab Hours: 30

Satisfies Cultural Literacy requirement: No

Satisfies General Education requirement: No

Grading Options A-F, P/NP

Default Grading Options A-F

Repeats available for credit: O

Prerequisites

Corequisites

MTH 111 (/courses/mth-111-0)

Course Description

Focuses on the foundational skills, concepts, and communication needed to be successful in MTH 111College Algebra. Provides appropriate support in algebra, functions, problem solving, graphing, technology, and study skills in an interactive setting. Co-requisite: MTH 111.

Course Outcomes

Upon successful completion of this course, students will be able to:

- Demonstratethe ability to effectively engage with the concepts and skills needed in MTH 111.
- 2. Communicate and interpret results in context.
- 3. Utilize study habits and learning strategies that promote success in MTH 111.

Suggested Outcome Assessment Strategies

Quizzes, reflections, lab assessments, projects

Course Activities and Design

The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. Here are some strategies that you might consider when designing your course: lecture, small group/forum discussion, flipped classroom, dyads, oral presentation, role play, simulation scenarios, group projects, service learning projects, hands-on lab, peer review/workshops, cooperative learning (jigsaw, fishbowl), inquiry based instruction, differentiated instruction (learning centers), graphic organizers, etc.

Course Content

Outcome #1: Demonstrate relevant skills to effectively engage with the concepts and skills needed in MTH 111

- Properties of exponents
- Factoring (with leading coefficient greater than 1)
- Simplifying rational equations
- Solving rational equations
- Graphing linear equations
- Functional notation (including variables that are not x, y)
- Multiple representations of functions tables (vertical and horizontal), graphs,
 equations
- Contextual understanding of functions
- Graphing technology
- Complex number arithmetic

- Subscripts
- Units and unit conversion
- Set notation vs. interval notation
- Domain and range
- Percent increase and decrease
- Reasonableness of solutions
- Curve fitting from data and regression analysis
- The number e
- Rounding

Outcome #2: Communicate and interpret results in context of

- Properties of exponents
- Factoring (with leading coefficient greater than 1)
- Simplifying rational equations
- Solving rational equations
- Graphing linear equations
- Functional notation (including variables that are not x, y)
- Multiple representations of functions tables (vertical and horizontal), graphs,
 equations
- Contextual understanding of functions
- Graphing technology
- Complex number arithmetic

- Subscripts
- Units and unit conversion
- Set notation vs. interval notation
- Domain and range
- Percent increase and decrease
- Reasonableness of solutions
- Curve fitting from data and regression analysis
- The number e
- Rounding

Outcome #3: Utilize study habits and learning strategies that promote success in MTH 111 through student self-assessment

- Time management and scheduling
- Organization for learning and reviewing / portfolios
- Self-reflection and student skill self-assessment
- Reading skills for math
- Effectively using on-line homework systems and Learning Management Systems

Suggested Texts and Materials

- Precalculus: An Investigation of Functions (2nd Ed), David Lippman and Melonie
 Rasmussen
- MyOpenMath software/LMS



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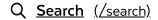
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Foundations of Statistics

Course Number: MTH 243L

Transcript Title: Foundations of Statistics

Created: Aug 15, 2022

Updated: Aug 15, 2022

Total Credits: 1

Lecture Hours: 0

Lecture / Lab Hours: 30

Lab Hours: 0

Satisfies Cultural Literacy requirement: No

Satisfies General Education requirement: No

Grading Options A-F, P/NP

Default Grading Options A-F

Repeats available for credit: O

Prerequisites

Focuses on the foundational skills, concepts, and communication needed to be successful in MTH 243 Statistics I. Provides appropriate support in arithmetic skills, algebra skills, technology, and study skills in an interactive setting. Corequisite: MTH 243.

Course Description

Focuses on the foundational skills, concepts, and communication needed to be successful in MTH 243 Statistics I. Provides appropriate support in arithmetic skills, algebra skills, technology, and study skills in an interactive setting. Corequisite: MTH 243.

Course Outcomes

Upon successful completion of this course, students will be able to:

- Demonstrate relevant skills to effectively engage with the concepts and skills needed in MTH 243.
- 2. Utilize study habits and learning strategies that promote success in MTH 243.
- 3. Analyze, communicate, and interpret results in context.

Suggested Outcome Assessment Strategies

Quizzes, reflections, lab assessments, projects

Course Activities and Design

The determination of teaching strategies used in the delivery of outcomes is generally left to the discretion of the instructor. Here are some strategies that you might consider when designing your course: lecture, small group/forum discussion, flipped classroom, dyads, oral presentation, role play, simulation scenarios, group projects, service learning projects, hands-on lab, peer review/workshops, cooperative learning (jigsaw, fishbowl), inquiry based instruction, differentiated instruction (learning centers), graphic organizers, etc.

Course Content

Outcome #1: Demonstrate relevant skills to effectively engage with the concepts and skills needed in MTH 243.

- Arithmetic Skills
 - · Operations with integers, fractions, and decimals
 - Percentages
 - Order of operations
- Algebra skills
 - Solving equations
 - Simplifying expressions
 - Summation (Sigma) notation
 - Function notation
 - Inequalities
- Cartesian coordinate system

- Scales
- Plotting points
- Slopes and intercepts
- Linear equations
- Interpreting graphs
- Geometry skills
 - Area
 - Measurement
- Logic skills
 - Propositional logic
 - Proof by contradiction
- Technology skills
 - Graphing calculator
 - Statistical programming language

Outcome #2: Utilize study habits and learning strategies that promote success in MTH 243.

- Problem solving skills
 - Reading strategies for comprehension
 - Categorizing information
 - Writing equations: translating words into equations
 - Interpreting results
- Study skills

- Affective domain
- Test taking strategies
- Reading a textbook for comprehension
- Note taking
- Technology skills
 - Graphing calculator
 - Statistical programming language
 - On-line Learning Management Systems (e.g., on-line homework, Moodle)

Outcome #3: Analyze, communicate, and interpret results in context.

- Arithmetic Skills
 - Operations with integers, fractions, and decimals
 - Percentages
 - Order of operations
- Algebra skills
 - Solving equations
 - Simplifying expressions
 - Summation (Sigma) notation
 - Function notation
 - Inequalities
- Cartesian coordinate system
 - Scales

- Plotting points
- Slopes and intercepts
- Linear equations
- Interpreting graphs
- Geometry skills
 - Area
 - Measurement
- Logic skills
 - Propositional logic
 - Proof by contradiction
- Technology skills
 - Graphing calculator
 - Statistical programming language
- Problem solving skills
 - Reading strategies for comprehension
 - Categorizing information
 - Writing equations: translating words into equations
 - Interpreting results

Suggested Texts and Materials

- Introduction to the Practice of Statistics, 7e (free from the CGCC Library)
- MyOpenMath software/LMS



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