

## CMI COURSE CURRICULUM COURSE ACTION

**Course Title:** Intermediate Algebra

**Alpha Number:** Math 098

**CIP No.** 33.0101

**Type of Action:**

New Course (attach narrative justification for course creation)

Substantive Revision (attach narrative justification for changes, including assessment and/or achievement data and feedback from the advisory committee if relevant)

Select all that apply:

Change in number of credit hours

Change in prerequisite

Substantive change in course content

Change to SLOs  Other:

Non-substantive Revision

Select all that apply:

Change in Alpha Number or Title (unless letter abbreviation has not previously been used)

Edit to course description that does not alter the substance of the course


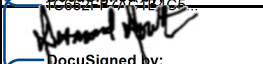
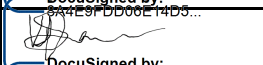

Change to recommended texts

Other: Change in number of contact hours from 64 to 60

Reinstitution of Archived Course (attach narrative justification for reinstitution, including evidence of demand, evidence of capacity, feedback from the advisory committee if relevant, and commentary that speaks directly to the reasons the course was initially archived)

Reaffirmation of Course (only allowable if course completion rate exceeds ISS, the benchmark has been met for the majority of SLO assessments, and there is no evidence of inequitable levels of achievement across subpopulations; attach evidence)

**Approvals:**

	Name	Signature	Date
Department Chair	Edward Alfonso	 DocuSigned by: 639BEB3BDDC23433...	6/6/2024
Curriculum Committee Chair	Desmond Doulatram	 DocuSigned by: 639BEB3BDDC23433...	6/5/2024
Dean	Vasemaca Savu	 DocuSigned by: 639BEB3BDDC23433...	6/5/2024
VPASA	Dr. Elizabeth Switaj	 DocuSigned by: 639BEB3BDDC23433...	6/10/2024

**CMI COURSE OUTLINE****CIP No.** 33.0101**Version No.** 004Math 098Intermediate Algebra**Alpha Number****Course Title****Previous Alpha Number:**

**Course Description:** Strengthens students' understanding of algebraic concepts and problem solving. Topics include systems of linear equations, rational expressions and equations, rational exponents and radicals, and quadratic equations.

**Course originally prepared by:** Michael Corpuz/Dr. Rosalinda Sumaoang STeM March/2010**Most recent revision by:** Edward Alfonso/Waisiki Baleikorocau STeM June/2024**Course mode(s):**  Face to Face (including Zoom)  Hybrid  Distance Education**Credits calculated by:**  Credit Hour  Clock Hour**Contact Hours:** 60

Type	No. of Hours	No. of Credits	Maximum No. of Hours Online
Lecture/Seminar/Workshop	60	4	
Clinical			
Practicum			
Lab			
Fieldwork			
Studio Time			
<b>Total</b>	60	4	

**Purpose(s) of Course:** Degree Requirement \_\_\_\_\_  
 Degree Elective \_\_\_\_\_  
 General Education \_\_\_\_\_  
 Credit Certification \_\_\_\_\_  
 Developmental \_\_\_\_\_  \_\_\_\_\_  
 CTE/TVET \_\_\_\_\_  
 ABE/Adult HS \_\_\_\_\_

**Distribution Area:** Humanities \_\_\_\_\_  
 Social Sciences \_\_\_\_\_  
 Mathematics (Credit) \_\_\_\_\_  
 Science \_\_\_\_\_

**Prerequisite:** Math 088 (Introductory Algebra) or Placement

**Student Learning Outcomes:** Upon completion of this course, students will be able to:

1. Simplify expressions involving polynomials, rational, and radicals.
2. Solve equations involving absolute value, radical, rational, quadratics, and linear systems.
3. Graph linear inequalities with two variables and quadratic equations.
4. Solve application problems involving equations with quadratics, linear systems and rational expressions.

**SLO Mapping:**

Prerequisite Course SLO	Linked SLO from this Course	Explanation
Math 088 SLO 2	1	Skills in utilizing the properties of exponents and performing basic polynomials are prerequisites to simplifying advanced polynomial, rational and radical expressions.
Math 088 SLOs 1 and 4	2	Students' mastery in solving linear equations and quadratic equations is essential to solving other types of equations involving absolute values, radicals, rational and systems of linear equations.
Math 088 SLO 3	3	Basic graphing skills is vital to graphing linear inequalities with two variables and quadratic equations.
Math 088 SLO 5	4	Solving word problems is carried out using the POLYA's four-step. This is introduced in Math 088 and is carried up to the credit level Math.

**Links to Program Learning Outcomes:**

SLO	Linked PLO	I/P/M	Explanation of Link
1	PLO3- Quantitative Problems DEV Algebraic Reasoning	I	Students will be exposed to simplifying polynomials, rational and radical expressions.
2	PLO1-Equations and Inequalities DEV Mathematical Reasoning. DEV Algebraic Reasoning	I	Students will be exposed to solving equations involving absolute value, radicals, rational, quadratics and linear systems using the properties of real numbers and equality as well as the different factoring strategies.
3	PLO2-Graphs DEV Graphic Reasoning	I	Students will be exposed to graphing linear equations in two variables, linear inequalities in two variables and quadratic equations
4	PLO4-Word Problems DEV Solve Word Problems	I	Students will be exposed to solving real-life problems as an application to equations involving quadratics, linear systems and rational expressions using the POLYA's four-step in solving word problems

**Course Content:** Students in this course will be introduced to:

1. Linear equations and inequalities in one variable
2. Systems of linear equations in two variables
3. Linear Inequalities in two variables
4. Factoring
5. Rational expressions and equations
6. Rational exponents and radicals
7. Quadratic function

**Higher Order Thinking Skills: Students in this course will experience:**

- Analyzing the basic elements of an idea, experience, or theory
- Making judgements about the value or soundness of information, arguments, or methods
- Applying theories or concepts to practical problems or in new situations

**Recommended Methods of Instruction**

- Demonstration
- Lecture
- Small group discussion
- Class discussion
- Audio-Visual Aids
- Laboratory
- Supervised Practice
- Field Trips
- Other: Group Work, Online support system such as Moodle, Project and Rich Tasks

**Recommended Assessment Tool Type(s):**

- Case Study
- Critique of Performance
- Exam/Quiz In-Course
- Exam/Quiz Standardized (attach narrative describing development and validation process)
- Focus Group
- Group Project
- Individual Project
- Observation
- Portfolio Review
- Presentation
- Simulation
- Skill Performance
- Supervisor Evaluation
- Survey
- Written Assignment

**Required Forms of Regular and Substantive Interaction for Hybrid or Distance Education Courses (Selected at Least Two):**

- Direct instruction through:
- Live video lectures
  - Live audio-only lectures
  - Live text chats
- Assessing or providing feedback on a student's coursework
- Providing information or responding to questions about the content of a course or competency through:
- Live video discussions
  - Live audio-only discussions
  - Live text chats

- Asynchronous message boards or text chats  
 Facilitating a group discussion regarding the content of a course or competency through:
  - Live video discussions
  - Live audio-only discussions
  - Live text chats
  - Asynchronous message boards or text chats Other, specify:

Note: for distance education courses, if only two are selected, both must occur within the course on a weekly basis. If more than two are selected, the instructor may choose which two are used during each week.

#### **Equipment and Materials:**

1. Recommended texts: Karr M. Rosemary, Massey B. Marilyn, Gustafson R. David. Beginning and Intermediate Algebra (A Guided Approach), 7th Edition. Cengage Learning, 2014. ISBN-13: 978-1435462533
2. Equipment/Facilities: Laptop that supports stylus pen
3. Materials and Supplies: Rulers and graph paper

#### **Connection to College Mission:**

The College of the Marshall Islands will provide our community with access to quality, higher and further educational services, prioritize student success through engagement in relevant Academic, Career and Technical Education, and be a center for the study of Marshallese Culture. It will also provide intellectual resources and facilitate research specific to the needs of the nation. EC approved 4th Nov, 2020. BOR approved 1st December, 2020.

This course provides students the essential tools in understanding the mathematical and scientific concepts that can be used as vital tools to be more critical and analytical thinkers. The course provides better understanding of the scientific reasons for events and phenomena that will better equip the students in their quest for more academic and technical endeavors and the numeracy skills needed for daily living.

#### **Connection to Department Mission:**

The mission of the Science, Technology, and Mathematics (STeM) Department is to provide science, technology and mathematics courses to support academic programs and prepare students seeking careers in marine science or an advanced education in a STeM discipline. Approved by CC on March 5, 2018. Approved by IEC on March 14, 2018.

This course provides students with the scaffolding knowledge in the study of algebra that prepares students for taking higher level math. It provides background knowledge of intermediate algebra required before taking credit-bearing mathematics courses that support a marine science degree or an advanced education in a STeM discipline. The content of the course focuses on developing skills in solving systems of linear equations, rational equations and quadratic equations, graphing linear inequalities in two variables and systems linear equations in two variables, performing operations on polynomial, radical and rational expressions and solving real-life problems.