CMI COURSE CURRICULUM
COURSE ACTION

Course Title: College Algebra **Alpha Number:** MATH 111 **CIP No.** 27.0102

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 SLO
_____Other:

__x__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
__x___Change to recommended texts
__x___Other: Change in number of contact hours from 64 to 60, and revision of SLO 2

_____ 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:	6/6/2024
Curriculum Committee Chair	Desmond Doulatram	DocuSigned by:	6/5/2024
Dean	Vasemaca Savu	DocuSigned by:	6/5/2024
VPASA	Dr. Elizabeth Switaj	DocuSigned by:	6/10/2024

CMI COURSE OUTLINE

CIP No. 27.0102 **Version No.** 002

MATH 111 — **Alpha Number**
College Algebra — **Course Title**
Previous Alpha Number: MATH 110

Course Description: Builds on the fundamentals of algebra developed in basic and intermediate courses. This course is to extend the students' knowledge and skills in algebra through practical applications related to real world situations.

Course originally prepared by: Mathematics Department STEM January/2003
Most recent revision by: Waisiki Baleikorocau STeM June/2024

Course mode(s): __x_ Face to Face (including Zoom) ____ Hybrid ____ Distance Education

Credits calculated by: __x__ 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			
Total	60	4	

Purpose(s) of Course:
Degree Requirement _____
Degree Elective LA
General Education LA, Business
Credit Certification _____
Developmental _____
CTE/TVET _____
ABE/Adult HS _____

Distribution Area:
Humanities _____
Social Sciences _____
Mathematics (Credit) x
Science _____

Prerequisite: Math 90s or Math Placement

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

1. Solve equations and inequalities using appropriate algebraic properties.
2. Apply real world problems by utilizing selected functions and equations.
3. Graph functions to show the relationship between graphs and equations.
4. Verify and communicate solutions of selected functions and systems of non-linear equations.

SLO Mapping:

Prerequisite Course SLO	Linked SLO from this Course	Explanation
Math 098: Simplify expressions involving polynomials, rational, and radicals. Math 098: Solve equations involving absolute value, radical, rational, quadratics, and linear systems.	1	Properties of algebraic expressions will be utilized to solve equations and inequalities.
Math 098: Solve equations involving absolute value, radical, rational, quadratics, and linear systems. Math 098: Solve application problems involving equations with quadratics, linear systems and rational expressions.	2	Utilize the POLYA's four-step approach in solving word problems. This is introduced in Math 068 and continued at all level.
Math 098: Graph linear inequalities with two variables and quadratic equations.	3	Skills from graphing linear and quadratic functions will be extended to rational and logarithmic functions.
Math 098: Solve equations involving absolute value, radical, rational, quadratics, and linear systems. Math 098: Solve application problems involving equations with quadratics, linear systems and rational expressions.	4	Apply problem solving and reasoning skills through construction and interpretation of results.

Links to Program Learning Outcomes:

SLO	Linked PLO	I/P/M	Explanation of Link
1	LA Critical Thinking LA Quantitative/Scientific Literacy GE Quantitative Literacy	P	Using the appropriate algebraic properties to solve linear, quadratic, radical, rational, exponential, and logarithmic equations. Students will use the same tools to solve systems of linear and non-linear equations.
2	LA Critical Thinking LA Quantitative/Scientific Literacy GE Problem Solving GE Quantitative Literacy	P	Construct mathematical model to solve real-world problems. The steps will include formulation of the model, derive the solution, interpretation of the result, and checking the validity of the model to solve real-world problems.
3	LA Critical Thinking LA Quantitative/Scientific Literacy GE Quantitative Literacy	P	Students will be exposed to graphs of linear, polynomial, rational, exponential, and logarithmic functions and state it's domain and range.
4	LA Critical Thinking LA Quantitative/Scientific Literacy GE Problem Solving GE Quantitative Literacy	P	Communicating mathematical ideas effectively will help students clarify, solidify and expand their understanding of mathematical relationships and arguments. Students will demonstrate precision in problem details, clarity in logical organization, cohesive arguments of process, and accurate use of mathematical strategies.

Course Content: Students in this course will be able to understand:

1. Properties of exponents, radicals, and methods in factoring.
2. Quadratic, radical, rational, and absolute value equation and inequalities.
3. Functions, relations, and graphing.
4. Exponential and logarithmic functions.
5. Systems of linear and non-linear equations

Higher Order Thinking Skills: Students in this course will experience:
__x__ Analyzing the basic elements of an idea, experience, or theory
__x__ Making judgments about the value or soundness of information, arguments, or methods
__x__ Applying theories or concepts to practical problems or in new situations

Recommended Methods of Instruction
___x___ Demonstration
___x___ Lecture
___x___ Small group discussion
___x___ Class discussion
___x___ Audio-Visual Aids
_____ Laboratory
___x___ Supervised Practice
_____ Field Trips
___x___ Other: Online learning support system

Recommended Assessment Tool Type(s):

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

Required Forms of Regular and Substantive Interaction for Hybrid or Distance Education Courses (Select 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: James Stewart, Precalculus: Mathematics for Calculus, International Metric Edition, 8e, 2024, ISBN-13:9798214031811

2. Equipment/Facilities: Calculators (scientific & graphing), computer lab.

3. Materials and Supplies: Rulers, Geometric tools, Math videos, computer software.

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*

The course provides an in-depth study of the properties of polynomial, exponential, and logarithmic functions that is necessary for higher math such as Trigonometry and Calculus. Students will integrate critical-thinking skills, problem-solving skills, and mathematical skills on expressions, equations, functions, and apply them to real world problems.

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.

MATH 111 course supports the Department mission by providing students the necessary competencies that complements their academic program and preparedness for future careers or advanced education in a STEM discipline.

Justification for Changes:

In the changes of the student learning outcome “Utilize and apply technology to solve real world problems” was removed and integrated into the revised SLO “Apply real world problems by utilizing selected functions and equations”. There is also a change of recommended textbook from Blitzer to Cengage textbook.