CMI COURSE CURRICULUM
COURSE ACTION

Course Title: Basic Mathematics **Alpha Number:** Math 089 **CIP No.** 32.0104

Type of Action:

__x___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:

_____ 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: 1C652FF...	6/6/2024
Curriculum Committee Chair	Desmond Doulatram	DocuSigned by: 8A4E9FDD06E14D5...	6/5/2024
Dean	Vasemaca Savu	DocuSigned by: A656D72D46154E6...	6/5/2024
VPASA	Dr. Elizabeth Switaj	DocuSigned by: 89BEB3BDDC23455...	6/10/2024

CMI COURSE OUTLINE

CIP No. 32.0104 **Version No.** 001

Math 089 Basic Mathematics
Alpha Number **Course Title**
Previous Number:

Course Description: Provides a comprehensive study of foundational mathematical skills which should provide a strong mathematical underpinning for further study. Topics include principles and applications of decimals, fractions, the number line, ratio, signed operations, properties of operations, order of operations, numerical factoring, perimeter, and area.

Course originally prepared by: Edward M. Alfonso/Dr. Adedayo Ogunmokun STEM September/2023

Most recent revision by: Edward M. Alfonso/Dr. Adedayo Ogunmokun 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 _____
General Education _____
Credit Certification _____
Developmental _____x_____
CTE/TVET _____
ABE/Adult HS _____

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

Prerequisite: __Math Placement_____

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

1. Perform basic operations involving whole numbers, fractions and decimals.
2. Simplify numerical expressions involving rational numbers.
3. Solve ratios and proportions problems.
4. Compute the perimeter and area of basic geometric figures.
5. Solve word problems using basic operations and the four problem solving steps in Polya's How to Solve It.

SLO Mapping:

Prerequisite Course SLO	Linked SLO from this Course	Explanation
None	None	

Links to Program Learning Outcomes:

SLO	Linked PLO	I/P/M	Explanation of Link
1-4	PLO 1- Equations and Inequalities DEV Mathematical Reasoning	I	Students will be taught how to perform basic operations involving equations with whole numbers, fractions, decimals, percentages, ratios, basic geometry and measurement.
5	PLO 4- Word Problems DEV Solving Word Problems	I	Students will be taught how to solve word problems using basic operations and the four problem solving steps in Polya's How to Solve It.

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

1. Whole numbers
2. Fractions
3. Decimals
4. Percent
5. Ratio and Proportion
6. Measurements
7. Perimeter and area of plane geometric figures

Higher Order Thinking Skills: Student 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, argument, or method
_____ 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:

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
_____ 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: Tussy, Alan, and Diane Koenig. Basic Mathematics for College Students with Early Integers. [6th edition]. Cengage. ISBN-13: 9781337618403

2. Equipment/Facilities: Computer lab/Software like Moodle

3. Materials and Supplies: Whiteboard Rulers/Math Manipulatives

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*

Most of, if not all, the degrees at CMI require success in Credit Level Math before students can graduate with quality, higher and further education qualifications. Many students however struggle with passing Math and this is a common (if not the main) reason for dropout or non-completion of degree requirements. This course supports the mission of the college in prioritizing students' success by providing developmental classes to prepare them for Math success.

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 supports the STEM Department's mission by explaining basic math concepts to students which then allows them to progress to higher level math culminating in Math Credit Level success in support of academic programs in marine sciences and other degrees. Also, it will help the students to be more focused on basic operations, manual computations and scientific calculation. The focus will be on bridging the gap between the Basic Mathematics and the Foundations of Mathematics topics.

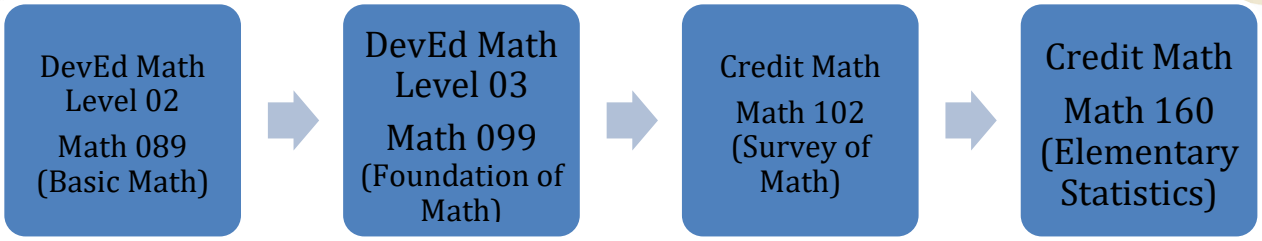
Narrative Justification

Three years ago, the math transition program was implemented to uplift the placement of PSS students into math credit level. This has led to improvements in the number of High School students placed at the Credit level at our College. Despite this improvement, many students are still placed at Level 1 Developmental Math thereby requiring a longer transition to Credit level math. The STEM Dept, in consulted and came to the recommendation of the phasing out of the developmental math level 01 and instead develop a level 2 Developmental Math course that will recognize the improvement in High Schools' performance in Math and provide extra revisions and better sequencing that will lead to shorter period and improved students' success. This will be similar to the DEVED department where the developmental English level 01 was phased out and the topics assimilated into the level 02 courses.

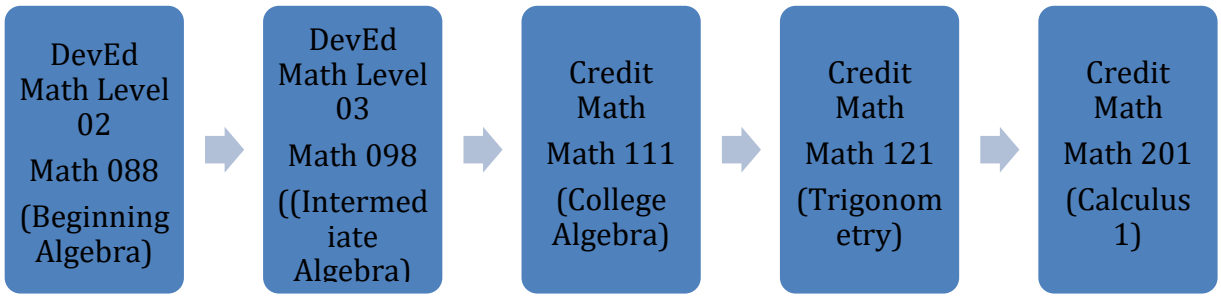
Further justification and the process that we will follow to integrate the topics in developmental math level 01 into developmental math level 02 for STEM pathway and Non-STEM pathway are as follows:

1. Despite the improvements achieved in getting more High School students from the Public-School Systems placed in Math Credit level, we still have a high percentage of new students placed in developmental math level 01 after the placement test. Many of these students are from private schools and sometimes it's the condition of taking the test that results in their poor performance and not necessarily their inability to do better. We have observed that many of these students do not find the course content of Math 068 challenging and are easily bored and disinterested in the course.
2. During the first week of instruction, we have encouraged students to challenge the Final Exam of the previous Math 068 course after which they are upgraded into the next level (Math 088 or Math 099) through the Credit by Examination process if they pass. Many students who took this path were found to have coped well and passed the higher-level courses.
3. The current STEM pathway requires students to take Math 088 (Beginning Algebra, level 2) and Math 098 (Intermediate Algebra, level 3) before they qualify for credit math courses. However, there's only Math 099 (Fundamentals of Math, level 3) as a developmental class for students taking the Non-STEM Pathway. We have noticed that many of the students taking Math 099 directly usually require basic math knowledge which are not covered by Math 068. We hereby propose the creation of a New course, Math 089, at level 2 that will be based on topics adopted from Math 068 but more intensively focused on the basic mathematics knowledge required of the Non-STEM Math pathway.
4. These changes will result in the elimination of the Level 1 Math (Math 068) resulting in the students starting in level 02 (Math 088 for the STEM Pathway or Math 089 for the Non-STEM Pathway). This will foster an opportunity to create an Accelerated Program for Math 089 and Math 099 as is already available for Math 088 and Math 098.
5. The direction for these courses will be like this

NON-STEM PATHWAY



STEM PATHWAY



This is an integration of MATH 068 and MATH 089, as MATH 068 is phased out. Detailed explanations are included in this document, after the College and Department Mission Statement.