IAC **New Course** Proposal

Rowan College of Burlington County

Date: 2/9/2018 **Division**: STEM
Originator: Jonathan Weisbrod **Course Prefix/Number: MTH-212**
Course Title: Structures of Mathematics II **Number of Credits: 3**

Contact: Jweisbrod@rcbc.edu
Co-requisite(s): **Prerequisite(s)**: MTH-211 Structures of Mathematics I
Co-requisite/Prerequisite:
Course description (indicate lab information): This course is designed primarily for elementary education majors. The course will require students to investigate problems in order to deepen their conceptual and procedural understanding in the areas of algebra, data analysis, probability, geometry, measurement, and systematic listing and counting.

Course will be offered: ☒ **Fall** ☒ **Spring** ☐ **Summer**
Proposed Course Fee (if known):
Relationship to Curriculum: Program Requirement
Sem/yr course will first be offered: Spring 2019
Default Course Capacity: 30
Minimum Enrollment (per course)
Instructor Consent Required for Registration: No
Textbook:

Reason for adding this course: This course is a planned program course for EDU majors.

Complete this table:

Instructional Mode	Number of Credits	Number of Contact Hours
Lecture	3	3
Laboratory	0	0
Studio/Performance	0	0
Clinical/Practicum/Co-Op/Internship/Field Study	0	0

Credit Hours Distribution (i.e. 3/0/0): 3/0/0

Has this course been offered experimentally? No

If no, estimate initial enrollment: Click or tap here to enter text.

If yes, complete this table.

Offering	*Course number*	*Semester & Year*	*Enrollment*
First:	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Second:	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

If other colleges and universities offer this course, complete this table. Give New Jersey data, if available:

College/University	*Course number/name*	*Contacted about course?*
Rowan University	MTH01301 Structures of Mathematics II	Yes
Camden County College	MTH106 Mathematical Systems II: Geometry	No
The College of New Jersey	MAT106 Mathematical Structures and Algorithms for Educators II	Yes
Monmouth University	MA204 Foundations of Elementary Mathematics II	Yes
Montclair State University	MTHM302 Mathematics in the Elementary Schools II	No
St. Peter's University	MA109 Mathematics for Educators II	No

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Course Learning Outcomes:

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Upon completion of this course, students should be able to:
1. Practice and explain the content from the geometry, measurement and data, and fraction operations strands, and their relationship to previous addressed strands included in the elementary mathematics curriculum 2. Reason mathematically and solve various types of problems using appropriate strategies for content from the geometry, measurement and data, and fraction operations strands 3. Utilize and reflect on the education value of manipulatives/technology when working with concepts from elementary geometry, measurement and data, and fraction operations 4. Examine how material from the geometry, measurement and data, and fraction operations strands connects to elementary, middle school and high school and how these content skills develop over time 5. Reflect upon the practice of instruction to identify successful delivery methods as well challenges students will face learning content from the geometry, measurement and data, and fraction operations strands of the mathematic curriculum

Core Course Content:

Core Course Content
Click or tap here to enter text.
Algebraic Thinking
Geometry and Measurement
Statistics and Probability
Click or tap here to enter text.
Click or tap here to enter text.
Click or tap here to enter text.
Click or tap here to enter text.

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General Education Outcomes

Please select the RCBC outcome(s) below that apply to this course. Students will:

(Check all that apply.)

Written and Oral Communication

- ☐ Logically and persuasively support their points of view or findings.
- x☐ Communicate meaningfully with a chosen audience while demonstrating critical thought.
- ☐ Conduct investigative research which demonstrates academic integrity, originality, depth of thought, and master of an approved style of source documentation.

Quantitative Knowledge & Skills: Mathematics

- X Analyze data to solve problems utilizing appropriate mathematical concepts.
- X Translate quantifiable problems into mathematical terms and solve these problems using mathematical or statistical operations.
- X Logically solve problems using the appropriate mathematical technique.

Scientific Knowledge & Reasoning: Science

- ☐ Understand and employ the scientific method of inquiry to draw conclusions based on verifiable evidence.
- ☐ Explain the impact of scientific theories, discoveries, or technological changes on society.
- ☐ Demonstrate critical thinking skills in the analysis of scientific data.

Society & Human Behavior: Social Science

- ☐ Demonstrate a general knowledge of political, social and economic concepts and systems and their effects on society.

Technological Competency or Information Literacy: Technology

- ☐ Demonstrate competency in office productivity tools appropriate to continuing their education.
- ☐ Use critical thinking skills for computer-based access, analysis, and presentation of information.
- ☐ Exhibit competency in library online tools appropriate to accessing information in reference publications, periodicals, and bibliographies.
- ☐ Demonstrate the skills required to find, evaluate, and apply information to solve a problem.

Humanistic Perspective: Humanities

- ☐ *Art:* Demonstrate an understanding of a variety of renderings.
- ☐ *Art:* Identify the movement, period, and their effect on the culture.
- ☐ *Theatre & Music:* Be able to articulate and analyze works of the performing arts and their effect on historical or cultural perspective as well as the values of the society.
- ☐ *Philosophy:* Demonstrate an understanding of fundamental philosophical questions and the contributions of major philosophers to resolve them.
- ☐ *Foreign Language:* Be able to demonstrate listening, speaking, reading and writing skills of the target language consistent with American Council on the Teaching of Foreign Languages (ACTFL) proficiency standards for the level being studied.
- ☐ *Foreign Language:* Be able to demonstrate cultural norms necessary to communicate effectively in the target language.
- ☐ *Literature:* Recognize and assess the contributions of people from various nations and/or cultures.
- ☐ *Literature:* Analyze the changing significance of social constructions of religion, race, class, and/or gender in cultural artifacts (music, art, literature) throughout time.

Historical Perspective: History

- ☐ Demonstrate knowledge of the nature, origins, central events and significant institutions of major civilizations.

Global & Cultural Awareness: Diversity

- ☐ Be able to compare and contrast cultural norms from diverse populations.
- ☐ Be able to explain how communication and culture are interrelated.
- ☐ Be able to examine how multicultural societies and people help engender a richer understanding of diverse life experiences

Ethical Reasoning & Action

- ☐ Analyze and evaluate the strengths and weaknesses of different perspectives on an ethical issue or a situation.
- ☐ Take a position on an ethics issue or a situation and defend it.