RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

ECHD 183 Math & Science for the Young Child

I. Basic Course Information

A. Course Number and Title: ECHD 183 Math & Science for the Young Child

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2022

D. Effective Term: Fall 2023

E. Sponsoring Department: HSSE

F. Semester Credit Hours**: 3**

G. Weekly Contact Hours**:** 3 Lecture**:** 3
Laboratory**:**
Out of class student work per week: 6

H. ☐ Prerequisite (s): N/A
☐ Corequisite (s): N/A
☐ Prerequisite (s) and Corequisite (s): N/A

I. Additional Fees**:** None

J. Name and E-Mail Address of Department Chair and Divisional Dean at time of approval**:**
Name and E-Mail Address of Department Chair and Divisional Dean at time of approval**:**
Dr. Isabel Gutierrez-Bergman (Isabel.Gutierrez@raritanval.edu)
Dr. Patrice Marks (Patrice.Marks@raritanval.edu)

II. Catalog Description

This course identifies and classifies the major Mathematical and Science concepts and topics considered in teaching the young child. Emphasis is placed on planning math and science activities that encourage thinking, exploring, discovering, and problem solving. Each concept is exemplified by experiential learning methodologies.

III. Statement of Course Need

A. This course provides the Early Childhood Education student with the knowledge and skills to develop basic mathematical and scientific understanding when working with young children. It meets the state certification requirements for Early Childhood Education majors. Furthermore, young children begin to build good computational skills early and have an open and inquisitive mind when they are exposed to a developmentally stimulating learning environment with things to explore and someone to answer their questions.
B. This course generally transfers as a free elective dependent on the transfer institution.
C. This course generally transfers as an early childhood degree or certificate program elective dependent on the transfer institution.

IV. Place of Course in College Curriculum

A. Free Elective
B. This course meets a program requirement for the Early Childhood AAS Degree Program and the Early Childhood Certificate Program.
C. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

A. Concept development in Math & Science
    1. Development acquisition, problem solving, and assessment
    2. Basics of science, engineering, and mathematics
B. Fundamental concepts and skills
    1. PreK & K skills and concepts
    2. Early geometry, Parts & Wholes, Applications fundamental to science and engineering
C. Applying fundamental concepts
    1. PreK-K Ordering, measurement, data collection & analysis
    2. Integrating the curriculum
D. Symbols and higher-level concepts and activities
    1. Transitioning from PreK, K to Primary
E. Mathematics and Operations in the Primary Grades
    1. Whole numbers, patterns, fractions
    2. Place value, geometry, data analysis, and measurement
F. Investigations in Primary Science
    1. Life Science & Physical Science
    2. Earth & Space Sciences, Environmental Awareness, Engineering, Technology,

and Science Applications

G. Math & Science Environment

1. Math & Science in the classroom and in the home

VI. A. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Describe basic math and science concepts for the young child (GE- 2)
2. Identify and critically evaluate math & science materials for the young child (GE-3)
3. Identify and explain math and science readiness in the young child (GE-2 & 3)

B. Assessment Instruments

1. projects
2. presentations

VII. Grade Determinants

Grade determinants:

A. essays/research papers
B. projects/observational reports
C. tests
D. presentations/lessons

Primary formats, modes, and methods for teaching and learning that may be used in the course:

A. lecture/discussion
B. computer-assisted instruction
C. student oral presentations
D. simulation/role playing
E. student collaboration
F. independent study

VIII. Texts and Materials

A. Text: Charlesworth & Lind (current ed.). Math and Science for the Young Child. (New York: Thomson Delmar Learning).
B. interviews
C. peer-reviewed articles/sources
D. film and video clips
E. audio sources
F. web sources

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

A. Library
B. CAT Room
C. Document Camera

X. Honors Options [if relevant]

N/A