Lassen Community College Course Outline

MATH-11B Concepts of Elementary School Mathematics II 3 Units

I. Catalog Description

A course covering the study of the real numbers, measurement, logic and mathematical reasoning, introduction to probability and statistics and some concepts of algebra, non-metric and metric geometry. One of two courses designed especially for students preparing for credentials in elementary education. This course has been approved for online, hybrid, web-enhanced and correspondence delivery.

Prerequisite(s): MATH 60 with a grade of 'C' or better or the equivalent multiple measures placement.

Prerequisite Skills: Before entering this course the student will be able to:

1. Solve rational expressions and inequalities.
2. Determine the equation of a straight line.
3. Solve radical equations.
4. Transform nonlinear functions into linear functions.
5. Manipulate and solve logarithmic and exponential functions.

Transfers to both UC/CSU
General Education Area: D2
CSU GE Area: B4
51 Hours Lecture, 102 Hours Expected Outside Class Work, 153 Total Student Learning Hours.
Scheduled: Spring (odd)

II. Coding Information

Repeatability: Not Repeatable, Take 1 Time
Grading Option: Graded or Pass/No Pass
Credit Type: Credit - Degree Applicable
TOP Code: 170100

III. Course Objectives

A. Course Student Learning Outcomes

Upon completion of this course the student will be able to:

Develop and present, in an oral or written format, a lesson on an appropriate level of mathematical concepts or procedures intended for a middle school class.

B. Course Objectives

Upon completion of this course the student will be able to:

Develop essential understanding in the following seven strands specified by the State of California's Mathematics Model Curriculum Guide, Kindergarten through grade eight: number, measurement, geometry, patterns and functions, statistics and probability, logic, and algebra. The strands of probability and statistics, measurement, and logic are emphasized in geometry.

IV. Course Content

A. Intro to informal Geometry
B. Patterns and functions
C. Logic and Mathematical Reasoning

D. Measurement (including the metric system)
E. Probability and Statistics
F. Introduction to Computers

V. Assignments

A. Appropriate Readings
Students will be required to read and study the assigned class material and/or text material from outside reading in professional journals such as Arithmetic Teacher.

B. Writing Assignments
Students will be expected to do the following:
1. Complete class preparation and review
2. Do homework assignments, including applications of representative symbol systems and/or work problems
3. Understand and apply the theories and techniques taught in class.

C. Expected Outside Assignments
Students can be expected to spend a minimum of two hours outside of class in practice and preparation for each hour of class. Appropriate outside assignments include appropriate reading, practice problems, memorizing and applying formulas and writing papers on assigned topics.

D. Specific Assignments that Demonstrate Critical Thinking
Students will be requiared to interpret mathematics principles and techniques to solve broader and more difficult problems than those presented in class. Students will solve a variety of problems, including those that demand the application of principles in a number of different contexts.

VI. Methods of Evaluation

Traditional Classroom Evaluation
The student's grade will be based on homework assignments, multiple exams, collaborative Group Work, an optional research paper and a comprehensive final.

Online Evaluation
A variety of methods will be used, such as: research papers, asynchronous and synchronous discussions (chat/forum), online quizzes and exams, postings to online website, and email communications.

Correspondence Evaluation
Same as face to face with the exception of the desired use of proctored exams and exclusion of participation in classroom activities. Students will be expected to complete assignments and activities equivalent to in-class assignments and activities. Written correspondence and a minimum of six opportunities for feedback will be utilized to maintain effective communication between instructor and student.

Hybrid Evaluation
Quizzes may be administered online, but exams and summative assessments must be administered face-to-face. Students will be expected to complete online assignments and activities equivalent to in class assignments and activities for the online portion of the course. Electronic communication, both synchronous and asynchronous (chat/forum) will be evaluated for participation and to maintain effective communication between instructor and students.

Web-enhanced course
Additional information and resources may be made available to students online, and students may be required to do research and complete and/or submit assignments online. Quizzes may be administered online, but exams and summative assessments must be administered face-to-face.

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

☒ **Traditional Classroom Delivery** ☒ Correspondence Delivery

☒ Hybrid Delivery ☒ **Online Delivery**

Traditional Classroom Delivery
Lecture, questions and answers, demonstrations and discussion

Correspondence Delivery
Assigned readings, instructor-generated typed handouts, typed lecture materials, exercises and assignments equal to face to face instructional delivery. Written correspondence and a minimum of six opportunities for feedback will be utilized to maintain effective communication between instructor and student.

Hybrid Delivery
A combination of traditional classroom and online instruction will be utilized. Each semester a minimum of 17 hours, or 1/3 of the lecture hours, will be taught face-to face by the instructor and the remaining hours will be instructed online through the technology platform adopted by the District. Traditional class instruction will consist of exercises/assignments, lectures, visual aids, and practice exercises. Quizzes may be administered online, but exams and summative assessments must be administered face-to-face. Online delivery will consist of exercises/assignments, lecture posts, discussions, adding extra resources and other media sources as appropriate.

Online Delivery
Student will access course materials over the Internet. These will include a syllabus, homework assignments and tests. Instruction shall include video lectures, animations, and guided tutorials. Password protected asynchronous discussion, and synchronous messaging is also provided to allow for collaboration.

VIII. Representative Texts and Supplies

Required:
Billstein, Libeskind, Lott, Boschmans & Boschmans. A Problem Solving Approach to Mathematics for Elementary School Teachers, 13th Edition, 2020, Pearson Education. This textbook may be purchased in a cloth/paper bound version, ISBN: 978-0-135-183-885, or in a loose-leaf version, ISBN: 978-0-135-184-172, or as an eText version, ISBN 978-0-136-880-141 without MyLab Math

When a Math 11B section requires the use of MyLab Math, the eText and MyLab may be purchased separately or as a bundle, ISBN 978-0-135-960-363 (18 week eTxt and MyLab access) or ISBN 978-0-135-190-074 (24 month eTxt and MyLab access).

IX. Discipline/s Assignment

Mathematics

X. Course Status

Current Status: Active
Original Approval Date: 5/8/1990
Revised By: Noelle Eckley
Curriculum/Academic Standards Committee Revision Date: 04/05/2022