COQUITLAM COLLEGE
Established 1982

COURSE OUTLINE

Last Revised: September 2021

COURSE INFORMATION

Course Title: Principles of Mathematics   **Course Number:** MATH 190   **Credits:** 4

Total Weeks: 14 (Fall, Spring)   **Total Hours:** 39   **Course Level:** ☒ First Year   ☐ Second Year
12 (Summer)   ☐ New   ☐ Revised Course
                                                                              ☐ Replacement Course

Department: Mathematics   **Department Head:** G. Belchev   **Former Course Code(s) and Number(s) (if applicable):** N/A

Pre-requisites (If there are no prerequisites, type NONE): PREC 11 (or equivalent) with a grade of "C" or higher

Co-requisite Statement (List if applicable or type NONE): NONE

Precluded Courses: N/A

COURSE DESCRIPTION

This course develops the fundamental mathematical concepts and practices included in the elementary and middle school curriculum. Discussed are concepts from elementary number theory and geometry, as well as probability and statistics. Introduced are practices such as problem solving, identifying patterns, and mathematically interpreting everyday contexts. In addition, the course aims to develop a positive attitude towards mathematics and an ability to convey mathematical ideas to others.

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- Employ Polya's method and various problem solving strategies to problems that arise in mathematics and other areas.
- Understand current and historical number systems.
- Understand various types of numbers and their properties, ways of representing numbers, relationships among numbers and models and algorithms for arithmetic operations.
- Name and describe the properties of various two- and there-dimensional; geometric objects.
- Explain and apply the basic properties of measurement to determine length, area, surface area, and volume.
- Solve problems that require applying the concepts of symmetry, reflection, and translation.
- Understand and apply fundamental concepts from probability.
- Create and interpret elementary statistical models.
- Reason and communicate mathematically by making explicit their understanding of mathematical concepts.
- Develop a healthy attitude about mathematics and the confidence to explore mathematical ideas beyond this course

COURSE OUTLINE

INSTRUCTION AND GRADING

Instructional (Contact) Hours:

Type	Duration
Lecture	39
Seminars/Tutorials	
Laboratory	
Field Experience	
Other (*specify):*	
Total	39

Grading System: Letter Grades ☒   Percentage ☐   Pass/Fail ☐   Satisfactory/Unsatisfactory ☐   Other ☐

Specify passing grade: 50%

Evaluation Activities and Weighting (total must equal 100%)

Assignments: 5% *Specify number of, variety, and nature of assignments:*	Lab Work: %	Participation: 5% *Attendance*	Project: % *Specify nature of project:*
Quizzes/Test: 25%	Midterm Exam: 30%	Final Exam: 35%	Other: %

TEXT(S) AND RESOURCE MATERIALS
Provide a full reference for each text and/or resource material and include whether required/not required.

Gary L. Musser, William F. Burger and Blake Peterson, Mathematics for Elementary Teachers - A Contemporary Approach, Current edition, Wiley

COURSE TOPICS
List topics and sequence covered.

Week	Topic
Week 1	Introduction to Problem Solving
Week 2	Sets, Whole Numbers and Numeration
Week 3	Properties of Operations on Whole Numbers
Week 4	Elementary Number Theory
Week 5	Fractions
Week 6	Decimals and Percentages

Week 7	**MIDTERM**
Week 8	Integers
Week 9	Rational numbers
Week 10	Statistics
Week 11	Probability
Week 12	Properties of Geometrical Shapes
Week 13	Measurement
Week 14	**FINAL EXAM**

NOTES

1. Students are required to follow all College policies. Policies are available on the website at: [Coquitlam College Policies](#)
2. To find out how this course transfers, visit the BC Transfer Guide at: [bctransferguide.ca](#)