UNIVERSITY OF THE FRASER VALLEY

ORIGINAL COURSE IMPLEMENTATION DATE: March 1992
REVISED COURSE IMPLEMENTATION DATE: January 2019
COURSE TO BE REVIEWED: (six years after UEC approval) January 2020
Course outline form version: 09/15/14

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: MATH 105

Number of Credits: 4 Course credit policy (105)

Course Full Title: Math for the Elementary School Teacher

Course Short Title (if title exceeds 30 characters): Math for Elementary Teachers

Faculty: Faculty of Science

Department (or program if no department): Mathematics and Statistics

Calendar Description:

Provides direct experiences with elementary school mathematics, allowing students to explore their reasoning strategies and gain greater understanding and confidence in their mathematical abilities. Topics include problem solving strategies, sets, numeration systems, properties of real numbers, number theory, and geometry.

Note: MATH 105 is a mathematics course aimed at developing mathematical ability and is not a course in the methods of teaching.

Prerequisites (or NONE):	One of the following: (C or better in one of Principles of Mathematics 11, Pre-calculus 11, Foundations of Mathematics 12, or MATH 085) or (C+ or better in Applications of Mathematics 12) or (B or better in Foundations of Mathematics 11) or (Pre-calculus 12) or (any UFV MATH course numbered 092 or higher) or (a score of 17/25 or better on Part A of the MSAT).
Corequisites (if applicable, or NONE):	NONE
Pre/corequisites (if applicable, or NONE):	NONE

Equivalent Courses (cannot be taken for additional credit)

Former course code/number:

Cross-listed with:

Equivalent course(s):

Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.

Transfer Credit

Transfer credit already exists: ☒ Yes ☐ No

Transfer credit requested (OReg to submit to BCCAT):
☐ Yes ☐ No (if yes, fill in transfer credit form)

Resubmit revised outline for articulation: ☒ Yes ☐ No

Total Hours: 60

Typical structure of instructional hours:

Lecture hours	60
Seminars/tutorials/workshops	
Laboratory hours	
Field experience hours	
Experiential (practicum, internship, etc.)	
Online learning activities	
Other contact hours:	
Total	**60**

Special Topics

Will the course be offered with different topics?
☐ Yes ☒ No

If yes, different lettered courses may be taken for credit:
☐ No ☐ Yes, repeat(s) ☐ Yes, no limit

Note: The specific topic will be recorded when offered.

Maximum enrolment (for information only): 36

Expected frequency of course offerings (every semester, annually, every other year, etc.): Fall & Winter semesters

Department / Program Head or Director: Ian Affleck	**Date approved:**	September 2017
Faculty Council approval	**Date approved:**	September 8, 2017
Campus-Wide Consultation (CWC)	**Date of posting:**	October 13, 2017
Dean/Associate VP: Lucy Lee	**Date approved:**	September 8, 2017
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	October 27, 2017

Learning Outcomes

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

1. Perform the necessary computations in order to demonstrate a conceptual understanding of the basic laws of arithmetic and the properties of geometry.
2. Use appropriate problem-solving strategies in order to structure clear and concise solutions to problems related to the elementary school curriculum.
3. Evaluate mathematical materials related to the elementary school curriculum

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)

Lectures are balanced with problem sessions and group activities. Evaluation will include tests, quizzes, assignments, and a three-hour comprehensive exam.

Grading system: Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials

The text is chosen by a departmental curriculum committee.

	Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	Musser, Burger, Peterson.	Mathematics for Elementary Teachers, 10th edition	☐	Wiley	2013
2.			☐		
3.			☐		
4.			☐		
5.			☐		

Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)

Compass and protractor.

Typical Evaluation Methods and Weighting

Final exam:	40%	Assignments:	15%	Midterm exam:	%	Practicum:	%
Quizzes/tests:	35%	Lab work:	%	Field experience:	%	Shop work:	%
Other:	Project: 10	Other:	%	Other:	%	Total:	%

Details (if necessary):

Students must achieve at least 40% on the final exam to receive credit for this course

Typical Course Content and Topics

Patterns and Problem Solving Strategies
Sets and Venn Diagrams
Whole Number Operations
Numeration Systems
Algorithms in other Bases
Primes, Composites
Fractions, Decimals, Ratio and Proportion and Percent
Operations with Integers, Rational Numbers and Irrational Numbers
Geometric Shapes and Properties
Measurement including Perimeter and Area
Congruence and Similarity
Transformations and Tessellations