

COURSE IMPLEMENTATION DATE: March 1992  
 COURSE REVISED IMPLEMENTATION DATE: January 2014  
 COURSE TO BE REVIEWED: January 2020  
*(six years after UEC approval)* *(month, year)*

**OFFICIAL UNDERGRADUATE COURSE OUTLINE INFORMATION**

Students are advised to keep course outlines in personal files for future use.  
 Shaded headings are subject to change at the discretion of the department – see course syllabus available from instructor

<u>MATH 105</u>	<u>SCIENCE/Mathematics &amp; Statistics</u>	<u>4</u>
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UFV CREDITS
<u>Math for the Elementary School Teacher</u>		
COURSE DESCRIPTIVE TITLE		

**CALENDAR DESCRIPTION:**

It has been recognized by various study groups that if teachers are not at ease with mathematics, their resulting fears and prejudices are communicated to the students. This course is designed to provide a direct experience of mathematics and to allow the students to explore their reasoning strategies and gain greater confidence in their mathematical abilities. Understanding of the pertinent subject material is essential to effective teaching. It must be stressed that MATH 105 is a mathematics course aimed at developing mathematical ability and is not a course in the methods of teaching. Topics include strategies in problem solving, sets and their applications, numeration systems, properties of real numbers and their subsets, number theory, and plane geometry.

PREREQUISITES: One of the following: (C or better in one of Principles of Math 11 or MATH 085) or (C or better in both Foundations of Mathematics 11 and Precalculus 11) or (B or better in one of Foundations of Mathematics 11 or Precalculus 11) or (C+ or better in Applications of Math 11) or (one of Foundations of Mathematics 12 or Precalculus 12 or MATH 096; or both MATH 094 and MATH 095.)

COREQUISITES: None

PRE or COREQUISITES:

**SYNONYMOUS COURSE(S):** \_\_\_\_\_ **SERVICE COURSE TO:** *(department/program)*  
 (a) Replaces: \_\_\_\_\_  
 (b) Cross-listed with: \_\_\_\_\_  
 (c) Cannot take: \_\_\_\_\_ for further credit.

**TOTAL HOURS PER TERM:** 75 **TRAINING DAY-BASED INSTRUCTION:**  
**STRUCTURE OF HOURS:** Length of course: \_\_\_\_\_  
 Lectures: 75 Hrs Hours per day: \_\_\_\_\_  
 Seminar: \_\_\_\_\_ Hrs  
 Laboratory: \_\_\_\_\_ Hrs  
 Field experience: \_\_\_\_\_ Hrs  
 Student directed learning: \_\_\_\_\_ Hrs  
 Other (specify): \_\_\_\_\_ Hrs

**OTHER:**  
 Maximum enrolment: 36  
 Expected frequency of course offerings: Fall & Winter semesters  
*(every semester, annually, every other year, etc.)*

**WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)**  Yes  No  
**WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)**  Yes  No  
**TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:**  Yes  No

Course designer(s): <u>L.Riva/J. Cannon</u>	Date approved: <u>May 27, 2013</u>
Department Head: <u>Cindy Loten</u>	Date of meeting: <u>n/a</u>
Campus-Wide Consultation (CWC)	Date approved: <u>June 21, 2013</u>
Curriculum Committee chair: <u>Dave Fenske</u>	Date approved: <u>June 21, 2013</u>
Dean/Associate VP: <u>Lucy Lee</u>	Date of meeting: <u>September 27, 2013</u>
Undergraduate Education Committee (UEC) approval	

**LEARNING OUTCOMES:**

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

1. Perform the necessary computations in order to demonstrate an 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

This course is intended to prepare students for the PDP program.

**METHODS:** (*Guest lecturers, presentations, online instruction, field trips, etc.*)

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

**METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):**

- Examination(s)       Portfolio assessment       Interview(s)
- Other (specify): Please check online at <http://www.ufv.ca/math/challenge.htm> for the departmental challenge policy
- PLAR cannot be awarded for this course for the following reason(s):

**TEXTBOOKS, REFERENCES, MATERIALS:**

*[Textbook selection varies by instructor. An example of texts for this course might be:]*

The text is chosen by a departmental curriculum committee. Recent text:  
Musser, Burger, Peterson. 2006. Mathematics for Elementary Teachers. 7th edition. Wiley.

**SUPPLIES / MATERIALS:**

Compass and protractor

**STUDENT EVALUATION:**

*[An example of student evaluation for this course might be:]*

Assignments, quizzes, projects	20%
Tests	40%
Final exam	40%

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

**COURSE CONTENT:**

*[Course content varies by instructor. An example of course content might be:]*

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 Properties  
Measurement including Perimeter and Area  
Congruence and Similarity  
Transformations and Tessellations