

COURSE IMPLEMENTATION DATE: March 1992  
 COURSE REVISED IMPLEMENTATION DATE: January 2011  
 COURSE TO BE REVIEWED: November 2009  
*(four years after UPAC 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

MATH 105	SCIENCE/Mathematics & Statistics	4
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UFV CREDITS
	Math for the Elementary School Teacher	
	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 C+ or better in Applications of Math 11; or one of Foundations of Math 12 or Precalculus 12.

COREQUISITES: None

PRE or COREQUISITES:

**SYNONYMOUS COURSE(S):**

- (a) Replaces: \_\_\_\_\_
- (b) Cross-listed with: \_\_\_\_\_
- (c) Cannot take: \_\_\_\_\_ for further credit.

**SERVICE COURSE TO:** *(department/program)*

**TOTAL HOURS PER TERM:** 75

**STRUCTURE OF HOURS:**

Lectures:	<u>75</u>	Hrs
Seminar:	_____	Hrs
Laboratory:	_____	Hrs
Field experience:	_____	Hrs
Student directed learning:	_____	Hrs
Other (specify):	_____	Hrs

**TRAINING DAY-BASED INSTRUCTION:**

Length of course: \_\_\_\_\_  
 Hours per day: \_\_\_\_\_

**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>September 1, 2010</u>
Department Head: <u>Greg Schlitt</u>	Date of meeting: <u>September 17, 2010</u>
Supporting area consultation (Pre-UPAC)	Date approved: <u>September 24, 2010</u>
Curriculum Committee chair: <u>Norm Taylor</u>	Date approved: <u>October 21, 2010</u>
Dean/Associate VP: <u>Ora Steyn</u>	Date of meeting: <u>October 29, 2010</u>
Undergraduate Program Advisory Committee (UPAC) 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