

Summer Semester 2000

EDUC 475 - 4
Designs for Learning: Mathematics
(Elementary)
D01.00

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Wednesdays 13:00-16:50 in MPX 7500B

PREREQUISITE

Educ 401/402

COURSE DESCRIPTION

Changes continue to occur in the mathematics curriculum in British Columbia. The concept of "numeracy" is receiving much greater emphasis, while at the same time calculators have become a natural component of the school program. In addition to developing numerical competence, students are also expected to develop an understanding of measurement, geometry, and data analysis. Teachers are encouraged to use manipulative materials in group settings as a major vehicle for learning.

This course is designed for prospective and practising elementary school teachers who wish to explore the fundamentals of the learning/teaching process as it applies to mathematics. The course will draw on the latest research in mathematics learning, and will show how such findings may be used in the classroom.

OBJECTIVES

Students will be expected to become familiar with and confident in the use of a variety of manipulative materials such as geoboards, cuisenaire rods, attribute blocks, and probability simulators. They will also explore the realities of mathematical learning by examining their own learning powers and patterns of thought. On completion of the course it is hoped that participants will feel more at ease with the subject of mathematics, be able to deal confidently with the prescribed curriculum, and be able to plan mathematical instruction within a consistent framework.

REQUIREMENTS

Students will be expected to attend all classes, and to participate fully in classwork and discussions. Assignments given in previous years include the following:

- a problem-solving assignment in which students keep a journal to record their efforts over a period of time
- an assignment related to the elementary textbooks used in British Columbia
- an assignment that requires students to examine a number of professional journals related to the teaching of mathematics
- a lesson development assignment related to the B. C. Mathematics K-7 IRP
- a project related to the student's own interests, as negotiated with the instructor.

REQUIRED TEXTS

British Columbia Ministry of Education. (1996). Mathematics K-7: Integrated Resource Package. Victoria, BC: Author. [available on-line at <http://www.bced.gov.bc.ca/irp/>]

Van de Walle, J. A. (1998). Elementary and middle school mathematics: Teaching developmentally (3rd ed.). New York, NY: Longman.