

**SIMON FRASER UNIVERSITY  
SUMMER SEMESTER 2004**

**EDUC 475-4  
DESIGNS FOR LEARNING: ELEMENTARY  
MATHEMATICS  
(D02.00)**

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**MONDAY 13:00-16:50 in EDB 7500F**

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**PREREQUISITE: EDUC 401/402**

**DESCRIPTION**

The mathematics curriculum in British Columbia has changed dramatically in the past decade. New topics have been included, and old ones are now viewed from different perspectives, so teachers may find that they have to teach material that they did not encounter in their own schooling. There is also more focus on the use of calculators and manipulatives, on problem solving approaches to mathematics, and an emphasis on group work and new methods of assessment.

This course is designed for prospective and practicing elementary school teachers who are interested in exploring some basic ideas about teaching and learning mathematics. To encourage students to become familiar with the required readings (both useful resources for future teaching), the sessions will be structured around chapters in Van de Walle's book and the corresponding sections of the IRP, but children's literature, topics from the history of mathematics and explorations of manipulatives will also be included in each class.

**REQUIREMENTS**

Students are expected to attend all classes, to participate fully in class work and discussions and to read sections of the required texts as specified throughout the semester. In addition there are four projects to be completed.

1. A journal recording students' prolonged investigation into a mathematics problem. The problem will be selected from a set chosen by the instructor, and students may work alone or with one or two other class members. (20%)
2. An exploration of the mathematics teaching resources available on the Internet. Students should visit about twenty sites, and then report briefly on the five they consider most useful. (20%)
3. A short presentation to the class on an activity to generate interest in mathematics. This could be a game, puzzle, historical anecdote or famous problem, art project or a children's storybook, but other ideas are welcomed. (20%)
4. A comprehensive plan for teaching one curriculum strand of the BC Integrated Resource Package at a particular grade level. (40%)

**REQUIRED READINGS**

Van de Walle, John A. Elementary & Middle School Mathematics: Teaching Developmentally (Canadian edition). Longman. New York, NY. ISBN: 0205-42077X.  
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>]

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