

**SIMON FRASER UNIVERSITY**

**EDUCATION 475-4  
DESIGNS FOR LEARNING: ELEMENTARY MATHEMATICS  
(D1.00)**

Fall Semester, 1991  
Monday/Wednesday, 6:00–8:00 p.m.  
Location: AHCOTE Building,  
Northern Lights College  
Dawson Creek, BC

Instructor: Janet Dunham  
Phone: 786-5577

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**PREREQUISITES:** Education 401/402 or equivalent

**COURSE DESCRIPTION**

This course is designed for prospective and practising elementary teachers who wish to explore the fundamentals of the learning/teaching process as it applies to mathematics. The emphasis will be on the movement from active exploration of manipulative materials used at the concrete level to semi-concrete/abstract connecting vehicles which link to the abstract concepts across the various strands of the B.C. elementary math curriculum. The course will draw on current research in mathematics learning. Math journals will be utilized to demonstrate the need to keep current as a professional. A variety of teaching strategies will be modeled in delivering the course content.

On completion of the course it is hoped that participants will approach the teaching of math in an enthusiastic, confident manner, that they will feel comfortable and knowledgeable concerning curricular content, and that they will be able to plan for mathematics instruction within a framework consistent with good teaching practices and the curriculum.

Topics that will be covered include:

- problem solving
- curriculum guides and resources
- strategies and activities
- number and number operations
- estimation and mental calculations
- measurement
- calculators and computers
- data analysis
- geometry
- ratio and proportion
- rational numbers
- algebraic thinking
- evaluation/assessment

## **EVALUATION**

Evaluation will be based on the following:

- active participation and attendance
- the keeping of a learning log
- completion of assignments in the Fuys textbook
- a major project to be determined by consultation with the instructor

## **REQUIRED TEXT**

Fuys, David J. Teaching Mathematics in the Elementary School, Glenview, Illinois: Scott, Foresman and Company, 1979.

## **SUPPLEMENTAL TEXT**

Post, Tom. Teaching Mathematics in Grades K-8. Allyn & Bacon, 1988.