SIMON FRASER UNIVERSITY

EDUCATION 475-4
DESIGNS FOR LEARNING: MATHEMATICS
(ELEMENTARY)
(D2.00)

Fall Semester, 1992   Instructor: Janet Dunham
(September 8–December 4)   Phone: 786-5577 (office)
Tuesday/Thursday, 7:00—9:00 p.m.   782-9725 (home)
Location: AHCOTE Building, Northern Lights College
Dawson Creek

PREREQUISITE: Education 401/402.

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, and on constructivist notions of learning. 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, especially those involving social interaction, 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 content, and that they will be able to plan for mathematics instruction consistent with good teaching practices and the Curriculum/Assessment Frameworks.

Topics that will be covered include:

—problem solving   —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   —integration

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. (1979). Teaching Mathematics in the Elementary School. Glenview, Illinois: Scott, Foresman and Company.

SUPPLEMENTAL TEXT:

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