

**SIMON FRASER UNIVERSITY**  
**Education 475-4**  
**Designs for Learning: Mathematics (Secondary)**

Summer Semester, 1990  
Wednesday/Friday  
8:30 - 12:30

Instructor: Sarah Joyce  
Phone: 291-3395

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**OBJECTIVES:**

The course is designed for prospective and practising teachers who wish to explore the fundamentals of the teaching/learning process as it applies to secondary mathematics.

On completion of the course it is hoped that teachers 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.

**OUTLINE OF TOPICS:**

The National Council of Teachers of Mathematics (NCTM) has suggested:

Prospective teachers of mathematics at any level should know and understand mathematics substantially beyond that which they may be expected to teach. They should be able to relate that mathematics to the world of their pupils, to the natural sciences, and to the social sciences. They should also be aware of the role of mathematics in our culture.

The focus of Education 475-4 will be on relating mathematics to the world of the students. The course will include investigations into the school curriculum, identification of valuable topics "outside" the curriculum, demonstrations of varying approaches to teaching specific topics, exposure to resources for remediation and enrichment, and opportunities for students to round out their own mathematics background.

**REQUIREMENTS:**

Students may be expected to:

- participate fully in classwork and discussions
- make one or more class presentations
- submit an assignment related to mathematics education journals
- submit an assignment related to the B.C. curriculum and textbooks
- complete a project related to the history of mathematics
- complete an individual project

**TEXT REQUIRED:**

Posamentier, A.S. & Stepelman, J. Teaching Secondary School Mathematics, Charles E. Merrill, (1981)