

SIMON FRASER UNIVERSITY

EDUCATION 475-4

**Designs for Learning: Mathematics**

Summer Intersession, 1989  
Monday/Wednesday  
5:30 P. M. - 9:20 P. M.  
Location: MPX 7500F

Instructor: Sarah Joyce  
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Messages: 291-3395

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**PREREQUISITE:** Educ. 401/402 or equivalent.

**OBJECTIVES:**

The 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 be operated in a workshop fashion with students expected to:

- become familiar with and confident in the use of a variety of manipulative aids;
- engage in discussion and formulate their own rationale as to the how and why of teaching mathematics;
- explore the realities of children's and adult's learning powers and patterns by an examination of their own learning powers and patterns.

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 topics to be dealt with are the usual contents of the B.C. Curriculum which will be examined from a methodological perspective (how do you teach multiplication, what are fractions, etc.), and from the vantage point of the role of mathematics in everyone's learning of language and general growth (e.g., integration of other subjects, relationships to language arts, and so on).

**TYPICAL REQUIREMENTS:**

Students will be expected to:

- participate fully in classwork and discussions, and complete homework assignments;
- study their own strengths, weaknesses, and questions vis-a-vis the teaching/learning of mathematics;
- complete a term project developed in consultation with the instructor.

Grades will be assessed from: self-evaluation, instructor evaluation, written work and participation in all suggested activities.

**RECOMMENDED TEXTBOOKS:**

Dawson, A.J. (Sandy). Children Teaching Themselves Mathematics. Vancouver: S.F.U., 1981. (Available from Instructor)

Underhill, Bob. Teaching Elementary School Mathematics. Third Edition. Charles Merrill Publishing Co., Columbus, Ohio