

EDUC. 475-4 DESIGNS FOR LEARNING: MATHEMATICS

(SECONDARY)

INTERSESSION 1981

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Tuesday and Friday, 12:30 - 4:20 p.m.

LOCATION: Campus

A slightly modified passage from the Guidelines for the Preparation of Teachers of Mathematics published by the National Council of Teachers of Mathematics (NCTM) is as follows:

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 (Pg. 7).

The focus of Education 475 will be on relating mathematics to the world of the pupils. 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 mathematical background.

Specific goals from the NCTM guidelines to be addressed are as follows:

Teachers of mathematics should be able:

- to relate educational ideas and experiments of the present to those of the past
- to select and adapt strategies and materials that are consistent with professional knowledge about learning
- to evaluate conditions, strategies, and materials used to teach mathematics
- to recognize stages of cognitive, affective, and psychomotor development in children and individual differences between children as these differences pertain to the learning of mathematics
- to diagnose and prescribe remedies for common disabilities in the learning of mathematics and to know what tools and techniques are available to help with diagnosis and correction
- to identify mathematically talented students and design learning activities to facilitate their mathematical growth
- to judge the significance of behavioural, educational, and mathematical studies for improving mathematics education
- to use various techniques to evaluate and improve their own teaching methods

TEXTS: nil