

**SIMON FRASER UNIVERSITY  
SUMMER SEMESTER 2004**

**EDUC 411-3  
INVESTIGATIONS IN SECONDARY MATHEMATICS  
(D01.00)**

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WEDNESDAY 17:30-21:20 EDB 7500F

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**PREREQUISITE:**

COREQUISITE: Educ 415 or appropriate math background and permission of instructor

**COURSE SCHEDULE:**

This is a 3-credit course. To fulfill the requirement of 39 instructional hours (3x13) we will meet in a scheduled 4-hour slot for the first 10 weeks of the semester.

**CATALOGUE DESCRIPTION:**

Students examine secondary mathematics from an advanced standpoint, focusing on problem solving, investigating connections among various topics and representations, and situating secondary mathematics in a broader context, both mathematically and historically.

**COURSE OUTLINE:**

This course is designed for prospective and practicing secondary school teachers who wish to systematically explore and reflect upon problem solving in secondary mathematics from an advanced point of view. This will include determining what constitutes a mathematical problem, the processes of defining and mathematizing a problem; cyclical processes of specializing and generalizing various aspects of a problem in relation to moving from the concrete to the abstract; conjecturing and justifying, and other basic tactics and strategies as to how to go about setting up, attacking, reflecting upon, and extending mathematical problems. That is to say, the main focus of this course will be placed more on experiencing and understanding the doing of mathematics than on mathematics itself. Through participating in this course, students will expand upon and gain more confidence in their mathematical abilities.

**COURSE REQUIREMENTS:**

Students will be expected to attend all classes, and to participate fully in class work and discussions. Assignments include: Weekly homework, problem solving portfolio, project and presentation. Further details will be presented and discussed during the first class session.

**GRADING:**

The course will be graded pass/withdrawal. Students, however, must get a passing grade on each assignment in order to pass the course.

**COURSE TEXTBOOK:**

Mason, J., with Burton, L. & Stacey, K. (1985). *Thinking Mathematically* (Revised Edition). Harlow, England: Addison-Wesley.

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