SIMON FRASER UNIVERSITY

EDUCATION 498–4
SPECIAL TOPIC: NEW PERSPECTIVES IN THE TEACHING AND
LEARNING OF MATHEMATICS
(D1.00)

Summer Session, 1992   Instructor: David Pimm
(June 29 – August 7)   Office: MPX 7501
Tuesday & Thursday   Phone: 291-3796
Lecture: 1:00 – 2:20 p.m. MPX 7618
Seminar: 2:30 – 4:50 p.m. MPX 7500F

PREREQUISITE: EDUC 401/402

COURSE DESCRIPTION

The "new mathematics" reforms of the 1960s, while in part offering revised methods of teaching mathematics, were for the most part concerned with offering different mathematical curriculum content. In the twenty-five years since those attempted reforms, the focus has changed considerably and a variety of new perspectives as well as tools have been developed in mathematics education. Issues such as constructivism and the rise of ethnomathematics, as well as diverse uses for calculators and computers for mathematics teaching at all levels, have called into question conventional answers to the fundamental questions: How do children learn mathematics? Why do we teach mathematics? How shall we teach mathematics and to whom? What mathematics shall we teach in our schools?

This course consists of the public SITE lecture series, including talks by a number of international mathematics educators, and in-depth seminars, offering students the opportunity to discuss issues raised with both the speaker and David Pimm. Specific lecture topics include: integration, the BC mathematics curriculum, teacher practice, modes of assessment in mathematics, imagery, computers and mathematics education, role of discussion in mathematics classrooms, the politics of mathematics education.

COURSE REQUIREMENTS

Two essays (15–20 pages) on topics arising from the lectures: 40% each.
Seminar attendance/discussion 20%.

TEXTBOOKS

There is no prescribed textbook (indeed it is hoped to publish these lectures as a book). There will be preliminary readings for each lecture/seminar discussion. These can be purchased at the outset of the course for $ 25.