EDUCATION 475-4
DESIGNS FOR LEARNING: MATHEMATICS
(ELEMENTARY)

Summer Session, 1987
June 29 - August 7
Monday & Wednesday
1:00 p.m. - 4:50 p.m.

Instructor: Bernice Kastner
Phone: 291-3395
(message)
Location: MPX 8620B

OBJECTIVES

This course is designed to help prospective and practising elementary school teachers develop or improve methodological skills important to the teaching of the B. C. Curriculum in Mathematics at the elementary level. Emphasis will be placed on providing for children to learn mathematics in a meaningful fashion through active involvement with suitable materials and manipulative aids, and on the development of diagnostic procedures for monitoring and guiding pupil progress. By the end of the course, students will be expected to:

--- identify and use appropriate materials to demonstrate
  place-value concepts and procedures, fraction concepts and procedures, and the concepts and processes of geometry and measurement suitable for the elementary school;
--- identify a variety of models for the operations of
  addition, subtraction, multiplication and division; recognize these models as they appear in real-world mathematical settings or story problems; identify strengths and weaknesses of these models for the operations when applied to whole numbers, integers, common or decimal fractions;
--- be familiar with some current theories of how
  children learn mathematics, and with curricular issues arising out of recent technological developments such as the hand-held calculator and the computer;
--- develop a workable instructional sequence to achieve a desired objective, including the identification of assumed prerequisite skills;
--- demonstrate skill in diagnosing pupil errors in
  mathematics and in designing remedial instruction.

OUTLINE OF TOPICS

The topics are set forth in the preceding list of objectives. Students will participate in hands-on exploration of materials and in small-group activities to develop expertise in prerequisite determination and diagnostic procedures.

TYPICAL REQUIREMENTS

Students will be expected to:

--- participate fully in class activities and discussions;
--- complete and submit out-of-class assignments;
--- become familiar with the relevant Provincial curriculum and representative school texts;
--- prepare detailed lesson plans.

PREREQUISITE

Education 401/402 or equivalent.

TEXTBOOKS (Required)

Troutman & Lichtenberg. Mathematics: A Good Beginning (2nd Ed.).

Brooks/Cole (Wadsworth)