

Summer Session 1999

K. Harper

EDUC 475 - 4
Designs for Learning: Mathematics
(Elementary)

Office TBA

Tel: 291-3395

Thursday & Saturday: 8:30 - 12:20 pm
Location MPX 7500F

D03.00

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PREREQUISITE

Educ 401/402

COURSE DESCRIPTION

Over the past decade Elementary Mathematics Education has been transformed. The curriculum guide for elementary mathematics has been replaced with the more comprehensive Instructional Resource Package (IRP), publishers now have "Mathematics Programs," rather than textbooks. Both of these are largely based upon the Curriculum and Evaluation Standards of the National Council of Teachers of Mathematics. The goal of this course is to provide the elementary classroom teacher with the knowledge and information necessary to make important pedagogical decisions about teaching mathematics to children and to provide opportunities to develop an instructional plan of action for teaching. Throughout this course there is an emphasis on practical techniques, ideas, and materials that will help you to teach mathematics with increased knowledge, proficiency, and enjoyment for yourself and your students. Two additional goals are to increase your confidence in your own ability to understand and do mathematics and for you to be able to foster this same confidence in your students.

COURSE EMPHASIS

This is a "hands-on, mind -on" course based largely on the premise that we learn more and we learn differently when we are engaged in meaningful mathematical activities. When used effectively, manipulative materials such as Cuisenaire Rods, Geoboards, Pattern Blocks, and Multilink Cubes can be a catalyst for new mathematical awareness in ourselves and in our students. Throughout this course we will be involved in explorations, discussions and observations, as we search for patterns, draw tentative conclusions, and attempt to adapt "new knowledge" and ideas to particular teaching situations.

REQUIREMENTS

Grades will be based upon three projects.

1. Mathematics Curriculum Project - 40%

You will work alone or within a group to develop a comprehensive plan for teaching one of the curriculum areas identified in the Instructional Resource Package. Details will be discussed in the second class.

2. Tools for Teaching - 40%

This project addresses engaging students in worthwhile meaningful mathematical activities. You will demonstrate your facility with one or more of the mathematical tools for teaching. To this end, the Instructional Resource Package and the prescribed text are excellent starting places. As above, details will be discussed in the second class.

3. Classroom Demonstration - 20%

This is an opportunity for you to demonstrate how you would teach a particular lesson related to the content of the course. The short episode will be presented during the last 4 sessions of the class. Procedures, requirements and expectations will be described and discussed in advance.

REQUIRED TEXTS

• Mathematics K-7 Instructional Resource Package, Ministry of Education, BC (hard copy or CD Rom)
and one of the following:

• Activity Math: Using Manipulatives in the Classroom (Grades 4-6). Anne Bloomer and Phyliss Carlson
OR • Activity Math: Using Manipulatives in the Classroom (Grades K-3). Bloomer, Anne and Phyliss Carlson