

Education 475

Designs for Learning: Elementary Mathematics

D500 - Wednesday 8:30-12:20, Room 3270, SFU Surrey

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Text: Van de Walle, J., and Folk, S. (2008). *Elementary and Middle School Mathematics: Teaching Developmentally (Second Canadian Edition)*. Pearson (Allyn & Bacon).

Course Description:

EDUC 475 is designed for prospective and practicing *elementary* school teachers who wish to explore the fundamentals of the learning/teaching process as it applies to mathematics. The course covers a wide range of issues concerning the teaching of mathematics to young children related to changes to the BC curriculum. Topics include foundations (what it means to understand math, what it means to do math, and the reform movement in math), basic concepts (early number concepts, place value, basic operations, whole-number computations, basic facts, number sense and estimation, measurement, geometry, and probability and data analysis), and practice (problem solving, assessment, inclusion and diversity, technology and planning). Students will be expected to become familiar with and confident in the use of a variety of manipulative materials such as geoboards, pattern blocks, and coloured rods. They will also explore the realities of mathematical learning by examining their own learning powers and patterns. On completion of the course it is hoped that participants will feel more at ease with the subject of mathematics, be able to deal confidently with the prescribed curriculum, and be able to plan mathematical instruction within a consistent framework.

Prerequisites: EDUC 401/402. Students who have credit for EDUC 475 prior to 2001-2 semester cannot take EDUC 475 for further credit. Quantitative.

Grade Distribution:

Problem Solving Log	15%
Math on the Web	10%
Journal Assignment - Paper	10%
Reflective Personal Journal	15%
Midterm Exam	30%
Mini-Lesson	20%