

**SIMON FRASER UNIVERSITY**  
**Education 476-4**  
**DESIGNS FOR LEARNING: NATURAL SCIENCES (ELEMENTARY)**  
**(E1.00)**  
**(Cat. #52190)**

Fall Semester, 1994  
(September 6 - December 5)  
Wednesday, 16:30-20:20  
Location: MPX 7500F

Instructor: Dr. Marv Wideen  
Office: MPX 8558  
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**PREREQUISITE:** EDUC 401/402.

**PURPOSE:**

The past few years has seen a renewed interest in science at all levels. The report, *Science for every student*, produced by the Science Council of Canada has brought to our attention the importance of science teaching to all levels. The recent Ministry of Education Provincial Learning Assessment has pointed to the need for an examination of science teaching in all grades. This atmosphere creates an interesting and exciting context in which this course will be offered this summer.

This course is aimed primarily at exploring effective ways of teaching science at the elementary (and secondary) school level. It is also designed to examine the special problem and current issues in science teaching. As such, the course is designed so that students will:

- gain an overview of a variety of programs designed to teach science;
- examine and become proficient in using different models of teaching applicable to these programs;
- explore how science teaching and science curriculum development have been influenced by various societal and educational trends, and
- examine current controversies and problems in science teaching,

The course activities will be linked to classroom practice wherever possible. It is aimed at both Education 404 and at practising teachers. Students will be encouraged to undertake an action research project as part of the course.

**NATURE OF THE COURSE**

The course will involve a combination of hands-on activity, seminars, presentations and micro teaching. The seminars will typically involve discussing readings in relation to the objectives outlined above. The micro teaching will involve the instructor, visitors or students demonstrating and engaging the group in teaching activities.

**TOPICS**

The following topics will be examined in the course (not necessarily in this particular order). Students will be asked to identify additional topics on the first meeting of the course.

- the science curriculum as prescribed
- the science curriculum as practiced
- the objectives and rationale for science teaching
- models of teaching and their application in secondary science teaching
- issues and problems in science teaching
- implementing new ideas
- evaluation of students

**REQUIREMENTS**

Students will be expected to read extensively and to participate both in seminars in micro teaching. The occasional "think piece" (a short two page think paper) will be required. The final grade will be decided on the basis of class participation, a final project report based on an action research project and an exit interview.

A set of readings will be distributed at the beginning of the course for which a small fee will be charged.