

SIMON FRASER UNIVERSITY  
SUMMER SEMESTER 2005

EDUC 476-4  
DESIGNS FOR LEARNING: ELEMENTARY SCIENCE  
(E01.00)

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Thursday 5:30-9:20 EDB 7500F

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**PREREQUISITE:** EDUC 401/402

**DESCRIPTION**

This course is intended for pre-service or new teachers who wish to develop a fuller repertoire of skills and knowledge related to teaching science at an elementary or middle school level. Students will be introduced to scientific philosophy and challenged to think critically how to apply these ideas to their developing teaching practice. Participants must be committed to attend and engage in the course activities, required reading and discussions. Participants will leave with many practical resources based on sound educational methods to confidently use in a classroom setting.

**OBJECTIVES**

Setting realistic and defensible objectives.  
Arguing for the defensibility of your own science program.  
Constructing your own science curriculum materials.  
Analyzing and improving science teaching.  
Tapping the research on science learning.

This course is intended to provide a comprehensive conceptual framework for making sense of the events of curriculum and instruction in Elementary school science: it provides an introduction to thinking about science, teaching and the practical skills required to do the job.

**REQUIREMENTS**

1. In-class demonstrations and assignments – 40%  
Attendance and active participation are essential to achieving the objectives of this course. Students will be required to regularly submit assignments (reading responses, discussion logs, demonstrations, completion of in-class activities) that can only be completed in-class. This portion of your grade will be gauged on criterion-based assessment of your performance in class.
2. Midterm - 35%  
A mini-unit plan encompassing 5-6 lessons. This is to be accompanied by a short paper that links the specific subject-matter topic to a teaching strategy.
3. Final – 25%  
A final exit-interview will be scheduled with the instructor to share the portfolio, developed over the semester. This final mark will be based on the student's ability to articulate a philosophy and demonstrate skills to teach elementary/middle level science.

**REQUIRED RESOURCES:**

- Carin, Arthur A., Bass, Joel E. & Contant, Terry L. (2005) Activities for Teaching Science as Inquiry, 6th Ed. Pearson, Toronto. (ISBN 013118007X)
- "New" Science K – 7 Integrated Resource Package. (2005) Ministry of Education, British Columbia (available at < [www.bced.gov.bc.ca](http://www.bced.gov.bc.ca) >) Students must bring in a paper copy of one grade level of their choice as well as a paper copy of Appendix D.
- A \$20 activity/equipment/resource fee will be collected on the first day of class.

**RECOMMENDED RESOURCE:**

- Bloom, Jeffrey (1998) Creating a Classroom Community of Young Scientists: A Desktop Companion. Irwin, Toronto. (ISBN 0772525145)

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