

Simon Fraser University
Education 476-4
Designs for Learning: Natural Sciences (Elementary)

Instructor: Glenn Brown

Course Description:

This course is designed for all; no special knowledge of science is required. Participants will learn a range of general approaches and specific activities which they will be able to use in the classroom, and they will be introduced to a variety of other resources they can call upon in the future. We will cover both science content, in several key curriculum areas, and ways to bring that content to children. The course will review what science is and why we teach it. It will introduce a series of models of teaching appropriate for science lessons. The course will balance theoretical considerations with practical classroom concerns. Activities will be from the physical, biological and earth sciences. We will also consider environmental education and how it can fit in a science curriculum.

During the course the students will:

- participate in activities from different science subject areas
- review and practice teaching using different models of teaching
- practise using "hands-on" science activities
- review some existing science education programs and resources
- create new lessons and activities with small groups, and on their own
- develop a theoretical framework within which they can plan, execute and evaluate their own science programs

Topics

- What are science and science education
- What are the objectives of science education
- What are the merits and problems of activity based science teaching
- How to use different teaching techniques with science subjects
- How commercially available science programs can be used in the classroom
- How to design your own science units
- How to evaluate science units
- How to integrate science with other subjects

Evaluation

Student grades will be based upon several short assignments, one longer assignment, and in class performance.

Readings

A series of readings will be assigned in class. Copies of some will be available for purchase in class, others will be on reserve.