

SIMON FRASER UNIVERSITY
EDUCATION 476-4 (D2.00)
DESIGNS FOR LEARNING: NATURAL SCIENCES (ELEMENTARY)
(CAT. #10626)

Summer Session, 1994
(June 27 - August 5)
Tuesday & Thursday, 8:30-12:20
Location: MPX 7500F

Instructor: W. Lim
Office: MPX 8637
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PREREQUISITE: EDUC. 401/402.

OBJECTIVES

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

OUTLINE OF TOPICS

What is science, and why should it be taught anyway?
Using philosophy of science to develop a sound conception of scientific process.
What is the "scientific method"? Does it really exist?
Are scientists "open-minded" and "objective"?
What makes an experiment an experiment?
What is the role of human purpose and interest in scientific inquiry?
What programs and materials are available to elementary science teachers?
How can we interpret what students say and do in the science classroom?
How do young children think about particular scientific concepts?
Setting realistic and defensible objectives.
Blending the same subject matter "content" with different "intentions" for students.
Parent and community involvement in science and technology.
Arguing for the defensibility of your own science program.
Constructing your own science curriculum materials.
Analysing and improving science teaching.
Tapping the research on science learning.
Making decisions about resourcing science experiences

TYPICAL REQUIREMENTS

1. A mini-unit plan or theme study encompassing 5-6 lessons, according to a format I shall specify. This is to be accompanied by a short paper that links the specific subject-matter topic to a teaching strategy, which can then be predicted to result in students learning some selected message(s) about science. In addition, I am asking you to argue for the case that such learning is in the best interest of students. (30%)
2. A presentation of your mini-unit plan to fellow students will occur during class time. (30%)
3. An analysis of this presentations will be done by you. The point of the exercise will be to identify an aspect of your own teaching-of-science that you would like to improve in the process of implementing your own curriculum plan. (30%).

Note: Detailed specification of these assignments is forthcoming. The remaining 10% of your grade will be based on my assessment of your performance in class.

READINGS

Generally, readings will be xeroxed for you and handed out in class. Additional sources available in the library will be recommended at times.

REQUIRED TEXT

Wassermann, Selma & Ivany, George (1988). Teaching Elementary Science: Who's Afraid of Spiders? Harper & Row.