
Semester: 97-2 Regular

EDUC 476 - 4 Designs for Learning: Natural Sciences

Fridays 8:30-12:20

Section: D1.00

Instructor: M. Cummings

Office: 7560mpc

Tel: 291-3395

E-mail: cummings@sfu.ca

PREREQUISITE

Educ 401/402

COURSE DESCRIPTION

This course will focus on ways of *knowing* with regard to science teaching and learning: what is science and what does it mean to be a science teacher? Is it possible for someone without a scientific background to become a good science teacher, and how? What should we teach? How does this match with the prescribed curriculum? How can we use new communication technologies to teach science? How do we evaluate good science teaching? How do we assess good science learning?

OBJECTIVES

- * To create and teach science investigations for elementary children.
- * To interpret the IRP.
- * To gain a philosophical base regarding classroom science.
- * To analyze science teaching.
- * To construct our own science curriculum materials.

This course will have a studio component. Students will participate in a kids science summer camp where student-teacher's lessons will provide a full morning's activities for children. Through analyzing and watching our teaching *together* and through a dialogue process of *coming to know*, we will recognise our everyday selves as science teachers.

Students must also have an e-mail account before enrolling in this course. (Every student is entitled to an e-mail account. Please visit Academic Computing Services (ACS) in 1001 Strand Hall with a picture Id. Call them at 291-3234 or myself at 469-3005)

REQUIREMENTS

1. Midterm 45%
 - A mini-unit plan encompassing 5-6 science lessons. This is to be accompanied by a short paper that links the specific subject-matter to a teaching strategy.
2. Endterm 45%
 - An analysis of a lesson taught by you to a group of elementary students.
3. Class performance 10%
 - This grade will be based on my assessment of your performance in the class.

READINGS

Beichner, R. & Dobey, D. Essentials of Classroom Teaching: Elementary Science. Boston: Allyn & Bacon, 1994. ISBN 0-205-14579-5.

ADDITIONAL READINGS

In addition to our text, supplementary articles will be placed in the CET for student use.

We also recommend that you obtain the IRP(s) for your teaching area(s) for Senior high school.

Students will also be expected to have some familiarity with these journals:

Innovations in Science and Technical Education

International Journal of Science Education

Journal of Research in Science Teaching

School Science and Mathematics

Science and Children

Science Scope

The Science Teacher