

Intersession 2002

EDUC 416 - 4
Designs for Learning:
Secondary Science
***D04.00**

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NEWCALTEC

PREREQUISITE: EDUC 401/402

DESCRIPTION

This course is designed for prospective elementary and secondary school teachers who wish to explore the fundamentals of the learning/teaching process as it applies to science. The course will draw from a variety of research in science learning, and will consider how such findings may be used in the classroom.

Students will be expected to become familiar with, and confident in, the use of a variety of teaching strategies including the use of critical challenges, hands-on activities, written assignments, role plays, and computer applications (this does not require a high level of computer literacy), and approaches to the use of group work. Students are also expected to prepare themselves to deal with a range of classroom issues arising from both the science education literature and practical experiences. For example, we will consider issues arising from the diversity of learning dispositions present in any classroom while at the same time students will be supported to consider a variety of approaches to planning for instruction. The course will generally involve an inquiry approach where students are expected to reflect on their work, identify significant questions and to pursue possible alternative approaches to supporting learning.

OBJECTIVES

On completion of the course it is hoped that participants will broaden and deepen their understanding of science content, be able to deal confidently with both the prescribed and emergent curriculum, and be able to plan teaching and learning science instruction within a consistent framework. It is also hoped that students will come to see themselves as lifelong innovators, and find a balance between their own learning needs and their day-to-day classroom practice.

REQUIREMENTS

- Teaching/Learning Plan (25%)
- Critical Challenges (25%)
- Group Lessons (15%)
- Self Assessment of Lesson Plan (15%)
- Individual Inquiry (20%)

READINGS

Material will be provided before each class and will be expected to have considered the material before each session.

INSTRUCTOR

The course will be taught by Phil Balcaen a PDP Coordinator with twenty years of science teaching experience and several years experience teaching 416/476.

His primary goal is to model the notion of a critical thinking stance openly by reflecting on practice, attending to feedback, and by considering a variety of theoretical perspectives. At this time, he is actively engaged in an inquiry into Case's use of critical challenges in the science classroom and this work will play a primary role in the class.