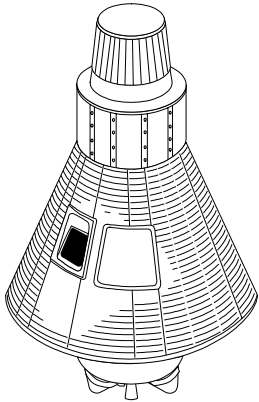
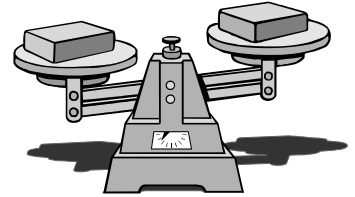


SCIENCE & MATHEMATICS CURRICULUM DEVELOPMENT FOR GRADES 5-8



Course Syllabus, Education 595
Online: <http://web.nmsu.edu/~susanbro/sc2/>

Instructor: Susan W. Brown, Ph.D.
646-1397/522-1905
susanbro@nmsu.edu
Assistant Instructor: Terri Hansen, M.S.
646-2350
Graduate Assistant: Hernan Miranda, M.A.



Office Hours: Wednesday and Thursday: 9:00 – 11:00 a.m.
Knox Hall, Room 308

ADA Statement: If you have a special need that affects your academic performance in this class, please let me know immediately. You must be registered with the office of Disabled Student Programs in order to make special provisions.

RECOMMENDED TEXTBOOKS FOR YOUR OWN RESOURCE LIBRARY:

- Carin, A. & Bass, J. (5th edition). Activities for teaching science as inquiry.
- Donovan, S. (2004). How Students Learn: Science in the Classroom. New York: National Academy Press.
- Duschl, R., Schweingruber, H. & Shouse, A. (2007). Taking Science to School. New York: National Academy Press.
- Hammerman, E. (2006). Essentials of Inquiry-Based Science, K-8. Thousand Oakes: California.
- Peters, J. & Gega, P. (4th edition). How to teach elementary school science.
- Settlage, J. & Southerland, S. (2007). Teaching Science to Every Child. New York: Routledge Publishing.

PHILOSOPHY OF SCIENCE EDUCATION:

Throughout a student's education, he/she will learn to like or dislike science or even to be afraid of science. An educator is in a key position to influence a child's attitude toward science. By continuing a child's natural curiosity, science can be the most fascinating subject for every child at every age! Passive activities such as reading a book or answering questions at the end of the chapter will not stimulate the student's interest. By providing an inquiry-based approach to science, the science educator will help to channel the student's energy, curiosity, and interest into a lifelong interest in the world of science.

Equity pedagogy is a very important consideration in the science classroom. The science educator must create an environment that is encouraging and filled with opportunities for **all** students to succeed. There is an under-representation of minorities and women in the scientific and technological fields. It is left to the educators a challenge to develop methodologies that will allow the learning process to occur for **all** students in the science classrooms across the country.

Fulfilling the theme of the College of Education conceptual framework, this course will contribute to the development of *education and clinical professionals who facilitate learning and promote change in environments that both reflect and value diversity.*

COURSE DESCRIPTION:

This course is designed to reinforce current methodologies of teaching science for understanding and provide in-service teachers with more practical experience, theoretical background, and pedagogical skills. This will be accomplished by continuing the work from the summer Scientifically Connected Community institutes and implementing strategies learned. Teaching is not formulaic and an educator cannot tell you exactly how to be successful by just doing a few simple steps. You have entered a profession that is complex, ever changing, and demanding. This course is designed to help you to continue to develop a foundation of sound teaching strategies that engage students in the exploration and discovery of the world of science.

EXPECTED OUTCOMES OF THIS COURSE:

1. To understand the current models of science teaching and learning.
2. To develop inquiry-based, learner-centered lesson plans that encourage **all** children to succeed in science.
3. To utilize pedagogical strategies where students actively construct knowledge.
4. To be able to integrate all subjects and science.
5. To increase science content knowledge.
6. To use a variety of resources that are available to teachers.

CLASS STRUCTURE: Online

STUDENT RESPONSIBILITIES:

In groups at your school site or with other colleagues, a unit of study that focuses on a scientific topic from your grade level curriculum guide will be developed. Each unit will include:

1. 15 lessons using a lesson plan template of your choosing.
2. Lessons will include resources from the Scientifically Connected Communities summer institute.
3. All lessons will be inquiry based and promote active learning.
4. Cross curricular lesson plans are required.
5. The lessons will be implemented in the classrooms and documentation (pictures, student work) of student learning is required.
6. The units will be posted on the SC² website as a valuable resource.

