



Independent Studies Course Syllabus

Course Number: SCI 910A-Classroom Science, Weather-Water (Methods and Activities, Grades K-12)

Instructor: Marvin Harms

Contact Information

Phone: 559-222-7384

E Mail: harmsmarvin@yahoo.com

Web page: www.hands-on-experiments.com

Number of Units: Three

Course Description This online methods course is designed to explore how the study of Weather-Water will enrich the science programs. The participants are required to complete and evaluate a planned series of experiments and/or experiences with their students. This course is in alignment with the California State and National Science Standards. Common Core State Standards for Literacy in History/Social Studies, Science, and Technical Subjects are included in lesson plans and assignments. All of these lessons may be used with children in the classroom, home, and/or neighborhood.

Course Dates

Self-paced; students may enroll at any time and take up to one year to complete assignments. (Three week minimum)

Course Materials

All of the materials are found online.

Moodle Site

Students will be required to work in the Moodle environment. For those students who do not have access to a Moodle site on a school or district server, free options are provided.

Technology Requirements (For online courses)

In order to successfully complete the course requirements, course participants will

need Internet access, be able to send and receive email, know how to manage simple files in a word processing program, and have a basic understanding of the Internet.

Please remember that the instructor is not able to offer technical support. In the event that you need technical support, please contact your Interned Service Provider.

If you need help logging on to the Moodle site, contact The Help Desk at Fresno Pacific University by telephone 1 559 453 3410 or by email helpdesk@fresno.edu.

Course Requirements:

1. The teacher is to do 15 experiments and/or experiences with his/her class. Post the answers to the questions in the forum section under each experiment.
2. The teacher may post experiments of her/his own. There is a place to do this in the Field Trip section (Section 10).
3. The teacher is to post the State and/or National Science Standards and Common Core Literacy Standards in Science that were met teaching each experiment on each forum where requested.
4. Post a one page report describing how this class enhanced your curriculum at the top of the internet page.

Content Standards

The outcomes and course materials are aligned to and are supported by the six Science Teaching Standards, which are contained in the National Science Education Standards and can be located at http://www.nap.edu/openbook.php?record_id=4962&page=1 Content standards for experiments and experiences in this course are aligned to the National Science Education Standards that can be applied to each of the grade level content areas for : Unifying concepts and processes in science. Science as inquiry. Physical science. Life science. Earth and space science. Science and technology. Science in personal and social perspectives. History and nature of science. Students will apply grade level standards applicable to their state or local district standards.

Primary Learning Outcomes.

Teachers who take this course will demonstrate how to make science learning relevant to daily life. National Science Teaching Standards (A – F) 2. Teachers will be able to effectively present the study of Weather-Water in a variety of situations. (B) 3. Teachers will be able to articulate how the State and/or National Science Standards were met using this material. (A, D, F) 4. Teachers will be able to identify and assess a processes on how to teach this material effectively. (C, E) 5. Teachers will be able to describe how science principles affect the local environment. (F) 6. Teachers will be able to explain how scientific

breakthroughs link large amounts of knowledge, build upon the contributions of many scientists, and cross different lines of study. (F)

Schedule of Topics and Assignments.

Take a look at the curriculum required by your district. Perform the experiments and/or experiences included in this course and outlined in the “Course Requirements” that are appropriate to meet the needs of your district. By doing the experiments and/or experiences, you will be able to become more proficient in your ability to communicate with your students, parents, fellow teachers and administration. Experiments and/or experiences are designed with the busy life of a teacher in mind. The experiments are designed to give you a basic format from which to develop the concepts.

Evidence of Learning

Instructor will assess student’s learning based on evaluation of work posted by students based on class participation, reflective writing, and criteria established for each assignment and/or experiment or experience.

Grading and Rubrics

Grades will be assigned based on points earned during the course. Grades will be given on the following basis: A=99-110 points, B=88-98 points. For a credit grade you must have at least 88 points. Check the grading rubric for expectations and points given.

Submitting the Grade Form

The Grade Form is to be completed online. Look on the left of the main page and you will see Grade Form under Administration, and a login button. If you have not created a login account, you will need to do so. <http://ce.fresno.edu>.

Online Courses

Throughout the course students will be communicating with the instructor on a regular basis through the use of Forums. In addition, students are encouraged to email the instructor at any time. Students will also receive feedback on the required assignments as they are resubmitted. I will contact the student within twenty four hours after they have posted an assignment.

Policy on Plagiarism

All people participating in the educational process at Fresno Pacific University are expected to pursue honesty and integrity in all aspects of their academic work. Academic dishonesty, including plagiarism, will be handled according to the procedures set forth in the Fresno Pacific University Catalog. Alignment to Fresno

Pacific University Desired Student Outcomes:**Graduate level course work reflects Fresno Pacific University's Desired Student Learning Outcomes as it applies to professional development to demonstrate the following:**

- Oral and written communication individual and group settings.
- Content knowledge, and application of such knowledge in the student's area of interest to affect change.
- Reflection for personal and professional growth.
- Critical thinking.
- Cultural and global perspectives to understand complex systems.
- Computational/methodological skills to understand and expand disciplines, including an understanding of technological systems" National Science Education Standards <http://www.nap.edu/>

Teaching Standard A Teachers of science plan an inquiry-based science program for their students. In doing this, teachers Develop a framework of yearlong and short-term goals for students. Select science content and adapt and design curricula to meet the interests, knowledge, understanding, abilities, and experiences of students. Select teaching and assessment strategies that support the development of student understanding and nurture a community of science learners. Work together as colleagues within and across disciplines and grade levels.

Teaching Standard B Teachers of science guide and facilitate learning. In doing this, teachers Focus and support inquiries while interacting with students. Orchestrate discourse among students about scientific ideas. Challenge students to accept and share responsibility for their own learning. Recognize and respond to student diversity and encourage all students to participate fully in science learning. Encourage and model the skills of scientific inquiry, as well as the curiosity, openness to new ideas and data, and skepticism that characterize science.

Teaching Standard C Teachers of science engage in ongoing assessment of their teaching and of student learning. In doing this, teachers Use multiple methods and systematically gather data about student understanding and ability. Analyze assessment data to guide teaching. Guide students in self-assessment. Use student data, observations of teaching, and interactions with colleagues to reflect on and improve teaching practice. Use student data, observations of teaching, and interactions with colleagues to report student achievement and opportunities to learn to students, teachers, parents, policy makers, and the general public.

Teaching Standard D Teachers of science design and manage learning environments that provide students with the time, space, and resources needed for learning science. In doing this, teachers Structure the time available so that students are able

to engage in extended investigations. Create a setting for student work that is flexible and supportive of science inquiry. Ensure a safe working environment. Make the available science tools, materials, media, and technological resources accessible to students. Identify and use resources outside the school. Engage students in designing the learning environment.

Teaching Standard E Teachers of science develop communities of science learners that reflect the intellectual rigor of scientific inquiry and the attitudes and social values conducive to science learning. In doing this, teachers Display and demand respect for the diverse ideas, skills, and experiences of all students. Enable students to have a significant voice in decisions about the content and context of their work and require students to take responsibility for the learning of all members of the community. Nurture collaboration among students. Structure and facilitate ongoing formal and informal discussion based on a shared understanding of rules of scientific discourse. Model and emphasize the skills, attitudes, and values of scientific inquiry.

Teaching Standard F Teachers of science actively participate in the ongoing planning and development of the school science program. In doing this, teachers Plan and develop the school science program. Participate in decisions concerning the allocation of time and other resources to the science program. Participate fully in planning and implementing professional growth and development strategies for themselves and their colleagues.

SCI 910A Weather/Water

Last updated: 11/25/11