

Independent Study Online Course Syllabus

Course Number: SCI 910A
Course Title: Classroom Science – Weather/Water (Methods and Activities)

X Online

Instructor: Marvin Harms
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Units: 3
Grade Level: K-12

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.

You have up to one year from the date of registration, and no less than three weeks (one week per credit), to complete the course.

Course Materials

All of the materials are found online.

Moodle:

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This course will be delivered totally online. Moodle is a learning management system that provides students access to online resources, documents, graded assignments, quizzes, discussion forums, etc. with an easy to learn and use interface. To learn more about Moodle go to: (http://docs.moodle.org/en/Student_tutorials). There are some student tutorials on the Center for Online Learning website at Fresno Pacific University – <http://col.fresno.edu/student>.

Moodle Site Login and passwords – (or other online course access information)

Students will need to have internet access to log onto <http://ce-connect.fresno.edu>. The username and password numbers for Moodle access will be sent to you by the university using the email address you submitted at the time of registration. The instructor will then contact you with a welcome letter and login instructions. If you need help with the username and password recovery please contact the Center for Professional Development at (800)372-5505, or (559)453-2000 during regular office hours - Mon-Fri 8:00 am to 5:00 pm.

Getting Help with Moodle:

If you need help with Moodle, please contact the Center for Online Learning (COL), by telephone 1-559-453-3460. Help by phone is available Mon-Thurs 8:00 am to 8:00pm and on Fridays from 8:00 am to 5:00 pm, or by filling out a “Request Services” form at <http://col.fresno.edu/contact/request-services>. Please identify that you are with the Continuing Education/Independent Studies department.

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

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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

1. 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 process 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.

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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 points given.

Final Course Grade and Transcripts

When all work for the course has been completed, students will need to logon to the Center for Professional Development website (<http://ce.fresno.edu/cpd>) to "Submit Grade Form". Once the instructor fills out the grade form online, students may log back in to request their Grade Report as well as order transcripts online. Please allow at least two weeks for the final grade to be posted. For more information see the Independent Studies Policies and Procedures that were sent to you when you received your course materials, or in your online course. They are available, also at <http://ce.fresno.edu/cpd> - under General Information > CPD Policies.

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.

Common Core

To help English language learners attain the competencies stipulated in the Common Core State Standards (CCSS), educators need to both plan and deliver rigorous instruction both in the content areas and in promoting English language proficiency. Effective instruction in content areas involves recognizing the challenge, and teaching effectively, including implementing and evaluating sheltered instruction, and incorporating the teaching of academic language. Academic language should of course be incorporated into ELD instruction. Other practices to promote English language proficiency include daily language instruction, structured student talk, grouping, encouragement of verbal interactions, and sufficient duration of services. Moreover, school and district factors, such as "coherent school-wide goals, ongoing assessment of student learning, strong leadership, and ongoing professional development linked to goals and assessments" play a positive role in English language learners' achievement.

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Plagiarism and Academic Honesty

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 Catalogue. URL <http://www.fresno.edu>.

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

CONTINUING EDUCATION PROGRAM STUDENT LEARNING OUTCOMES:

CE 1. Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.
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CE 2. Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.

CE 3. Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.
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CE 4. Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.
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CE 5. Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.
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CE 6. Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.

FRESNO PACIFIC UNIVERSITY STUDENT LEARNING OUTCOMES

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Student Learning Outcomes Oral Communication: Students will <i>exhibit</i> clear, engaging, and confident oral communication – in both individual and group settings – and will critically <i>evaluate</i> content and delivery components.
Written Communication: Students will <i>demonstrate</i> proficient written communication by <i>articulating</i> a clear focus, <i>synthesizing</i> arguments, and utilizing standard formats in order to <i>inform</i> and <i>persuade</i> others.
Content Knowledge: Students will <i>demonstrate</i> comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
Reflection: Students will <i>reflect</i> on their personal and professional growth and <i>provide evidence</i> of how such reflection is utilized to manage personal and vocational improvement.
Critical Thinking: Students will <i>apply</i> critical thinking competencies by <i>generating</i> probing questions, <i>recognizing</i> underlying assumptions, <i>interpreting</i> and <i>evaluating</i> relevant information, and <i>applying</i> their understandings to new situations.
Moral Reasoning: Students will <i>identify</i> and <i>apply</i> moral reasoning and ethical decision-making skills, and <i>articulate</i> the norms and principles underlying a Christian world-view.
Service: Students will <i>demonstrate</i> service and reconciliation as a way of leadership.
Cultural and Global Perspective: Students will <i>identify</i> personal, cultural, and global perspectives and will employ these perspectives to <i>evaluate</i> complex systems.
Quantitative Reasoning: Students will accurately <i>compute</i> calculations and symbolic operations and <i>explain</i> their use in a field of study.
Information Literacy: Students will <i>identify</i> information needed in order to fully understand a topic or task, <i>explain</i> how that information is organized, <i>identify</i> the best sources of information for a given enquiry, <i>locate</i> and critically <i>evaluate</i> sources, and accurately and effectively <i>share</i> that information.

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,

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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

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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.

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