

Independent Study Online Course Syllabus

Course Number: SCI 909**Course Title: Classroom Science, Structure and Function in Living Systems
(Methods and Activities)**

X Online

Instructor: Marvin Harms
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Grade Level: K-12

Course Description

This online methods course is designed to explore how the study of Biology, with emphasis on the systems of the body, can be used to 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 assignment. All of these experiments and/or experiences 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:

This course will be delivered totally online. Moodle is a learning management system that provides students access to online resources, documents, graded assignments,

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To register for courses go to <http://ce.fresno.edu/cpd> and log in

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. Forum posts are included for the teacher to make an evaluation of the material presented in each experiment and/or experience under the appropriate experiment and/or experience.
2. The teacher may write experiments of her/his own. These choices are listed in section #6.
3. The teacher is to list the State and/or National Science Standards and Common Core Literacy Standards in Science that were met teaching each experiment on the appropriate Forum Post where requested.
4. Post a one page report describing how this class enhanced your curriculum. You will see this at the top of the page under the family listed as an Evaluation for this class.

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

<http://corestandards.org/the-standards>

Download Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects. Go to pages 60 - 66 to see the Common Core Standards for this Class.

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.
2. Teachers will demonstrate how to effectively present the study of the Systems of the body in a variety of situations.
3. Teachers will be able to articulate how the State and/or National Science Standards were met using this material.
4. Teachers will be able to see a process on how to teach this material effectively.
5. Teachers will experience how major scientific breakthroughs link large amounts of knowledge, build upon the contributions of many scientists and cross different lines of study.
6. Teachers will demonstrate how scientific discovery is often a combination of an accidental happening and observation by knowledgeable persons with an open mind.
7. Be able to arrange in order, from smallest to largest, the levels of organization that occur in nature and to write a brief description of each.
8. Homeostasis is defined as a state in which the conditions of an organism's internal environment are maintained within tolerable limits. What mechanisms in your body are involved with homeostasis?
9. Explain what the term biological diversity means to you and speculate about what caused the great diversity of life on Earth.
10. Outline a set of steps that might be used in the scientific method of investigating a problem.
11. Explain why a control group is used in an experiment.

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 that are appropriate to meet the needs of your students. 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

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experiments are designed to give you a basic format from which to develop the concepts. The Experiment Forums are there to help you evaluate your work on each Experiment.

Take a look at the curriculum required by your district. Perform the experiments and/or experiences included in this course 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. The Forums are designed so that you may evaluate your teaching strategy. “Built into the course requirements, are several contacts between the course instructor and the student. Questions are addressed and assistance is offered through these contacts between the instructor and student following the posting of each Forum.”

1. On-track students – (Teachers with students) choose 15 Experiments from the materials included with this course and present them to your class or a group of students. Complete 15 Forums based on the Experiments taught. Check the complete assignment list on the Grading Rubric.
2. Off-track students - (Teachers without students) review 30 Experiments using the Forum prompt for that particular Experiment. You do not need to actually present the experiments to students. Check the complete assignment list on the Grading Rubric.
3. Upon completion of your Forum assignments, your instructor will contact you via phone or e-mail to discuss your work. Responses will be made by the Instructor each day that posts are made.

Evidence of Learning

Instructor will assess student’s learning based on evaluation of work submitted 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.

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>.

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.
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.
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.
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.
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

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.

