
Independent Study Online Course Syllabus

Course Number: SCI 904A
Course Title: Classroom Science – Human Body (Methods and Activities)

X Online

Instructor: Marvin Harms Phone number: (559) 222-7384 Email: marvinwharms@gmail.com Web page: http://www.hands-on-experiments.com	Units: 3 Grade Level: K-12
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Course Description

This online methods course is designed to explore how the study of the human 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 assignments. All of these experiment 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, quizzes, discussion forums, etc. with an easy to learn and use interface. To learn more

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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.

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

Course Requirements

1. The teacher is to do 15 experiments and/or experiences with his/her class. Forums are included at the end of each experiment for the teacher to make an evaluation of the material presented in each experiment.
2. The teacher may write experiments of her/his own. This are listed at the bottom of the Experiment section just above the Experiences.
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 where requested.
4. Post a one page report describing how this class enhanced your curriculum. There is an Evaluation Forum at the top of the Front Page.

Content standards

Students will apply grade level standards applicable to their state or local district standards. Include the appropriate standards in the Forum Section when completing an assignment.

<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.

Students will

- a. Select and use appropriate tools and technology (such as computer-linked probes, spread sheets, and graphing calculators) to perform tests, collect data, analyze relationships, and display data.
- b. Identify and communicate sources of unavoidable experimental error.
- c. Identify possible reasons for inconsistent results, such as sources of error or uncontrolled conditions.
- d. Formulate explanations by using logic and evidence.
- e. Distinguish between hypothesis and theory as scientific terms.
- f. Recognize the usefulness and limitations of models and theories as scientific representations of reality.
- g. Recognize the issues of statistical variability and the need for controlled tests.
- h. Recognize the cumulative nature of scientific evidence.
- i. Analyze situations and solve problems that require combining and applying concepts from more than one area of science.

Organisms have a variety of mechanisms to combat disease.

As a basis for understanding the human immune response, students know.

- a. The role of the skin in providing nonspecific defenses against infection.
- b. The role of antibodies in the body's response to infection.
- c. How vaccination protects an individual from infectious diseases.
- d. There are important differences between bacteria and viruses, with respect to their requirements for growth and replication, the primary defense of the body against them, and effective treatment of infections they cause.

Primary Learning Outcomes.

1. Teachers who take this course will know how to make science learning relevant to daily life.
2. Teachers will know how to effectively present the study of human 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 use science to understand and describe the local environment.
6. Teachers will understand that major scientific breakthroughs may link large amounts of knowledge, build upon the contributions of many scientists, and cross different lines of study.
7. Teachers will understand that scientific discovery is often a combination of an accidental happening and observation by knowledgeable persons with an open mind.

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 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 these 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 email 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. I will read the Forums that you post. The Forums will be responded to within 24 hours. This will be a way of communication with you about your progress.

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.

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.

Instructor/Student Contact

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. These contacts are confirmed when the Student goes online and posts their assignments. If I cannot reach the student by email, I will give them a telephone call and discuss their work. I will contact the student as many times as is necessary. The minimum will be at least three contacts.

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,

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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>

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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.