



## **Independent Studies Course Syllabus**

**Course Number: SCI 915A-Classroom Science, Matter and Energy. (Methods and Activities, Grades K-12)**

**Instructor: Marvin Harms**

**Contact Information:**

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**<http://www.hands-on-experiments.com>**

**Number of Units: Three**

**Course Description:**

This online methods course is designed to explore how the study of Matter and Energy can be used to enrich the science programs. The participants are required to complete and evaluate a planned series of Labs 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 labs and/or experiences may be used with children in the classroom, home, and/or neighborhood.

**Course Dates**

This course is 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](mailto:helpdesk@fresno.edu).

### Course Requirements:

1. The teacher is to do 15 Labs and/or Experiences with his/her class.
2. The teacher may write Labs of her/his own. Post the completed Labs that you have written in Labs 31-33.
3. The teacher is to list the State and/or National Science Standards and Common Core Literacy Standards in Science that were met teaching where requested in the Labs Forum.
4. Post a one page report describing how this class enhanced your curriculum. The posting is to be done at the top just below the Grading Rubric.

### 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://www.nap.edu/openbook.php?record_id=4962&page=1)  
Content standards for labs 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.

<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

### **Primary Learning Outcomes.**

1. Teachers who take this course will demonstrate how to make science learning relevant to daily life.
2. Teachers will know how to effectively present the study of Matter and Energy 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 design, conduct, evaluate and communicate scientific investigations.
6. Teachers will be able to demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.
7. Teachers understand how scientific knowledge and technological developments impact society.

### **Schedule of Topics and Assignments.**

Take a look at the curriculum required by your district. Perform the labs and/or experiences included in this course that are appropriate to meet the needs of your district. By doing the labs and/or experiences, you will be able to become more proficient in your ability to communicate with your students, parents, fellow teachers and administration.

Labs and experiences are designed with the busy life of a teacher in mind. The labs and/or experiences 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 labs 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.

### **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 log in button. If you have not created a login account, you will need to do so. <http://ce.fresno.edu>

### **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 the assignments.

### **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"

Marvin Harms  
SCI 915A Methods and activities, Last updated 11/