Continuing Education
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SCI-923 – Yosemite: Sierra Natural History

Independent Study Online Course Syllabus

Instructor: Mary Bennett, MA **Phone:** (559) 285-6488 **Email:** maryebennett@sbcglobal.net **Office Hours:** M-F 8:00 am – 5:00 pm	**Number of Graduate Semester Units:** 3 units **Target Audience:** K – 12th grade teachers **Course Access:** ce-connect.fresno.edu

Course Description

This course is designed as an introduction to the natural history of Yosemite National Park and the Sierra Nevada Mountains. Through the text, videos, and the rich resources offered on the Internet, students will gain insight and knowledge into the wildlife, plants, ecosystems, and the awe inspiring natural features found in this unique region. This course highlights not only the history but the geological features of the park available through virtual explorations or an optional onsite visit. Students will have the opportunity to apply what they have learned as they develop integrated lessons for their classroom that align to state, district or national standards, including the Next Generation Science Standards and the Common Core.

Note: Required textbook must be acquired separately.

Required Texts and Course Materials

Textbook: Tracy I., Storer, T. I., Usinger, R. L., & Lukas, D. (2004). *Sierra Nevada Natural History.* ISBN-13: 978-0520240964. https://www.amazon.com/Sierra-Nevada-Natural-HistoryCalifornia/dp/0520240960/ref=sr_1_1?ie=UTF8&qid=1340843478&sr=8-%201&keywords=sierra+nevada+natural+history

Note: Students are responsible for purchasing their own textbook, analyzing the content, and applying what they learned to the course assignments. You are welcome to purchase used, ebook, or new versions to save money. You can order the book directly from the publisher or from one of several discount aggregators (for example): http://books.nettop20.com

Online Resources: Relevant online resources that support the course content and encourage further investigation will be available throughout the course assignments. Active hyperlinks are utilized throughout the course and will link to the appropriate information when clicked. These include videos, podcasts, worksheets, online activities, journal articles and other resources.

Moodle: Moodle is a web-based learning management system used to support flexible teaching and learning in both face-to-face and distance courses (e-learning).
https://moodle.org // https://moodle.org/demo // https://docs.moodle.org

Course Dates

Self-paced; students may enroll at any time and take up to one year, from the date of registration, to complete assignments. Students may complete assignments in no less than three weeks for a 3-unit course (one week per unit).

National Standards Addressed in This Course

Next Generation Science Standards Framework for K-12 Science Education

In July 2011 the first step in the creation of the Next Generation Science Standards was released. *The Framework for K-12 Science Education*, provides a sound, evidence based foundation for standards by drawing on current scientific research, including research on the ways in which students learn science effectively. The framework identifies the key scientific ideas and practices all students should learn by the end of high school. This framework laid the foundation for the development of the Next Generation Science Standards.

The Framework is made up of three dimensions that broadly outlines the knowledge and practices of the sciences and engineering that all students should learn by the end of high school:

- Dimension 1 describes scientific and engineering practices.
- Dimension 2 describes crosscutting concepts—that is, those having applicability across science disciplines.
- Dimension 3 describes core ideas in the science disciplines and of the relationships among science, engineering, and technology.

National Board for Professional Teaching Standards (NBPTS)
(http://www.nbpts.org/standards-five-core-propositions/)

First published in 1989 and updated in 2016, *What Teachers Should Know and Be Able to Do* articulates the National Board's Five Core Propositions for teaching. The Five Core Propositions - comparable to medicine's Hippocratic Oath — set forth the profession's vision for accomplished teaching. Together, the propositions form the basis of all National Board Standards and the foundation for National Board Certification. Course assignments have been designed so students can demonstrate excellence against these professional teaching standards whenever possible.

- Proposition 1: Teachers are committed to students and their learning
- Proposition 2: Teachers know the subject they teach and how to teach those subjects to students
- Proposition 3: Teachers are responsible for managing and monitoring student learning
- Proposition 4: Teachers think systematically about their practice and learn from experience
- Proposition 5: Teachers are members of learning communities

National Academy of Sciences (http://www.nasonline.org/)

The National Academy of Sciences is one of many organizations that has established national learning standards in the area of science for K-4, 5-8 and 9-12 grade levels.

Common Core Standards

The Common Core State Standards Initiative is a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO). The goal of this initiative is to develop a common core of state standards

in English-language arts and math in grades K-12. The point of this effort is simple: improving teaching and learning to ensure that high school graduates in every part of the nation have the knowledge and skills they need for college or a career. The Common Core Standards are both research and evidence-based as well as internationally benchmarked. These standards define the knowledge and skills students should have within their K-12 education careers so that they will graduate high school fully prepared for college and careers.

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.

Student Learning Outcomes (SLOs) for This Course

Student Learning Outcomes for This Course By the end of this course student will be able to:	**National Standards Addressed in This Course***	**Continuing Education Program Student Learning Outcomes Addressed****
1. Describe the geological forces that created Yosemite and the Sierra Nevada Mountains.	EES2C, EES3A, EES2D	CE 1, CE 2, CE 4
2. Identify the plants and animals found in Yosemite and the surrounding area.	NGSS LS1A, NGSS LS2A, NGSS NGSS LS2C	CE 1, CE 2, CE 4
3. Explain the impact of the elements on Yosemite.	EES3B, EES3D	CE 1, CE 2, CE 4
4. Describe the ecosystem of Yosemite National Park and the Sierra Nevada Mountains.	NGSS LS2A, NGSS LS2C, NGSS EES2C	CE 1, CE 2, CE 4
5. Discuss the impact of mankind on Yoswmite's resources.	EES3C	CE 1, CE 2, CE 4
6. Identify and analyze grade-level appropriate resources related to Yosemite National Park.	NBPTS 1,2,3,4	CE 4, CE 6
7. Synthesizing what you have learned through the content of the course, apply grade level, state or district history learning standards to	NBPTS 1,2, 3,4	CE 1, CE 2, CE 4, CE 6

develop integrated lesson plans and activities with other subjects including geography, math and the creative arts.		
8. Assess and reflect upon teaching practices and the classroom environment in relation to the course content by responding to focus questions.	NBPTS 4	CE 3

* Please refer to the section on **National Standards Addressed in This Course**
** Please refer to the section on **Continuing Education Program Student Learning Outcomes**

Topics, Assignments, and Activities

Module Module Title	Module Assignments and Activities	Points Possible for Each Assignment
Welcome Module	• Introduction video • Course Syllabus	
Module 0 Introductions	• Introduction Discussion Forum	
Module 1 Standards-Based Instruction	• Read: Standards-Based Instruction • 1.1 The Framework for K-12 Science Education	10
Module 2 Sierra Nevada Natural History	• Read: Sierra Nevada Natural History • 2.1 Sierra Natural History Presentation Assignment • 2.2 Sierra Nevada Natural History Discussion Forum	100 10
Module 3 Secret Yosemite	• Watch: Yosemite National Park Documentary • 3.1 The Impact of the Elements on Yosemite Assignment • 3.2 The Impact of the Elements on Yosemite Discussion Forum	100 10
Module 4 Yosemite Nature Notes Assignment	• Watch: Yosemite Nature Notes • 4.1 Yosemite Nature Newsletter Assignment • 4.2 Yosemite Nature Notes Discussion Forum	100 10
Module 5 Visiting Yosemite	• Read: Option A Virtual Field Trip • Read: Option B Yosemite Field Study • Activity: Virtual Field Trip • 5.1A or 5.1B Virtual Field Trip or Field Study • 5.2 Visiting Yosemite National Park Discussion Forum	100 10
Module 6 Yosemite Bibliography	• 6.1 Yosemite on the Web Annotated Bibliography Assignment • 6.2 Sharing Yosemite Resources Discussion Forum	65 10
Module 7 Lesson Design	• 7.1 Integrated Unit Assignment • 7.2 Sharing Lesson Plans Discussion Forum	200 10
Module 8 – Final Reflection	• 8.1 Final Reflection Assignment	65
Course Wrap-up – Grading and Evaluation	• Final Reflection Forum • Course Evaluation • Course Completion Checklist • Grade Request / Transcript Request	
	TOTAL POINTS	**900 pts**

Grading Policies, Rubrics, and Requirements for Assignments

Grading Policies

- Assignments will be graded per criteria presented in the course rubrics.
- A = 90-100% and B = 80-89%, (anything below 80% will not receive credit.)
- The discernment between an A or a B letter grade is at the discretion of the instructor based on the quality of work submitted (see course rubrics).
- Coursework falling below a B grade will be returned with further instructions.
- All assignments must be completed to receive a grade and are expected to reflect the quality that teacher-training institutions require of professional educators. If completed assignments do not meet this standard, students will be notified with further instructions from the instructor.

Grading Rubrics

Grade	Percentage	Description	Rubric
A	90-100%	Superior	Meets all course / assignment requirements with significant evidence of subject mastery and demonstration of excellent graduate level professional development scholarship.
B	80-89%	Standard	Adequately meets criteria for all course/assignment requirements - demonstrates subject competency with very good graduate level professional development scholarship.
NC	Below 80%	Sub-standard	Does not meet the minimum criteria for all course/assignment requirements and demonstrated little, if any, evidence of acceptable graduate level professional development scholarship.

Assignment Writing Requirements

- **Superior:** Writing is clear, succinct, and reflects graduate level expectations. Clearly addresses all parts of the assignment instructions. Maintains a consistent point of view and organizational structure. Include relevant facts, details, and explanations.
- **Standard:** Writing is acceptable with very few mistakes in grammar and spelling. Addresses most parts of the assignment instructions. Maintains a mostly consistent point of view and organizational structure. Include mostly relevant facts, details, and explanations.
- **Sub-standard:** Writing contains noticeable mistakes in grammar and spelling. Does not address all parts of the assignment instructions. Lacks a consistent point of view and organization structure. May include marginally relevant facts, details, and explanations.

Lesson Plan Requirements

- **Superior:** Instructional goals and objectives clearly stated. Instructional strategies appropriate for learning outcome(s). Method for assessing student learning and evaluating instruction is clearly delineated and authentic. All materials necessary for student and teacher to complete lesson clearly listed.
- **Standard:** Instructional goals and objectives are stated but are not easy to understand. Some instructional strategies are appropriate for learning outcome(s). Method for assessing student learning and evaluating instruction is present. Most materials necessary for student and teacher to complete lesson are listed.
- **Sub-standard:** Instructional goals and objectives are not stated. Learners cannot tell what is expected of them. Instructional strategies are missing or strategies used are inappropriate.

Method for assessing student learning and evaluating instruction is missing. Materials necessary for student and teacher to complete lesson are missing.

Discussion Forum Requirements

- **Superior:** Response was at least 1 page (3 fully developed paragraphs) in length. Thoroughly answered all the posed questions, followed all the assignment directions, proper grammar and no spelling errors. Language is clear, concise, and easy to understand. Uses terminology appropriately and is logically organized.
- **Standard:** Response was ½ to 1 page in length (2-3 fully developed paragraphs). Answered all the questions but did not provide an in-depth analysis, followed most of the assignment directions, proper grammar and no spelling errors. Language is comprehensible, but there a few passages that are difficult to understand. The organization is generally good.
- **Sub-standard:** Response was less than ½ page in length (1 paragraph). Did not answer all the required questions and/or statements or responses were superficial, vague, or unclear, did not follow the assignment directions, many grammar and spelling errors. Is adequately written, but may use some terms incorrectly; may need to be read two or more times to be understood.

Instructor/Student Contact Information

Throughout the course participants will be communicating with the instructor and their classmates on a regular basis using asynchronous discussion forums. A virtual office is utilized for class questions and students are provided with instructor contact information in the event they want to make email or phone contact. In addition, students are encouraged to email or phone the instructor at any time. Students will also receive feedback on the required assignments as they are submitted.

Discussion Forums

Participation is an important expectation of this course and all online courses. Online discussions promote reflection and analysis while allowing students to appreciate and evaluate positions that others express. While students may not be engaging with the same students throughout this course they will be expected to offer comments, questions, and replies to the discussion question whenever possible. The faculty role in the discussion forum is that of an observer and facilitator.

Coursework Hours

Based on the Carnegie Unit standard, a unit of graduate credit measures academic credit based on the number of hours the student is engaged in learning. This includes all time spent on the course: reading the textbook, watching videos, listening to audio lessons, researching topics, writing papers, creating projects, developing lesson plans, posting to discussion boards, etc. Coursework offered for FPU Continuing Education graduate credit adheres to 45 hours per semester unit for the 900-level courses. Therefore, a student will spend approximately 135 hours on a typical 3-unit course.

Services for Students with Disabilities

Students with disabilities are eligible for reasonable accommodations in their academic work in all classes. In order to receive assistance, the student with a disability must provide the Academic Support Center with documentation, which describes the specific disability. The documentation must be from a qualified professional in the area of the disability (i.e. psychologist, physician or educational diagnostician). Students with disabilities should contact the Academic Support Center

to discuss academic and other needs as soon as they are diagnosed with a disability. Once documentation is on file, arrangements for reasonable accommodations can be made. For more information and for downloadable forms, please go to https://www.fresno.edu/students/academic-support/services-students-disabilities.

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 per the procedures set forth in the Fresno Pacific University Catalogue - https://www.fresno.edu/students/registrars-office/academic-catalogs

Technology Requirements

To successfully complete the course requirements, course participants will need Internet access, can 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. If you need technical support, please contact your Internet Service Provider.

Final Course Grade and Transcripts

When all work for the course has been completed, students will need to logon to the Continuing Education website (https://ce.fresno.edu/my-account) and "Request Final Grade". Once the instructor receives the requests and submits the grade online, students may log back in to view their Final Grade Report or order transcripts online. Please allow at least two weeks for the final grade to be posted. For more information, see the Continuing Education Policies and Procedures at https://ce.fresno.edu/ce-policies-and-procedures.

University Policies and Procedures

Students are responsible for becoming familiar with the information presented in the Academic Catalog and for knowing and observing all policies and procedures related to their participation in the university community. A summary of university policies may be found on the university website at https://www.fresno.edu/students/registrars-office/academic-catalogs.

Fresno Pacific University Student Learning Outcomes

Student Learning Outcomes Oral Communication: Students will *exhibit* clear, engaging, and confident oral communication – in both individual and group settings – and will critically *evaluate* content and delivery components.
Written Communication: Students will *demonstrate* proficient written communication by *articulating* a clear focus, *synthesizing* arguments, and utilizing standard formats in order to *inform* and *persuade* others.
Content Knowledge: Students will *demonstrate* comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
Reflection: Students will *reflect* on their personal and professional growth and *provide evidence* of how such reflection is utilized to manage personal and vocational improvement.
Critical Thinking: Students will *apply* critical thinking competencies by *generating* probing questions, *recognizing* underlying assumptions, *interpreting* and *evaluating* relevant information, and *applying* their understandings to new situations.

Moral Reasoning: Students will *identify* and *apply* moral reasoning and ethical decision-making skills, and *articulate* the norms and principles underlying a Christian world-view.
Service: Students will *demonstrate* service and reconciliation as a way of leadership.
Cultural and Global Perspective: Students will *identify* personal, cultural, and global perspectives and will employ these perspectives to *evaluate* complex systems.
Quantitative Reasoning: Students will accurately *compute* calculations and symbolic operations and *explain* their use in a field of study.
Information Literacy: Students will *identify* information needed in order to fully understand a topic or task, *explain* how that information is organized, *identify* the best sources of information for a given enquiry, *locate* and critically *evaluate* sources, and accurately and effectively *share* that information.