

Course Code & No. - Section: ENVP 223- Section 1
Course Title (Credits): Introduction to Natural Resource Management
Term & Year: Fall / 2015
Course Ref. No. (CRN): 80329

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Office Hours: By appointment
FINAL EXAM **December 08, 2015 6:30 p.m. to 9:30 p.m.**
Class Meeting Time: M 4:00 p.m. – 6:45 p.m.
Location: TCES 205

Prerequisites: None
Corequisites: None

Course Descriptions: Introduction to Natural Resource Management

This course is an introduction to the conservation and management of natural resources.

This semester's course of study includes expanding student awareness of the connection between environmental systems and the social sciences through the exploration of both theory and practice in the management of natural resource.

This course is an introductory exploration into the field of natural resources management. Students will be exposed to a range of disciplines contributing to effective and sustainable natural resource management and will learn of the variety of career options in the field. The students will be engaged in both theoretical and historical perspectives in the classroom. In addition, the course provides the opportunity for students to be involved in field-based applied natural resource instruction. The natural resource management introductions will span the fields of:

- Forestry
- Wildlife Management
- Fisheries
- Soils/geology
- Water Resources
- Watershed Management
- Climate Change
- Land Use
- Environmental Planning
- Environmental Education

Discussions, readings, guest speakers and outside class assignments will provide each student opportunities to develop a working knowledge of the diverse disciplines that are engaged in Environmental Planning and how they are applied within different landscapes; both rural and urban. Case study analyses will be used to explore the elements, issues, and techniques of natural resource management. Included in the curriculum for this course is a review of key public resource agencies and Non-Governmental Organizations (NGO) that direct and influence the management of natural resources at the local, state, federal and international levels.

Objectives for ENVP 223: Upon completion of ENVP 223, students will:

- Build critical thinking skills as a basis for natural resources decision making;
- Describe and apply the basic elements of the scientific method to problems in the field;
- Learn to use a dichotomous key to identify common Sierra Nevada plants;
- Learn to identify habitat and forest types;
- Learn fundamental relationships between the living and non-living worlds;
- Learn theories and practices employed in managing natural resources;
- Learn strategies used in integrated watershed management;
- Evaluate the effects of our human population upon the earth's resources;
- Become familiar with current strategies engaged in addressing climate change; and
- Learn strategies and tools used in the environmental education of diverse audiences.

Methods of Instruction

1. In class lectures, discussions/participation
2. Guest Speakers
3. Collaborative Group Work
4. Outside of class assignments (students are required to complete two hours of outside-of-class homework for each hour of lecture)
5. Field Trips

Methods of Assessing Student Outcomes

Student outcomes will be assessed using the following:

1. Weekly Quiz (closed book and closed note)
2. Mid-Term and Final Exam (Open Notes)
3. Oral Presentation
4. Written research assignment
5. Weekly class preparation question (CPQ) written assignment
6. Journal

Instructional Strategies

Students will prepare for class by reading assigned materials and answering class preparation questions (CPQs) provided by the instructor. CPQs are due in hard copy and will be collected at the beginning of each class. CPQs submitted after the class session they are due will NOT receive credit, however, they can be used in open-note exams.

Each student will select a different public agency responsible for the management of one or more natural resource to research and present to the class. Research will include a one-on-one interview with a representative from the selected agency.

Students are expected to keep a journal in which frequent entries are made describing local resource conditions, summarizing current news items pertaining to resource issues and field trip notes.

There are two mandatory all-day field trips, **September 19 and October 17**. There will be a student preparation assignment for each field trip and field notes required post field trip.

The course makes use of the SNC *Moodle* course management system. Students are responsible for checking Moodle for class assignment updates, reading assignments, public meeting and extra credit opportunities.

Required Texts and Materials

1. *A Sand County Almanac*
Aldo Leopold, 1949, Oxford University Press
2. *The Post Carbon Reader: Managing the 21st Century Sustainability Crisis*
Richard Heinberg and Daniel Lerch, 2010, Watershed Media In Collaboration with the Post Carbon Institute

In addition, much of the reading required for this class will be handed out in class, placed on Moodle or available on the internet.

Attendance

Success in ENVP 223 is significantly influenced by participation in class and outside class activities. Thus, attendance will be taken daily by collecting the responses to the CPQ at the beginning of each class period. CPQs will be accepted only from students who have attended and performed the activities. Since life happens, students may seek to excuse an absence and have an opportunity to do make up work for missed points. Absences will be excused for documented illness (of the student or a dependent), military duty, a family bereavement, or at the instructor's discretion. Excused absences will NOT be granted for employment conflicting with class times or oversleeping. Students with more than two unexcused absences will be penalized by half grades according to this rubric:

- >2 unexcused absences → Half grade drop (for example, from earned B to B- or C+ to C)
- >3 unexcused absences → Full grade drop (for example, from B to C)
- >5 unexcused absences → Two full grade drop (for example, from B to D)
- >6 unexcused absences → Three full grade drop (for example, from A to D)
- >8 unexcused absences → F for the course

Course policies:**1) Electronic devices:**

Students are not permitted to use MP3 players in class at any time. Cell phones, tablets, and laptops may be used to access online resources or take notes in class. Phones, tablets, and laptops will be confiscated until the end of class if students use them for non-class-related activities. Anyone who significantly abuses class time by inappropriate use of electronic devices may be asked by the class to provide an appropriate apology (could take the form of an evening snack for all members of the class (30=+/-people) at the next class meeting..

2) Late work:

Late CPQs and extra credit will not be accepted. CPQs are due at the beginning of the class period on the due date. Other regular assignments may be turned in late, but students will lose 10% of the possible points for each calendar day that work is late. For example, students may earn 20% fewer points for work due on Monday if it is turned in on the following Wednesday. Work that is more than seven days late will not be accepted.

3) E-mailed work:

All work may be submitted by e-mail or in hard copy. Students may e-mail files generated on a computer or hardcopy work scanned to pdf files. **Please include your name in the file name.** The instructor will reply to verify that e-mailed work was received. It is the student's responsibility to follow up if the instructor does not reply about e-mailed work.

4) Citing sources:

Cite sources in using CSE style. Scientists routinely cite original sources for factual information that is not widely known. For example, one would not have to cite a source when one states that mutations introduce new genetic variability into the human genome, but one would cite a source when stating that mutations accumulate in human DNA at an average rate of 175 mutations per diploid genome per generation¹. When you are writing a scientific argument in response to a CPQ question or as part of a lab or class assignment, get in the habit of citing

facts when you find them in a source. This web site has information about citing sources using CSE (Council of Science Educators) style, which is similar to that used by most scientific journals: http://bcs.bedfordmartins.com/resdoc5e/RES5e_ch11_s1-0003.html. You can find out about on-line citation tools that set up your bibliography using a given citation style on the "Citation Guides" tab at the Prim Library website.

1. Nachman M W, Crowell S L. Estimate of the mutation rate per nucleotide in humans. *Genetics* 2000; 156: 297-304

5) Extra credit:

The instructor will offer extra credit for additional work with instructional value periodically throughout the semester.

6) Modifications to the ENVP 223 course syllabus:

This syllabus and schedule is intended to provide students with a clear and accurate outline of course content, student outcomes, class topics, assignments and due dates, and exam dates. Students should keep and refer to the syllabus regularly, and learn how to access it on the course Moodle page. The instructor reserves the right to make announced changes to the syllabus and class schedule at her discretion if it is in the best interest of the students to do so. Major changes, such as changes to exam dates or coverage and permanent changes to the schedule, will be posted on the Moodle site and students will be e-mailed about such postings.

Sanctions for Cheating and/or Plagiarism

The Honor Code

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

Consequences of Violating the Student Honor Code

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

3rd Offense: Student is expelled.

ADA Accommodations

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu, office in Prim Library: PL-304.

The SNC Email System

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

The Sierra Nevada College Mission Statement:

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

The Core Themes: Four core themes from the SNC mission are woven through all courses and the life of the community at SNC.

Liberal Arts	Professional Preparedness
Entrepreneurial Thinking	Sustainability

Grading Policy

ENVP 223 participation, quizzes/exams and assignments will contribute to an overall point total. The grading curve is based on a 1000-point scale. Sierra Nevada College awards half grades (e.g., A- or B+), so a student with a point total within 1.5% of the cutoff for the letter grade will earn the appropriate half grade. Once grades are calculated based on the grading curve, any adjustments for excessive unexcused absences will be made (see "Attendance" on page 2 of this syllabus).

ASSIGNMENT	POINTS AWARDED	POINTS POSSIBLE
Quizzes		100
Written Research Paper and Class Presentation		100
Participation (10 points each class)		300
Written Summary of Field Exercise		100
Mid-Term Exam		100
Journal Notes		100
Final Exam (Dec. 08, 2015 6:30p.m. to 9:30 p.m.)		200
TOTAL		1000

Grading Curve

A	90 – 100%	900 – 1000 points
B	80 – 89.9 %	800 – 899 points
C	70 – 79.9%	700 – 799 points
D	60– 69.9%	600– 699 points
F	<59%	<600 points

Assignment details:

Participation points grading scale: the instructor will subjectively award 10 participation points per class which includes the CPQ response. Students cannot earn participation points when absent, even for excused absences (for illness, for example).

CPQs Class Preparation Questions:

Short description of the assignment: Students will provide a one page written response to one or two questions posed that will relate to and prepare the student for the topic(s) that will be discussed in class.

How to do the assignment: CPQs will be announced in class and on the ENVP 223 Moodle site as an MS Word or pdf file. Students should have a second copy (file or hard copy) on which to take additional notes during class. You will be allowed to use your CPQ notes during the final exam in December. Students should expect to spend up to twice as much time outside of class on reading assignments and CPQs as they spend in class. Due dates are given on the schedule and CPQ assignment file.

Quizzes: Quizzes will be given periodically and are not scheduled. Worth 100 points total, quizzes may consist of a brief essay, flow diagram, process description or case study comparison...in other words, no True/False or multiple choice type quizzes. Quizzes may cover any discussed or assigned materials. Quizzes may be made up for excused absences only.

Final Environmental Analysis Assignment: Each student team (2-3 people) will be responsible for developing a project description for a real site location and completing an expanded environmental checklist. Based on the expanded environmental checklist, the students will provide a written recommendation detailing the next level analysis and necessary documentation to submit to the State Clearing House. Each team will clear their project idea with the ENVP instructor prior to developing their description. Assignment is worth 200 points,

Final Exam: A comprehensive final exam with a format similar to the quizzes will be given at the end of the semester. The ENVP 223 final exam is scheduled for December 10, 2014. The final exam will include questions about material and assignments presented, read and/or discussed during the term.

Midterm grades: Midterm grades will be calculated using all work due by the mid-term date plus the midterm exam score.

Introduction to Natural Resource Management Schedule – Fall 2015

Week and dates	Topic Overview	Assignments
Week 1 Monday 8/17	Introduction & Perspectives <ul style="list-style-type: none"> ○ 	
Week 2: Mon. 8/24	<ul style="list-style-type: none"> ○ Syllabus ○ Course Scheduling ○ Field Exercise and Journals ○ Scientific Method applied to the field ○ The Four Fundamental Processes that Drive our Ecosystems (Water Cycle) 	<ol style="list-style-type: none"> 1. Assign CPQ 1 Identify and describe two Natural Resource Management Leaders; one historic and one current 2. Read A Sand County Almanac Part 1 January through December. 3. Read A Post Carbon Reader, Foundation Concepts Part 1.
Week 3: Mon. 8/31	Perspectives in Resource Management <ul style="list-style-type: none"> ○ Aldo Leopold and A Sand County Almanac ○ Foundations ○ The Four Fundamental Processes that Drive our Ecosystems (Community Dynamics, Mineral Cycle and Energy Flow) Discuss Research Paper and deliverables. Due September 28	<ol style="list-style-type: none"> 4. Assign CPQ 2 Who coined the term “conservation ethics” and does it have relevance today? 5. Select Research Paper Organization. Submit written reason for selection.

Week and dates	Topic Overview	Assignments Due
Week 4: Mon. 9/7	Preservation/Conservation/Management And Ecological Restoration <ul style="list-style-type: none"> ○ Agencies and NGOs ○ Steady State Resource Management vs. Resilience-based ecosystem stewardship. 	<ol style="list-style-type: none"> 6. Read assigned loose leaf text 7. Assign CPQ 3 Water Management: Describe how water

	<ul style="list-style-type: none"> ○ Field Observations 	is managed in your hometown and why?
Week 5: Mon 9/14	Water; Supply and Quality <ul style="list-style-type: none"> ○ Responsible Agencies ○ Historic Context ○ Current Issues ○ Solutions ○ Discuss Research Paper and students' progress 	8. Assigned CPQ 4 Explore and describe the philosophies that have guided forest management practices over the last 100 years 9. Assigned Reading in preparation for September 19 Field Trip
Week 6: Mon 9/21	Forest Management <ul style="list-style-type: none"> ○ Recap Field Trip ○ Responsible Agencies ○ Historical Perspective ○ Current Issues ○ Solutions 	10. Assign CPQ 5 Explore how the drought in the west is impacting how wildlife and fisheries are managed 11. Read assigned loose leaf text 12. Field Trip Notes
Week 7: Mon 09/28	Wildlife and Fisheries Management <ul style="list-style-type: none"> ○ Responsible Agencies ○ Historical Perspective ○ Current Issues ○ Solutions ○ Ecosystem Services and the Market 	13. Assign CPQ 6 Explore the history of the US Natural Resource Conservation Service. Why is their role as important if not more than when it was created. 14. Read Part II in A Sand County Almanac.
Week 8: Mon 10/5 <i>Midterm</i>	Soil and Geology <ul style="list-style-type: none"> ○ Responsible Agencies ○ Historical Perspective 	15. Assigned CPQ 7 Explore cap and

	<ul style="list-style-type: none"> ○ Current Issues ○ Solutions ○ Mid TERM 	<p>trade as a strategy being used in CA. How is this strategy addressing Air Quality?</p> <p>16. Review the 3 assigned articles on Ag Lands conservation</p>
Week 9: Mon 10/12	<p>Air Quality</p> <hr/> <ul style="list-style-type: none"> ○ Preparations for Field Trip October 17 ○ Who is responsible ○ What influences clean air ○ Regional and State Trans Planning ○ Land Use and Transportation Planning Integration ○ 	<p>17. Assigned CPQ 8 Explore AB 32 and SB 375. What do these laws do and how are they impacting resource management</p> <p>18. Read assigned reading on Resiliency.</p> <p>19. Field Trip Prep for October 17</p>

Week and dates	Class preparation	Assignments Due
Week 10: Mon 10/19	<p>Energy and Sustainability</p> <ul style="list-style-type: none"> ○ Recap Field Trip ○ Non-renewable resources ○ Renewable resources ○ Climate Action Plans ○ Adaptation ○ Resiliency 	<p>20. Assigned CPQ 9 Define Dynamic Equilibrium and describe a natural system that was historically in a dynamic equilibrium and is currently at risk.</p> <p>21. Read assigned readings.</p>
Week 11: Mon.10/26	<p>Ecosystems and Communities-A Dynamic Equilibrium</p> <ul style="list-style-type: none"> ○ Types of Ecosystems and Communities ○ Population dynamics ○ Tools we use to manage 	<p>22. Read assigned loose leaf reading</p> <p>23. Assigned CPQ 10 Find a case study from your home region that employed a specific tool or strategy to restore a dynamic</p>

		equilibrium to a natural community. Evaluate the tool and its ability to sustain a positive outcome. 24.
Week 12: Mon 11/2	Ecosystems and Communities-A Dynamic Equilibrium <ul style="list-style-type: none"> ○ Biodiversity ○ Migration ○ Agriculture 	25. Assigned CPQ 11 Explore at least four (4) different (local, state, federal and international) environmental education curriculums. Based on your opinion, compare and contrast their effectiveness.. 26. Read assigned loose leaf reading
Week 13: Mon.11/9	Environmental Education <ul style="list-style-type: none"> ○ Education vs Regulations ○ Strategies for building understanding and investment ○ Environmental Education Activity 	27. Read assigned loose leaf readings 28. Assigned CPQ 12 Explore management strategies used today to improve the recreational experience and protect resources at the same time.
Week 14: Mon. 11/16	Recreation and Open Space Management <ul style="list-style-type: none"> ○ TURN IN JOURNAL ○ Responsible Agencies ○ Historical Perspective ○ Current Management Philosophies ○ Conflicts and multiple use goals 	29. Assigned CPQ 13. Explore examples of holistic management approaches employed in other countries. 30. Read assigned reading
11/23 – 11/27	<ul style="list-style-type: none"> ○ THANKSGIVING BREAK 	

Week and dates	Class preparation	Assignments Due
Week 15: Mon 11/30	International Resource Strategies	31. Prepare for final

	and Holistic Management <ul style="list-style-type: none">○ Environmental Resource Management Protocols used outside the US○ How are they being applied○ Where are they being successful	exam study session
Final Exams: 12/7 – 12/11	Final Exam Tuesday, Dec. 8 , 6:30 to 9:30 p.m.	