

# NRM 12 – Introduction to Environmental Conservation

Section #5248; Th 9:00 – 12:00; Shone Farm

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Office Location/Hours	Shone Farm Pavilion, Thursdays 12:00-1:00, Fridays 12:00-1:00, and by appt
Class Website	<a href="#">canvas</a>

**COURSE DESCRIPTION:** An **introduction** course in the sustainable management and conservation of natural resources including soil, forests, water, fisheries, wildlife, forage, recreation and wilderness areas. Class lectures include an examination of contemporary issues affecting conservation management strategies, and the sustainability of the nation's renewable and nonrenewable natural resources for generations to come. Emphasis includes economic principles and cultural values that affect the management of these resources.

## STUDENT LEARNING OUTCOMES:

Students will be able to:

1. Evaluate and prioritize sustainable management principles for forests and other wild land resources.
2. Recommend sustainable uses of wood, water, forage, recreation and wilderness resources.
3. Summarize and discuss contemporary issues affecting the management and preservation of the nation's renewable natural resources for future generations.

**COURSE REQUIREMENTS:** **Note:** All Students must actively take notes during lectures and must have multiple scantrons on hand for quizzes and tests. **All written assignments must be typed.**

## I. Reading Assignments:

**Required Text:** At times/dates noted on the schedule, students are responsible for readings from “The Post Carbon Reader, Managing the 21<sup>st</sup> Century’s Sustainability Crises” (Specific chapters noted on schedule).

**Required Readings:** There will also be web-based articles that are required to be read before class.

## II. Written assignments:

**A. Letter to the Editor/Letter for Change:** For this assignment, each student will be required to:

1. Research and critically evaluate an ‘Environmental Issue/Concern/Topic’ associated with preservation, forestry, agriculture, soils, fish, wildlife, etc. Pick a topic that you are interested in learning more about.
2. Please email me your selected topic by 5:00 pm on **Thursday, February 2th**.
3. Write a one page (no more than 200 words) “Letter to the Editor” to convey your interest/concern about your topic. Write with the intent of educating fellow students and newspaper readers on this topic. Include one local ‘Non Governmental Organization’ (NGO) that is involved with the issue and give contact information for possible student involvement.
4. Read your letter to the class on the date assigned by your instructor. (**Note:** Students who write a letter, but do not read it to the class, will receive half credit.) Hand in your letter and 1 pg. indicating research citations.
5. After I have graded your letter, you will submit it to the newspaper of your choice. Most papers require emailing your letter to them and your name, address and phone number must be included. (Check individual newspapers for their submittal requirements).
6. Give me a copy of your published letter for an additional 10 points (extra credit)!

## B. Environmental Awareness Experiences (EAE)

The following series of **Environmental Awareness Experiences** have been designed to facilitate personal exploration and clarification of many unexamined feelings, assumptions, projections, attitudes, beliefs and values regarding the environment and natural world. Your typed responses to 4 Environmental Awareness Experiences are to be handed either as an email attachment, or, in hard copy **by the beginning of class on the due date** as noted on the syllabus. Incomplete work will not be graded; follow instructions as noted for each.

1. **“My Conservation Relationship”** With a fellow classmate or peer, discuss the following questions. Write a 1 paragraph response to each question. Include any similarities/differences between you and your partner’s feelings:

- B. What type of career or job are you seeking, and how do you plan to insure a good quality of life for yourself and your family? Do you already work in the Natural Resource Management profession?
- C. What is your relationship with the natural environment? Do you get outside to simply enjoy nature, or are you more an inside person or city person? How often do you go to a park or wilderness area to enjoy nature? Have you ever gone hiking or camping?
- D. Do you presently recycle any materials (cans, glass, paper, plastic, oil, etc.)? Why or why not?
- E. List the environmental problems you are aware of. List the disciplines involved in the study of, and solutions for, the problems you're aware of.
- F. In making the assumption that lifestyles impact the health of the planet, how might families adjust their lifestyles to be more sustainable?

## 2. "Centering"

- Choose a technology that consumes energy (automobile, television, iPod, X-box, computer, radio, etc.), a food (meat, soda, beer, candy, etc.) or a hobby that you use almost daily.
- Do without what you have chosen for a period of seven days. Make notes each day of what it is like to do without what you have chosen.
- Take notes including what was gained and what was lost during your experience. Write up a 1 page discussion of what you learned and discuss how this experience may change your life. Include your daily log when turning in your assignment.

## 3. "My Food Relationship" Create a personal, **daily log** of all food **eaten for 1 week**. Based on your findings, in a **1 page write-up**:

- Analyze the following: (12 pts.)
  - eating habits (nutrition),
  - waste creation (weigh all trash, recyclables and non-recyclables),
  - Import, export and trade issues,
  - hidden costs of products (inexpensive in dollar amount you pay at the store, but expensive as far as 'external costs'. (See economics lecture)
- Discuss: (9 pts.)
  - what you have learned about your food
  - how you can curb waste & consumption
  - how can you move toward better nutrition
- Include **both** your log (4 pts) and your analysis/discussion (21 pts) when submitting your assignment.

## 4. "My Water Conservation Experience" – (Please include all data collected when turning in your assignment. **Show your math!**)

- Locate a dripping water faucet (or set one to drip).
  - Collect the water that drips from the faucet over a selected period of time (in a container sufficient to hold the water).
  - Calculate the amount of water (in gallons) lost per unit time.
  - Calculate how much water would be lost in one month from this drip.

- b. Measure the amount of water used by your showerhead per unit of time.  
 -Determine the amount of water your household uses for showering. (Multiply the flow of the showerhead x minutes in the shower for each person in your household).
- c. Determine what you pay for water and septic. (Typically, the cost of water is in units of per thousand gallons of water and is a tiered system). Get this information from your water bill or from the internet for the town you live in. Note: If you are on a well, calculate costs as if you are not.
- d. Calculate the cost of the drip over one month and calculate the cost of showering in your home for one month? For one year? Your costs include water and septic.
- e. Write a reflection on what you learned and how water can be conserved.

### 5. "Attend a Meeting on campus or of City/County Governing Body"

- a. Find campus/student meeting dates at the Student Affairs office, Bertolini Student Center or call, or locate on-line, the City or County government office of your choice. Find out when, and where the various meetings are held.
- b. Attend a meeting that includes agenda discussions on matters that have environmental content. Keep notes of what transpires.
- c. Write up what you learned from this experience. What surprised you? What did you think of the way matters were discussed? What did you think of the ideas expressed? What other impressions did you form? Would you consider a career in politics?

### 6. "My Rainwater Harvesting Potential"

- a. To calculate your rainwater harvesting potential/annual water supply for where you live, follow the formula below. **(Show all your math)**
- (in/ft) =  $\frac{\text{Determine the following: Rooftop Collection Area (sq. ft) x Rainfall (in/yr.)}}{\text{Cubic Feet of Water/Year}} / 12$
- Gallons/Year.  $\text{Cubic Feet of Water/Year} \times 7.43 \text{ (gallons/cubic foot)} = \text{Total}$   
 (For example, a 500 sq. ft roof that gets 36 in/yr. will produce 1,500 Gallons of water per year.)
- (Collections kits are available on-line). Include the supply list and itemized costs for supplies.
- Determine the cost for setting up rainwater harvesting system at your house.
- Compare the costs of setting up a rainwater harvesting system to the price you currently pay for water. Are there benefits, other than cost, to be considered?
- How can your harvested water be used?
- What are the collection drawbacks from living in a Mediterranean Climate?
- What have you learned from this assignment?

### 7. "Energy Audit of Living Quarters"

- a. Locate the electric meter that records energy use in your living quarters.



## Course Schedule – Spring 2016

Date of Class	Lecture Theme	Assignments in this column are due on the day of class noted	Future Homework Assignments
January 19	Course Overview and Introductions		<b>Homework (due next class):</b> Environmental Awareness Experience (EAE) #1
January 26	Natural History Substitute: Kasey Wade (Joey at Ecological Farming Conference) = Intro to Shone Farm Forest	<b>Reading Due: Post Carbon Reader (PCR):</b> Ch 1:  <b>Homework Due:</b> EAE #1  Wear Good Hiking Shoes!	<b>Homework (due next class):</b> Decide on your topic for your 'Letter to the Editor' *Read chapters 8 & 22 in PCR
February 2	Economics Ethics – “The Land Ethic” Aldo Leopold  ‘Go Local’ – Sonoma County	<b>Reading Due: PCR: Chapter 22 and Chapter 8</b>  <b>Homework Due:</b> Topic for Letter to the Editor, Trail Names Assignment	<b>Homework (due next class):</b> Read PCR Chapters 2 and 3,  <b>Homework:</b> Answer Questions to: “Where You At”. (PCR, Figure 8.1; pg. 112)
February 9	Vocabulary Quiz – Ecology Where you At?	<b>Reading Due: PCR:</b> Ch. 2&3	<b>Begin EAE #2</b>
February 16	<b>No Class</b> – Professional Development Activity for Faculty		Keep working on EAE#2 and “Where You At”
February 23	Ecology (Continued)  Ecology of Shone Forest	<b>Homework Due:</b> “Where You At” <b>Homework Due - EAE #2</b>  <b>Due:</b> (Wear good walking/hiking shoes)	<b>Homework:</b> Carbon Footprint Calculator: <a href="http://www.epa.gov/climatechange/ghgemissions/ind-calculator.html">http://www.epa.gov/climatechange/ghgemissions/ind-calculator.html</a> Read: Devon Sampson Article
March 2	Guest Speaker: Devon Sampson, PhD.  and: The Nature of Soils Soil Conservation  Video: Symphony of the Soil	<b>Homework Due: Carbon Footprint</b>  <b>Reading Due: PCR Ch. 12</b>	<b>Homework: EAE #3</b>  <b>Read: PCR Ch. 14</b>
March 9	Sustainable Agriculture IPM Tour of Garden	<b>Homework Due: PCR Ch. 14</b>	Read articles re: Tolay Park (assigned in class)
March 16	<b>FIELD TRIP: Tolay Regional Park</b>	<b>Reading Due: PCR Ch. 10</b>	<b>Homework:</b> Take Home Exam #1
March 23	<b>Spring Break</b>  <b>NO CLASS</b>	<b>NO CLASS</b>	Keep working on Take Home Exam and EAE#3

<b>March 30</b>	Guest Speaker: Ariel Greenwood on Rotational Grazing, Pepperwood Preserve  Population  <b>Group Work:</b> Strategies for Population Control (PCR)	Homework Due: EAE#3  Wear appropriate shoes  Exam Due at beginning of class	<b>Read PCR Chapter 7</b>
<b>April 6</b>	Managing Water Resources Sustainably	<b>Reading Due: PCR Ch. 7</b> <a href="http://www.postcarbon.org/report/109751-water-adapting-to-a-new-normal">http://www.postcarbon.org/report/109751-water-adapting-to-a-new-normal</a>	
<b>April 13</b>	<b>Field Trip</b> – Santa Rosa Wastewater Treatment Plant 4300 Llano Rd. Santa Rosa, CA (Admin. Bldg) (Students meet at the site for a tour that will begin at 9:15. Denise Cadman – Tour Guide  <b>Take Home Exam #2</b>	<b>Wastewater Treatment Plant Worksheet (Due next class period)</b> <b>Note:</b> All students must wear sturdy, closed-toed footwear and please DRIVE SLOWLY through the plant if taking own car!	Finish Wastewater treatment plant worksheet
<b>April 20</b>	Watershed/Fisheries/Forest Management	<b>Reading Due:</b> <b>Homework assigned: Exam #2</b> <b>Homework Due:</b> Wastewater Treatment Plant Worksheet	<b>Exam #2 Due</b>
<b>April 27</b>	Endangered Species/Wildlife Management <b>Take Home Exam #2</b>		Keep working on EAE#4
<b>May 4</b>	<b>FIELD TRIP: Occidental Arts and Ecology Center,</b> Tour Guide: Kendall Dunnigan	<b>Homework Due: EAE #4</b>	<b>Exam #2 Due</b>  Read PCR Chap. 33
<b>May 11</b>	Recap of OAEC tour, Recap Group Work Presentations	<b>Reading Due: PCR Ch. 33</b>	<b>Read PCR Chap 34</b>
<b>May 18</b>	Presentations/Final Exam Prep	<b>Reading Due: PCR Ch. 34</b>	
	Final 7:00 am – 9:45 am		

### MAKING CHANGES

It's been our experience that students prefer to stick to the Syllabus. However, sometimes we run behind on lectures or I may have the opportunity to invite a guest speaker or may chose a different 'game plan' for the day. Ahead of time, we are asking that you be resilient, agile and go with the flow if we make changes in your schedule. Our goal is always to provide a more vibrant learning situation.

### EXPECTATIONS

1. Students shall conduct themselves in a manner which reflects their awareness of common standards of decency and the rights of others. You will demonstrate respect for your classmates, guest speakers and the instructor as outlined in the Student Conduct Standards of the SRJC catalog.
2. Your signature/name on a test or assignment means that you have neither given nor received unauthorized aid & represents your commitment to honorable & trustworthy behavior. It is permissible for you to share notes & study in groups. It is NOT permissible to submit somebody else's work, whether it is a current or former student, published work, or web material. Students should refer to the Student Code within the SRJC catalog regarding the consequence of dishonesty.

### EMERGENCY EVACUATION PLAN

In the event of an emergency during class that requires evacuation of the building, please leave the class immediately, but calmly. Our class will meet in the garden parking lot to make sure everyone got out of the building safely and to receive further

instructions. If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan.

**ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

If you need disability related accommodations for this class, such as a note taker, test taking services, special furniture, use of service animal, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to me as soon as possible. You may also speak with me privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. DRD is located in Analy Village on the Santa Rosa campus, and Petaluma Village on the Petaluma Campus.