Environmental Biology

ESCI 019.01 CRN#00696
ESCI 019.02 CRN#00697
LECTURE: MONDAY & WEDNESDAY 12:30AM-2:20PM

De Toro **FALL QUARTER 2011** 5.0 Units

DE ANZA COLLEGE, DIVISION OF BIOLOGICAL, HEALTH & ENVIRONMENTAL SCIENCES
ENVIRONMENTAL STUDIES DEPARTMENT
KIRSCH CENTER FOR ENVIRONMENTAL STUDIES (KC)

DESCRIPTION

Introduction to environmental biology as a branch of the biological sciences and its relation to the scientific field. Review of the principles of biology, ecology and conservation as they relate to natural resource use, the biodiversity crisis, pollution, human population and the impacts on all cultural, ethnic and gender groups.

INSTRUCTORS INFORMATION:

Alicia De Toro

Office Hours: Mondays & Wednesdays 9:00-10:00a.m., or by appt.
Office Location: KC 213
E-mail Address: DeToroAlicia@fhda.edu

OBJECTIVES

After completing this course you should be able to:

1. Help save this great planet by learning Earth "systems" literacy!
2. Examine environmental bio as a branch of the environmental sciences and its relation to the scientific field;
3. Assess and apply environmental/ecological and biological concepts to modern life and a technologically based society;
4. Assess and apply ecological concepts to modern life and a technologically based society;
5. Examine and describe the world's natural resources including air (the atmosphere), water (the hydrosphere), soil (the lithosphere) and species (the biosphere);
6. Assess and debate the current state of the world's natural resources and the impacts on human populations;
7. Compare and contrast possible solutions to the current state of the world's resources; and
8. Compare and contrast the roles of governmental agencies, nongovernmental agencies and industry on resource use.

Point Breakdown:

Lecture:

Team Assess 1	50
Final Team Assess	75
Homework	60
Journal	150
Total Lecture:	**335**

Lab:

Labs	270
Microscope Work	25
Lab Journal Check	25
Endangered Species Presentation	35
Total Lab:	**355**

Grading Scale:

A	88 - 100 %
B	78 - 87
C	68 - 77
D	55 - 67
F	54 & below

General Information:

1. This is an **intensive, field-oriented environmental science course**!
2. It is not the instructor's responsibility to drop you from the course. Failing to drop yourself within the timeline designated by the college may result in an F in the course.
3. Class protocol for each day of lecture:
    - Arrive to class on time
    - Bring your journal to every class
    - When you arrive – record in journal the day's entries. Grab a slip (if available).
    - Participate in all class activities – stay focused on each task!
    - You must sign in AND out in order to get credit for lecture
    - Your journal work will be checked during lecture

4. **Stewardship Resource Center (SRC) protocol:**
    - Daily activities (ie computer research) are scheduled at SRC
    - Computer check-out by team requires one student ID
    - Stay with your computer at all times-do not leave unattended! All students must participate

5. Students are expected to exhibit proper classroom etiquette: arrive to class on time, **do not talk during lecture** & **no cell phones, no laptops/electronic devices on during lecture** - If you are disruptive, you will be asked to leave and will loose your points for that day.

6. **Missed Classes**: If you miss a class you may make up the points for lecture at the SRC. You must attend the SRC during open hours (see posting at SRC) and request the Journal Entry number you missed. The student assistant must check off your work and write your name in the completed makeup log. For a missed lab, you must arrange a makeup time with Ms. Diana Martinez by contacting her via email at martinezdianna@fhda.edu

7. **No drugs or alcohol tolerated during any classes or field trips! Disruptive behavior in class results in being dropped from the class with an F. No exceptions!**

Assignments:

1) **Field trips:** You are required to attend all field trips. Transportation is not provided. Students will meet at the field trip destination. Maps will be provided although most directions are in your Student Packet in the last section.

2) **Endangered Species Presentation - 37th parallel project:**
   - Your team (4 – 5 people, same lab section) will select a protected, threatened or endangered species found in the San Francisco/Santa Clara/Santa Cruz region (37th parallel).
     - Your group will collect information about this species and its specific habitat requirements and develop a class presentation using power point (8 minutes), which highlights your findings. No written summary is required.
     - Only one species per group per class
     - You team members MUST be in the same lab as you.
     - Groups will present their PowerPoint presentation **in lab the week of March 16th**
     - Your presentation will be evaluated on the following: amount of research indicated, coverage of topic, accuracy and presentation.

3) **Journal entries:** You will be assigned to work with a team during lecture to complete the day's activities in KC 115, the SRC or at the ESA! This is an excellent way to review course materials with other students and its fun! You will be awarded points for completing each lecture journal entry. You will be given a journal at no additional cost. **DO NOT LOSE YOUR JOURNAL**!

4) **Homework Assignments:** The homework questions are in your **ESCI 19 student packet**. You must have your own student packet – no photocopies will be accepted. Homework is due on the dates listed in the lecture schedule and **homework is due at the beginning of lecture. Any** homework turned in after will be marked **late** and points will be deducted – **2 POINTS PER DAY LATE**. Late homework must be turned into the instructor during class.

5) **Midterm and Final Team Assessment**: You will have two team assessments (see schedule for dates/times). The team assessment is in lieu of a standard midterm and final exam. You will be graded as a team, so choose your members wisely. Try to choose between 4 – 7 members per team. The team assessments are open note, open book, open journal but NO electronic devices.

6) You cannot pass the without taking the final exam.

Required Textbooks:

ESCI 19 Student Packet 2010-2011 – You MUST have this for this class. – You may not photocopy a friends.

Withgott, J., Brennan, S. **Environmental Science: The Science Behind the Stories.** Pearson Learning Solutions, *Fourth Edition*. If you cannot purchase one, they are available for free checkout for 3 hours at the SRC – Although you cannot take it home.

Lecture Schedule

This is a tentative lecture schedule. The dates and Journal Entry numbers will stay the same, but the material may change as needed – change is good! For reading, if you have a different edition, just use the index to find your way!

DATE	***TOPIC***	***READINGS/WITHGOTT*** Chapter & pages to read Supplement pages in the back
Sept 26 & 28	Review of Greensheet	Chapter 1: 2-15
	Kirsch Center for Environmental Studies/ Kirsch Treasure Hunt	
	Learning Skills	
	Video*:* ***The Blue Planet***	Chapter 1
	What is Science? Environmental Science?	Pp 1-4
	Environmental/Scientific Method	Chapter 2: 29-32
Oct 3 & 5	**Dynamic Earth**/Matter & elements	Chap 2: 34-48
	The Just Right Planet	Chap 4: 82-85
	Weather & Climate	Chap 5: 100-105
	Weather Basics	Supplement S38-S42
	Earthquakes, Volcanoes	Supplement S43-S45
Oct 10 & 12	How is **Life on Earth** organized?	Chapter 3 (All)
	Earth's Life Support Systems	Chapter 3: pp 50-66
	Naming species	Supplement S34-S35
	(Homework #1 due, 10/12)	
Oct 17 & 19	**Biodiversity & Energy Flow**	Chap 3: pp 61-66
	Evolution, Extinction & Speciation	Chap 4: pp 82-94; 98
	Basic Chemistry	Supplement S27-S32
	Biomes	Chap 5: pp 105-125
	Aquatic Life Zones	Chap 6: pp 126-142
	Community Ecology	Chap 7: pp 144-160
	(Homework #2 due, 10/19)	
Oct 24 & 26	California Floristic Province	
	Video: America's Endangered Species: ***Don't Say Goodbye***	
	Select group projects & power point session	
	Energy – Photosynthesis	Chap 3: pp 54-60
	Cycles	Chap 3: pp 70-77
	Renewable and Nonrenewable Energy	
	(Homework #3 due, 10/26)	

Oct 31 & Nov 2	**Hydrosphere** Hydrologic (Water) Cycle Water Basics Water Pollution Team Assessment Review	Chap 3: pp 70-72 Chap 13: pp 305-316 Pp 332-333 Chap 21: pp 493-509
Nov 7	**Atmosphere**: Structure & Science Air Pollution Human Respiratory System Carbon Cycle (Follow the Carbon Atom) Greenhouse Effect, Climate Change & Ozone Depletion **(Homework #4 due, 11/7)**	Chap 19: pp 439-448 Pp 452-462 Pp 455 Pp 72-74 Chap 20: pp 464-491
Nov 9	**Midterm Team Assessment**	
Nov 14 & 16	**Lithosphere** Soil: A Renewable Resource Humans and the Environment	Chap 15: pp 336-340 Chap 3: pp 67-70 Chap 9: pp 171-178
Nov 21 & 23	The **Ecosystem Approach**	Chap 10: pp 191-207 pp 212-220
Nov 28 & 30	The **Species Approach** Aquatic Biodiversity	Chap 11: pp 222-247 Chap 12: pp 249-268
Dec 5 & 7	**Rainforests** – A Carbon Sink **Review Session Final Assessment**	
Dec 12	**Towards a Sustainable Future** Living More Sustainably Learning from the Earth The Earth Charter Components of the Sustainability Revolution Final Assessment Review	Chap 26: pp 615-626

Final Team Assessment – Tuesday, December 13th at 11:30 a.m.- 1:30 p.m.

***In addition to the required text you will need to purchase an access code (check your textbook package). If you purchased a reused text you will need to purchase the access code on the Pearson website : http://www.masteringenvironmentalscience.com/.**

Each mastering assignment will have the points designated, which will be added to your lecture points.

ESCI19 - FALL 2011 LAB SCHEDULE

Lab Dates:	Lab Activities:	Location:	Points:
9/26-9/29	**Lab Introduction, Plant Communities of California (ESA Tour), Kingdoms of Life: Monera & Protista. Fill out forms! MICROSCOPE WORK BEGINS**	**KC120/ESA**	**15**
10/3-10/6	**Kingdoms of Life: Plantae & Fungi, Tree Keying, Plant ID & Map of ESA, MICROSCOPE WORK**	**KC120/ESA**	**15**
10/10-10/13	**Kingdoms of Life: Animalia, Birding Software, Habitat/Topography Maps, complete microscope work**	**KC120/ESA**	**15**
10/17-10/20	**Field Trip: Rancho San Antonio, meet at parking lot**	**OFF-CAMPUS**	**25**
10/24-10/28	**Field Trip: Palo Alto Baylands Meet in Parking Lot**	**OFF-CAMPUS**	**25**
10/31-11/3	**Field Trip: Alviso Education Center, San Francisco Bay/Delta Map Meet in Parking Lot**	**OFF-CAMPUS**	**25**
11/7-11/10	**Field Trip: Coyote Creek Watershed Map to be distributed in class.**	**COYOTE VALLEY**	**50**
11/14-11/17	**Field Trip: Coyote Valley Model Airplane Park for Bird Observation/ Identification. Map to be distributed in class.**	**COYOTE VALLEY**	**50**
11/21-11/24	**No Labs Due to Holiday**	**-**	**-**
11/28-12/1	**Field Trip: Santa Teresa County Park *$6 PARKING* FEES REQUIRED** **Turn in journals today!**	**COYOTE VALLEY (STCP)**	**50**
12/5-12/8	**Student Presentations: Endangered Species Project: Journals Returned**	**KC120**	**35**
Lab Points:	1st set of 3 labs @ 15 pts each = 45 2nd set of 3 labs @ 25 pts each = 75 3rd set of 3 labs @ 50 pts each = 150 Microscope Work = 25 points Journal Check = 25 points Endangered Species Presentation = 35	**Total Lab Points Possible:** **355**	

ESCI19 Lab Make Up Schedule/Procedure
FALL 2011

1. Student can go to the SRC directly Monday through Thursday from 9:00am to 7:00pm and obtain a lab make up from the SRC desk.
2. Students must set aside 2-3 hours for their lab make up. ***Students needs to plan to do the lab work here at the Kirsch Center – no exceptions.***
3. Students must bring with them their journals, student packet and an i.d. for laptop/computer or textbook check out.
4. There are deadlines that labs need to be made up and are as follows (no exceptions):

Labs:	Deadline:
September 26th – 29th **October 3rd – 6th** **October 10th – 13th**	**Thursday, October 20th**
October 17th – 20th **October 24th – 28th** **October 31st – November 3rd**	**Thursday, November 10th**
November 7th – 10th **November 14th – 17th** **November 28th – December 1st**	**Thursday, December 8th**
December 5th – 8th	**This is the Endangered Species presentation lab week. Make up's need to be arranged with their own lab instructor.**

5. Students must sign in and sign out with the personnel at the SRC desk. Failure to sign in or out will result in **no credit** for the lab make up.

When we try to pick out anything by itself,
we find it hitched to everything else in the universe. John Muir