

Environmental Science 110/Agricultural Sciences 110
Imperial Valley College
Fall 2013

Instructor Dr. Pat Pauley
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Office Hours: by Appointment

Lecture Hours: 3 **Credits: 3**

Course Description This course is designed to provide students with an overview and understanding of the interrelationships between humans and the natural environment. The class will focus on basic concepts of science and ecosystem theory, human impacts on the air, water, and land, environmental problems faced by the Imperial Valley that have regional and global consequences, and some of the proposed solutions.

Course Objectives Student will:

- Describe the role of science, the use of the scientific method, the importance of stewardship, and the concept of sustainability in the environmental field;
- Identify local and global environmental challenges;
- Recognize and describe the science, structure, function, dynamics, adaptations of and major threats to local and global ecosystems;
- Describe the environmental impacts of human population growth and material consumption nationally and internationally;
- Identify some of the solutions that can address the population and consumption challenges;
- Describe the importance of protecting wildlife and habitats and conserving biodiversity;
- Describe the hydrological cycle and identify ways that humans negatively impact the cycle.
- Describe the quality of fresh water globally and identify major sources of water pollution;
- Apply these principles to local water bodies such as the New and Alamo Rivers and the Salton Sea;
- Describe the political aspects of water allocations of the Colorado River and its impact on the Imperial Valley;
- Describe the state and federal laws and regulatory agencies that govern environmental concerns of air, water, land, human health, and chemical hazards;
- Identify common human health effects of environmental exposures;
- Recognize the steps involved in risk analysis, how risk perception affects individual and group decision making, and strategies for managing risks;
- Describe agricultural practices in the Imperial Valley with regard to the following concepts: soil characteristics, use of irrigation, the benefits and drawbacks of fertilizer use and pest control, the environmental impacts in air, soil, and water, and the economic impact regionally and nationally;
- Identify the major sources of air pollution locally and nationally;
- Recognize the benefits and environmental impacts of fossil fuels and describe alternatives to its use;
- Describe how materials are managed to minimize or eliminate environmental impacts;
- Describe the process of managing solid waste from source reduction to recycling;
- Identify solutions to local and global environmental problems

Student Learning Outcomes

- Identify an important issue in environmental science, conduct research via literature review, interviews with experts, and/or hands-on projects, and document the information sources by citing references parenthetically within a research paper and listing them at the end, using a standard documentation style, such as MLA. (ILO4)
- Identify an important issue in environmental science, conduct research on it via literature review, interviews with experts, and/or hands-on projects, and clearly communicate the content learned by giving a presentation to the class. (ILO1)
- Understand and report application, strengths and weaknesses of the Scientific Method. (ILO1, ILO2 & ILO3)

Required Text

Environmental Issues & Solutions. Myers & Spoolman
ISBN 978-0-538-73560-5

General Expectations

Students must comply with all rules and regulations of Standards of Student Conduct outlined in the Imperial Valley College General Catalog.

For writing assignments I expect you to demonstrate proficiency in the use of the English Language. Grammatical errors and writing that do not express ideas clearly will affect your grade. Students who are unable to write correctly and have trouble expressing ideas clearly are urged to contact the appropriate campus resources for assistance.

Cell Phones

I require that all cell phones, pagers and other noise making devices be **turned off or to vibrate** during class. If you must use these devices during class, I ask that you quietly and discretely leave the room. Failure to comply with such rules will earn you the opportunity to give a 5-minute oral presentation on an environmental topic of the instructor's choice during the next class period or to receive an automatic deduction of 20 points from your overall course grade.

Disability Information

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible.

DSP&S Room 2117, Health Sciences Building, (760) 355-6312

Late & Absent Policy

If you find that you need to excuse yourself early on rare occasion you should make every effort to get to class early so that you can sit close to the door. This will allow you to leave the room without disrupting the learning environment for your fellow students. Similarly, if you should not be able to avoid being late, it is your responsibility to come in and sit down in a manner that will not be disruptive. Either of these events are NOT to be regular occurrences for any given student. Additionally, it will be the student's responsibility to obtain notes for any missed class time as I do not lend them.

Class Requirements

Class grading will be based on points in the following distribution:

1 Position Paper 100 points

Group Work 200 points

Exams 200 points

Grading

A = 100 – 90%

B = 89 – 80%

Final grades will not be further adjusted as any “rounding” will be done on individual exams, quizzes or assignments.

C = 79 – 70%

D = 69 – 60%

F = \leq 59%

Class Participation

Each student is expected to read the assigned material before coming to class. This will enable you to participate in the class discussions. Being able to interact in this manner will have positive effects on your quiz and exam performance.

Position Papers

During this semester you will be required to write **one** (100 point) paper about an environmental issue of your choosing. Papers must be of length to cover the topic, typed in **12 point Arial font**, double spaced, with all margins 1" wide. There will be a deduction of points for grammar, margins, format and spelling. Due date to be announced.

Group Presentation

You will be required to work in a group on one class presentation. I will provide class time to do group work. However, if your group needs more time then you will need to make arrangements with your group to work outside of class.

Exams

Two exams will be given. Exams may include true/false, short answer, multiple choice, and short essay questions. Exams will be worth 100 points each. **NO MAKE-UP EXAMS!**

Lecture Topic

Mod 1 – Env Sci & Sustainability
Mod 2 – Population Growth
Mod 3 – Urbanization
Mod 4 – Food Resources
Mod 5 – Energy Efficiency & Renewable Energy
Mod 6 – Nonrenewable Energy
Mod 7 – Mineral Resources
Mod 8 – Species Extinction
Mod 9 – Land Degradation
Mod 10 – Water Resources
Mod 11 – Water Pollution
Mod 12 – Air Pollution
Mod 13 – Climate Change
Mod 14 – Wastes
Mod 15 – Env Health hazards