

## **Environmental Studies (ENV) 101: Introduction to Environmental Science**

**Catalog Description:** (2016 – 2017 Catalog) Introduction to the relationship of humans and the environment. Selected aspects of current thinking and research concerning the impact of industrialization and urbanization on environmental quality, including the population explosion; the potential decline of the affluent society by the depletion of natural resources; the pollution of air, land surface and water; the public agencies and policies designated to solve environmental problems. Required course for Solar and Renewable Energy Minor

**Prerequisites:** None.

**Co-requisites:** None

**Credits:** 3                    **Contact Hours:** 3 (Lecture)

**Course Coordinator:** Erica Tietjen

**Course Learning Outcomes:** At the conclusion of this class, students will be able to

- apply fundamental theories and concepts from the natural and social sciences to environmental issues, and identify the multiple dimensions of environmental issues;
- identify human environmental problems, and discuss the scientific information available for their evaluation and potential solutions;
- recognize, analyze and interpret scientifically-sound environmental information (graphical and text) in the context of current environmental issues;
- describe how laws of matter and energy and principles of ecology interact with human activity;
- evaluate the desirability of changing individual behavior and society's patterns of consumption, growth, and use of technology

**Course Objectives:** This course is structured to introduce students to the fundamentals of solar energy conversion systems, available solar energy and local and national needs, photovoltaic and solar thermal engineering applications, emerging technologies. Students will also learn the interdisciplinary approach for designing PV and solar thermal systems, and will learn how to conduct building energy simulations using building energy simulation software packages. They will also learn how photovoltaic energy conversion systems are integrated into electrical grid systems, including generation, storage, and grid connection processes for residential applications.

### **Brief List of Topics Covered:**

1. Introduction to Environmental Science and Sustainability
2. Environmental Laws, Economics, and Ethics
3. Ecosystems and Energy
4. Ecosystems and the Physical Environment
5. Ecosystems and Living Organisms
6. Major Ecosystems of the World
7. Human Population
8. Urban Environment

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9. Energy Consumption
10. Fossil Fuels
11. Renewable Energy and Nuclear Power
12. Water
13. Soil Resources
14. Biological Diversity
15. Food Resources
16. Pest Management
17. Air Pollution
18. Global Climate Change
19. Solid and Hazardous Waste

**Supplemental Information:** This is a lecture-based course that includes lectures, readings, assignments and assessments. Lecture notes are made available on WebCampus in advance of lecture coverage of that topic/chapter. You are expected to:

- attend lecture on a regular basis;
- print and bring the available course notes with you to lecture, and take notes in class;
- observe good classroom decorum – no personal conversations, or inappropriate use of laptops or other electronics, etc.
- do the assigned chapter readings before class;
- complete the assignments by the due date;
- check WebCampus at least once daily for announcements and other course material

**Textbook:** Raven, P.H., L.R. Berg, and D.M. Hassenzahl, 2015. **Environment 9<sup>h</sup> Edition.** John Wiley & Sons, Inc. New Jersey.

**Personal Resource Use Portfolio:** 250 total points (50 pts per assignment)

Assignment #1 - Ecological footprint

Assignment #2 – Water use audit

Assignment #3 – Food audit

Assignment #4 – Trash audit

Assignment #5 – Course reflection

**Assignments** – all personal resource use assignments will involve completing an activity (to be provided) and completing questions to be submitted to WebCampus by the beginning of class, 10am, on the dates noted in the course schedule (no paper-based submissions accepted). Assignments will be made available 1 week prior to the due date. All instructions will be available in the Assignments folder on our Course Content page. Any due date changes will be announced in class and on WebCampus.

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**Library Resources:** Students may consult with a librarian on research needs. For this class, the subject librarian is Sue Wainscott. ([https://www.library.unlv.edu/contact/librarians\\_by\\_subject](https://www.library.unlv.edu/contact/librarians_by_subject)). UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu>.

### **UNLV Policies:**

**Academic Misconduct**—Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution.

An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

**Copyright**—The University requires all members of the University Community to familiarize themselves **with** and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

**Disability Resource Center (DRC)**—The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

**Religious Holidays Policy**—Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days

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of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

**Transparency in Learning and Teaching**—The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

<https://www.unlv.edu/provost/teachingandlearning>

<https://www.unlv.edu/provost/transparency>

**Incomplete Grades**—The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student’s control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving “I” grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

**Tutoring and Coaching**—The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call [702-895-3177](tel:702-895-3177). The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

**UNLV Writing Center**—One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student’s Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

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**Rebelmail**—By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always [@unlv.nevada.edu](mailto:@unlv.nevada.edu). **Emailing within WebCampus is acceptable.**

**Final Examinations**—The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.