SYLLABUS
Natural Science 263-Environmetal Science
Fall 2017

Instructor: Chuck Schick
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Email: cschick@unm.edu BEST WAY Reach me. I'll see it and get back with you.

Office Hours: Before Class**,** after class, or by appointment.
Course Textbook: Campbell: Essential Biology 10th Ed. I will have a definite reading list for you when my copy of the text arrives.

CLASS SCHEDULE

Week No.	Date	TOPICS	Purpose and Learning Objective
1	Aug 21	Course Overview, Requirements, Policies, etc. Stewardship and Sound Science. What is the difference between science and advocacy? **LAB Observation Laboratory**	Difference between true scientific results and advocate science we commonly see reported in the media.
2	Aug 28	**Metric and English units of measure Conversion Exercises.** Ecosystems, Structures, biotic & abiotic relationships. Food Web	Understand the basic systems that surround us. Conversions are designed to understand units of measure commonly used in this course
3	Sept 4	**Current Events #1 Current Environmental Issue.** *Present to the entire class* Ecosystems, Structures, biotic & abiotic relationships.	Same as above (continued). Digesting information and then communicating it to your peers.
4	Sept 11	**Lab MAP MAKING LABORATORY,** *Dress to be outside on campus (shoes).* *Also, mapping lab in class too!* Populations, relationships, succession	Lab Developing Skills for communicating 3-dimensional data in time honored 2-D way.
5	Sept 18	**PRESENT AND PLAY YOUR FOOD WEB GAME** Human Population Trends: Where are We? Where are we going? How fast? Population Problems. TEST #1 REVIEW	Understanding populations versus the environmental support for them. Game: See back of syllabus.
6	Sept 25	**Current Events #2 TOPIC, CENSUS:** Download or locate and present a topic from the Census that is applicable to population growth trends (Present to class. Summarize the data and tell the class YOUR INTERPRETATION for the future. Or what potential problem or good thing is happening *Yes, we'll expand further about this in class.* **TEST#1** **LAB Simple statistical evaluations of Data!!** **OUTLINE for your research paper/power point AND REFERENCES:**	Census: Evaluating complex data in order to support a conclusion or test a hypothesis. Statistics Lab: How to use simple methods to evaluate population data.

7	Oct 2	Hydrologic Cycle, Groundwater, Surface Water and Pollution in Storm Water Runoff. Introduction to P2 issues. Brief explanation of current Storm-water Regulations, Surface water Regulations, Groundwater Regulations and their importance for environmental protection. What the EPA does NOT regulate too!! Soil and the Soil Eco-system **LAB Weights and Measures**	Understanding hydrologic cycle, and the regulatory structures designed to protect fresh water in the US.
8	Oct 9	Hydrology, Climate and Weather Fall Break: Work on your research project and water game	Simple atmospheric principles and the flow of water on the planet.
9	Oct 16	**PRESENT WATER GAME**. Create a game for your imaginary or real class that deals with water issues. **LAB SOIL LAB Part 1 (soil types and profiles)** Food Production and Distribution Species Protection and Bio-diversity, Habitat Control	How tenuous the food supply is and how catastrophic events might lead to global shortage. Maximized production
10	Oct 23	Hazards to Human Health, Overview of Environmental Regulations and Controlling Government Agencies. Who does what and why (USEPA, NMED, RCRA, CERCLA, OSHA). Plus, Web sites for these agencies and others for your classroom. TEST #2 REVIEW!!	Understand the history of current US environmental regulations. The basic 40CFR regulations covering major classifications of chemicals, wastes or processes.
11	Oct 30	**TEST #2** Human Health based Risk Assessment- How is it done, what does it mean? Pesticides and Herbicides- What's bugging you and how do pesticides work? **SOIL LAB: Part 2**	Understand how pesticides and herbicides function. Basic framework for how an acceptable level of chemical in the environment is determined.
12	Nov 6	Water Pollution: Soil, Groundwater and Water Remediation Techniques: Mechanical, using plants, intrinsic, bioremediation, etc.	Current soil and groundwater remediation strategies. Their strengths and weaknesses
13	Nov 13	Landfills, Solid Wastes, Disposal, recycling etc. Everything you ever wanted to know about Subtitle D Landfills, hazardous waste landfills and special waste landfills	How we design and regulate landfills and other waste treatment facilities.
14	Nov 20	HAZARDOUS CHEMICALS AND WASTE (What's the difference?), Disposal of wastes and Reduction of Exposures ENERGY TEST #3 REVIEW **Lab: TAKE HOME POLLUTION PREVENT SURVEY** **PAPER/POINT DUE (No LATE submittals will be taken**	Understand how hazardous wastes are classified, treated, transported or disposed. Also, strategies for reduction of these wastes. Energy types. Pros and cons. Understand how if you are safely storing and using potentially hazardous materials in your own home.
15	Nov 27	**TEST #3** Catch up Return Research Power Points/papers Discuss Household survey	
16	Dec 4	Present Papers/Power Points to the Class, Final review	Present complex information to your peers

RESEARCH Paper/PowerPoint: During this class we will be covering many topics. The purpose of this project is to permit you to explore a subject that interests you in greater detail. You will either write a paper (10 to 12 pages double-spaced) or prepare a power point presentation (16 to 18 slides with both text and visual content) on an environmental issue INCLUDING REFERENCES. You will turn in a 1-page summary or your topic (with an outline) and **WITH REFERNCES** for your paper on the date specified in the syllabus. Your paper/power point will have at least five (5) references. THE TEXTBOOK IS NOT A REFERENCE for this purpose (but it could be your starting point). The instructor will approve the topic and EXPECT to see the final product on the due date. NO LATE SUBMITTALS.

Make-up Tests: No Make-up Exams. See Grading Policy below. Also, we can't make up labs. So be there. ALSO, Most of the labs are impossible to make up.

Grading Policy: Tests will be approximately 60% of Grade. Best 3 out of 4 Exams (Including the Final). Paper will count for 20% of your Grade. Current event presentations, labs, attendance and games will be assessed at 20%. All percentages are approximate. The goal of grading is to provide you with multiple methods for demonstrating your knowledge and mastery of the material.

Attendance: The schools policy will be followed. Therefore, not showing up for class could result in the "system" dropping you from the class. You should attend class regularly and get your notes. I don't give out notes. Part of your education is to process lecture material and put it into your own notes. If you are not going to attend class, please let me know **BEFORE CLASS. Lack of attendance will most likely reflect poorly on your final grade.**

Plagiarism/Cheating:

I encourage you to talk with one another about assignments before, and while, you do them, but all submitted work must be your own. In addition, if you copy information from textbooks, newspapers, the internet or other media sources you must cite them as your source of information. Blatant copying (plagiarism) will result in a score of zero for all students involved. A second offense will result in you receiving an F for this course. I would like to draw your attention to: The University of New Mexico's policy on "Dishonesty in Academic Matters": *"Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Academic responsibility includes, but is not limited to, dishonesty in quizzes, tests or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University".*

Access:

If you have a documented learning disability, please provide a copy of your letter from **Equal Access Services** as soon as possible to ensure that your accommodations are provided for in a timely manner.

Electronic Devices:

To the benefit of you, your classmates and the learning environment **please turn off** electronic devices such as cell phones before class begins. If you wish to use a **laptop or tablet** for note-taking **please press mute** to eliminate distracting noises. Your cooperation in these matters is appreciated by all.

Title IX: See http://www2.ed.gov/about/offices/list/ocr/docs/ for information regarding these rules for a safe classroom for both students and teachers. Also, the Office of Equal Opportunity (oce.unm.edu) provides more information regarding these matters.