

San José State University
College of Social Science/Department of Environmental Studies
ENVS 110 Natural Resource Analysis, Fall 2016

Instructor:	Rachel Lazzeri-Aerts
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Office Hours:	Mondays 12-2pm and by appointment
Class Days/Time:	Lecture: Mon 3:00pm-5:45pm Lab: Tue/Thur 12:00-1:15pm OR 1:30-2:45pm
Classroom:	Lecture: BBC 105 Lab: WSQ 113

Catalog Description

Quantitative analysis of Earth's natural resources. Topics typically include the status and trends of resources such as topsoil, agriculture, water, energy, wildlife and the impacts of human population growth on these resources. Emphasis is on problem solving and computational methods applied to resource management problems. Prerequisite: ENVS 1, ENVS 10, STAT 95.

Course Overview

Natural resources include all of the materials that we use to sustain our lives, build our civilizations, and create the luxuries and entertainments that we enjoy. There is nothing that we have that does not originate from the earth, from the sea, or from the sky. In an era of super-abundance it is easy to lose touch with the importance of these resources and the processes that renew them, but as resources become scarce our dependence on them is apparent. Human populations are increasing globally, escalating the pressure on limited resources. Throughout much of human history our response to natural resource deficits has been post-hoc, and reactionary. Our growing understanding of resource use on a global scale gives us an opportunity for conscious stewardship, not only of individual resources, but of the ecological cycles and processes that allow for sustainable productivity over the long term.

Learning Outcomes

This course has been designed to help students explore and analyze issues related to natural resource management. We will survey topics related to the management of traditional renewable resources such as timber, soils, and fisheries. We will also discuss the ramifications of global economic dependence on non-renewable resources such as petroleum, coal, and uranium. In order to be effective as environmental scientists we must understand the issues surrounding natural resource use, and the tools that are used to analyze natural systems. As a class we will be devoted to demystifying quantitative approaches to understanding the natural world. We will work together to analyze current problems and present solutions, so that as a society we can move beyond reaction to pro-action in regard to natural resource management.

Required Texts/Readings

Textbooks

Gonick, L. and W. Smith. 2002. The Cartoon Guide to Statistics. Harper Perennial. ISBN 10: 0062731025.
Stokes, Dale. 2014. The Fish in the Forest. UC Press. ISBN 10: 0520269209.

Other Readings

Additional readings will be provided on Canvas.

Other Equipment / Materials

You will need a flash drive at EVERY lab meeting. Additionally, you will need access to a computer with Microsoft Word, Excel, PowerPoint, and the internet. Be sure to bring pencil and/or pens with blue or black ink and paper to every class even if you take notes on a laptop.

Library Liaison

Peggy Cabrera (peggy.cabrera@sjsu.edu) is the Library Liaison for the Department of Environmental Studies. She is a great resource who is available via email, and in person by appointment.

Course Requirements and Assignments

Canvas Instructions

For this course, all take home assignments, papers, and lab reports must be turned in through the Canvas learning management system, unless otherwise noted. If you have trouble with this, please come see me during class or office hours. **All assignments are due before 12:00pm (noon) on the due date listed in the course calendar.**

Exams

A lecture final exam will include material from lectures, readings, films, activities, and student presentation. A practical (hands-on) exam will be conducted during the last laboratory session and will cover all subjects addressed in the labs including the scientific method, data entry and analysis, and presentation of data.

Assignments

Weekly Quiz: At the beginning of each class period a short quiz or activity will be given covering material from readings and lectures. The quiz will be followed by a discussion on the issues discussed in the readings. In order to prepare for the quizzes it is essential that readings be done before class. **No make-up quizzes will be given for any reason.**

News Articles: Each student will find a current news article (from a reputable news source) that relates to natural resources, natural resource use, or natural resource analysis. Article should be no older than 6 months from your presentation date. Each week 3-5 students will bring their article and present a summary to the class. You must email me the link to your article before 12pm on your presentation date for full credit.

Field Day Exercises: One lecture day will be spent outside learning and practicing various methods of data collection to prepare for the individual/group research project (see below). A packet with written directions, exercises, and homework questions will be completed and submitted along with all data collected and results.

Redwood Case Study: One lecture period will be spent on a forestry case study that focuses on the coast redwood. Each student will be responsible for researching an assigned subtopic and creating a poster with the information. We will have a mini “poster session” during class and students are responsible for the information presented. More details will be given in class.

Statistics Notebook: You will be creating a statistics notebook that contains information, examples, labs, and resources on basic statistical tests. The goal of this notebook is to help you to understand the various tests, and to have reference for other classes such as senior seminar. Contents, organization, and a sample will be discussed in lab.

Research Project: Each student will gather, analyze, and present a data set of their choosing. This data set will be from a primary source (i.e. collected in the field). Students may work in groups of 2-4 if they choose. The project will include three steps.

1) A proposal will be submitted and approved by the instructor before beginning data collection. The proposal will include a short introduction (with research questions and hypotheses), and a methods section (describing how data will be collected and analyzed).

2) The final project will include a written report. The report will be 8-12 double spaced pages and will include a short **introduction** (with research questions and hypotheses), a **methods** section (describing how you gathered and analyzed data), a **results** section (describing the data that was collected in the context of your hypotheses), and a **conclusions** section.

2) A presentation will be given by each student/group of researchers during class time. The presentation should be 15 minutes in length, professional in quality, and cover all of the sections described above for the written report. PowerPoint presentations are required.

Class Participation

Students will be expected to actively participate in their learning. As much of this course is based on activities, presentations, and discussions, each student’s participation is necessary for the class to function successfully. Students should arrive on time, prepared, be creative when they are presenting, and attentive and supportive when others are sharing their work. Group activities, debates and discussions, short in-class writings, and peer feedback all may be used as participation points toward final course grade. Be sure to complete assigned readings before class. Readings may also include articles distributed by instructor.

Labs

Lab exercises will be conducted during the lab section and lab reports will be due the following Tuesday before 12:00pm (noon) via Canvas. Lab reports will follow the standard scientific format including: Introduction; Research Questions and Hypotheses; Methods (data collection and data analysis); Results (figures, tables, and narrative); Conclusions (hypotheses assessment and discussion of findings).

Formatting

Please note that all assignments need to be formatted as follows: 12 point font, Times New Roman, 1 inch margins, doubled spaced, include a header with name and date, and use Turabian/Chicago formatting where applicable. A 10% deduction will occur for not following these guidelines.

Grading Information

Your grade will be based on your exams, assignments and class participation. All assignments are to be turned in through Canvas before the specified due date and time or at the beginning of the due date class unless otherwise indicated.

Grade scale

97%-100% = A+	93% - 96% = A	90% - 92% = A-
87% - 89% = B+	83% - 86% = B	80% - 82% = B-
77% - 79% = C+	73% - 76% = C	70% - 72% = C-
60% - 69% = D	less than 60% = F	

Late Work

All assignments are due **before 12:00pm (noon)** on the due date listed in the course calendar. Late work is **NOT** accepted. Exceptions may be considered for legitimate and documented circumstances (medical emergency, death in the family) with proper documentation.

Extra Credit

Students are responsible for recording the details of any offered extra credit assignments.

Grading Overview

Assignment	Point Value
Weekly Quizzes	160 (20 each)
News Article	20
Redwood Case Study Poster	30
Field Day Packet	30
Project Proposal	50
Final Project Report	100
Project Presentation	100
Final Exam	100
Lab Exercises	210 (30 each)
Lab Practical Exam	100
Statistics Notebook	50
Participation	50
	<i>1,000 total</i>

Classroom Protocol

The use of laptops during class time will be restricted to in-class activities and note taking. Students who use their computers for other activities or who abuse the equipment in any way, at a minimum, will be asked to leave the class and will lose participation points for the day. Cell phones, music players, and any other electronic devices must be turned off and stored in your backpack/purse. **Any** use of electronic devices during quizzes and exams is considered cheating, and will result in a failing grade.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

Consent for Recording of Class and Public Sharing of Instructor Material

Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. See [University Policy S12-7](http://www.sjsu.edu/senate/docs/S12-7.pdf), <http://www.sjsu.edu/senate/docs/S12-7.pdf>.

Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.

Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>. Instances of academic dishonesty will not be tolerated. **Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University.** For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include in your assignment any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Policy F06-1 requires approval of both instructors.

Resources for Students

There are many resources on campus available to you. Some examples include: SJSU Peer Connections Center, the College of Social Science Access Center, SJSU Writing Center, SJSU Counseling and Psychological Service, SJSU Student Health Center, the Academic Success Center, and many places to use or get help with technology. See the [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/> for more info or come see me.