

Environmental Planning
Spring Term, 2005
Dr. Craig Caupp

Catalog Description

2206.472, Principles and methods used in environmental assessments and site analysis. Students will prepare an environmental impact statement, site development plan, or mine reclamation plan.

Expanded Description: Environmental Planning is a broad topic encompassing landscape planning, water resource management, airshed planning, land use planning, wildlife refuge planning, solid waste management, health planning and more. Environmental planning requires a knowledge of planning issues and objectives, analytical and writing skills, and practice in integrating different viewpoints and disciplines, collecting information, analyzing and interpreting results, and the presentation of that information. Environmental planning is usually done by an interdisciplinary team working together. Group projects will be done to practice group dynamics and share different viewpoints. A successful environmental planner uses a variety of skills and techniques: writing, math, graphics, computer, word processing, spreadsheet use, mapping, GIS, and geographic and oral presentation. No one is going to have strong background in all areas necessary for comprehensive environmental planning. The objective is not to turn an urban geographer into a wildlife biologist, or a wildlife biologist into a computer scientist, but provide enough background so the tools can be used and different disciplines can communicate with each other. The student should expect some frustration when dealing with new areas, when many in the class will already have a strong background in the topic. The Environmental Planning course is taught as a capstone course, requiring the students to apply skill they have learned in other courses.

Student Responsibility Environmental Planning is a senior level capstone course. This course requires students to read material from a variety of topics once the reading is assigned and before topics are discussed in class. It is expected that students have had technical writing or a similar upper level writing course. The expectation is for **well written reports**, documented with citations from several sources, reports will follow the format of **Introduction, Methods, Results, Discussion, Conclusion, and References**. Reports will be finished on a word processor and printed on a dot-matrix, ink-jet, laser or similar quality printer. Students will use a spreadsheet program to analysis environmental problems. Students will use the INTERNET and library to research environmental topics. Several review sessions on the use of computers, library research, and use of the INTERNET will be offered. It is the responsibility of the student to attend these review sessions if their skills in these areas are insufficient to complete the assigned work. I will work with the students to bring these skills up to a level expected of graduating seniors.

Purpose: 1. To introduce environmental planning, expose students to the complexity of issues and competing values involved in planning. 2. To discuss ethics involved in working with different value sets, public, individual, community, ecosystem, and endangered species. 3. To practice analytical skills and problem solving.

Course Objectives

1. To understand why environmental planning is necessary.
2. To obtain knowledge of the content of the following aspects of environmental planning:
Wetland delineation
Site feasibility studies
Site analysis
Environmental assessment
Strip mine permit
Environmental impact statement
Forest Conservation Plans
3. To learn what environment indicators are and how they are used and measured (DO, pH, vegetation, soils, etc).
4. To obtain knowledge of the sources of environmental data.
5. To Obtain experience in collecting environmental data.
6. To Obtain experience with techniques of environmental analysis, such as maps, computer programs, overlays, matrices, checklists, and GIS.
7. To obtain experience in environmental analysis by collecting data and preparing environmental planning documents.
8. To learn and practice skills necessary for achieving planning objective of finding the optimal use of resources. Experiment with several tools of planning, EIS, computer models, simulations, overlays, GIS.
9. To learn how the INTERNET can be used to locate current information on wetland issues and other environmental topics.
10. To learn to use Soil Surveys to gather environmental planning information.

COURSE OUTLINE: Given on separate sheet.

Text: *Environmental Land Use Planning and Management* Assigned readings in addition to the text will be made in handouts on planning, wetlands, soils, etc. and in reserve material in the library.

COURSE EXAMINATIONS:

The exams include questions from your text readings, lecture notes, and lab exercises. Types of questions include multiple choice, matching, fill-in-blank, short answer essay, and design problems. **The exams will be open notes and open text book.** To do well on the exams in the time available, you must have read and organized your notes and text book before the exam. Three exams will be given. The third exam will be given during the scheduled final exam period. Make-up exams will be given only if the student is ill or a personal emergency occurs and the absence is reported to the instructor prior to the examination period and supported by proper written documentation.

Grades -- determined by total points accumulated:

Exam 1	100	A = 450 or more
Exam 2	100	B = 400 to 449
Final	125	C = 350 to 399
Projects	<u>175</u>	D = 300 to 349
	500	F = 299 and below

Student Projects-- Student reports are an important aspect of this course. Students will work on four projects as shown on the course outline. **Projects will require a written report done on the word processor. Two of the projects require a spreadsheet analysis. These projects require written reports, graphs (generated by spreadsheet) and printed copy of spreadsheet.** The total number of project points will include grades from the four projects, grades from **computer/math assignments** and **pop quizzes**. Students are required to use the computer. There will be scheduled computer help sessions.

Study Hints: Students will be required to read the course material before class discussion/lectures and before beginning on the projects. It is your responsibility to notify other instructors if you will be missing there classes. Learning is not a passive activity, if you do not want to read the material before hand and put lots of time in on the projects **now is the time to drop this class.** Time must be spent outside of class working on the computer exercises. Unannounced quizzes and problem sets are possible at any time.

Attendance Policy

Attendance will not be taken. Students assume responsibility for information and handouts missed due to absence.

Office: GU 205 (ext. 4755) Hours I have an open door office policy, stop by with your question at any time. **Office Hours:** M, 2-3, 4-5, T 3-4, Wed 12:00- 1:00, F 2 - 3

Academic Dishonesty is defined to include giving or receiving aid on exams, any form of cheating, or plagiarism. Students found guilty of academic dishonesty will receive an automatic course grade of "F" and will be referred to the Campus Judicial System. For a discussion of Academic Dishonesty refer to statement in the Student Handbook.

Disruption of class or any behavior in class which interferes with an effective learning environment will not be tolerated, and will result in expulsion from the classroom. Please consult the *Pathfinder*.

Lab		Tentative Course Schedule Geography 472 Spring 2005
points		
	Jan 26	Introduction
30	26	Introduction, Information Computer Use, Spreadsheet, Wordprocessor,
	28	Ecological Planning
	31	EIS, NEPA, Role of Environmental Laws in Environmental Planning; EIS
22	2	Environmental Math Computer lab, Environmental Math, exponential growth,
	4	EIS, content, effectiveness
	7	Introduction to Air Quality

20	9	Internet Exercise, Research health effects of Dioxins, Mercury, etc
	11	Air Quality Model, Emphasis on Gaussian Plume Model
	14	
40	16	Air Quality Model, Spreadsheet Exercise; Equations, and use of chart to
	18	Discussion of text book chapters 1,2,3,4,5,6, 9, 12 and 18 (chapters on
	21	Land Use, Soil Surveys
20	23	Uses of Soil Survey in Land Use Planning (text chapters 6,9,12)
	25	McHarg, Design with Nature, Overlays
	28	Test 1 Text chapters 1,2,3,4,5,6,9,12 and 18
20	Mar 2	Arc View exercise (text chapters 6,9,11,12
	4	Site Feasibility Study, Environmental Inventories, Feasibility studies, Use of
	7	EIS, Discussion
	9	In Class Work on Site Feasibility Project
	11	In Class Work on Site Feasibility Project
	14	Water Quality Introduction
	16	Dissolved Oxygen Model Equations
	18	Water Quality (Discussion of text 7,8,9,10, 11,12
	28	In Class Work on Site Feasibility Project
100	30	Site Feasibility Oral Presentation, written report due April 5
April	1	Wastewater Treatment Plants, NPDES permits, Clean Water Act
	4	Dissolved Oxygen Model, Complex and Simple
	6	Field Trip to Westernport Waste Water Treatment Plant
	8	Water Quality Assessment, Load Allocation, Assimilative Capacity
	11	Dissolved Oxygen Model Requirements
	13	Dissolved Oxygen Model Spreadsheet

		15 Non-Point Sources of Pollution, TMDL programs
		18 Test 2 Text book chapters 7,8,9,10,11 and 12
100		20 Dissolved Oxygen Spreadsheet, work period, report due April 30
		22 Loading Functions, Use of phosphorus Load model for lake eutrophication
		25 Water Quality Conclusion, Wetland Discussion, TMDL
20		27 Wetlands, Identification tools, Soil Survey, Munsell Color chart
		29 Wetland Delineation, 87 and 89 Manual
May		2 Wetland Values
10		4 Finzel Field Trip, report due May 10
		6 Wetland Processes, Wetland Delineation, 87-89
		9 Wetland Delineation, politics vs science
		11 Lab catch up if off one and or Campus wetland stream restoration Field Trip
May	20 Final	11:15 1:45, Wetland manual, Text chapters focus 13,14,15,16 and 17, but