Course Information		**Instructor Information**	
Location:	220 Urban Center	Instructor:	Vivek Shandas
Time:	Tues, 10 – 12:40AM	Office:	370L Urban Center
CRN:	44828 (3 Credits)	Email:	vshandas@pdx.edu
Dept:	Urban Studies & Planning	Telephone:	503.725.5222

General Course Overview*

This course offers a means for understanding the methodological basis for addressing challenges in environmental planning. Environmental planning has adapted methods from many related disciplines (e.g. demography, geography, statistics, sociology, public health, ecology, etc.), and this course offers an interdisciplinary perspective to evaluate the types of methods best suited for specific contexts. We use a two-part framework of: (1) planning and policy – consisting of structuring problems, anticipating outcomes and evaluation; and (2) planning research – involving exploration, discovery, and knowledge building. While the field of environmental planning covers several topics including, land suitability analysis, public participation, land conservation, environmentally sensitive lands, natural hazard mitigation, we integrate these topics by examining the relationship between human and biophysical systems. Specifically, we aim to describe and connect the *patterns and processes in landscapes* with the *drivers of human behavior and decision making*. We employ both deductive (theory to confirmation) and inductive (observation to theory) approaches to address these methods, and participants will have the opportunity to learn about and apply these methods to 'real world' environmental challenges.

Curricular Intentions

Environmental planning methods generally originate in either inductive or deductive epistemologies. In practice these become blended and create a dual focus on how planners can use data to assist in making comparisons and discover patterns, and evaluate the findings from means to ends in a deliberative process. For purposes of this class we use *data to inform decisions* through an iterative and cyclical model consisting of four steps: 1) inherent relationships in the *data* provide *information* about a specific phenomenon; 2) information is contextualized to create *knowledge*; 3) that knowledge is used to *develop an understanding*; and (4) understanding allows society to make informed *decisions*. Data are also the result of a socially constructed set of definitions, experiences, and measurements. While the manifest activity in the course is developing a facility with environmental planning methods, mapping, modeling and evaluation, the secondary, but equally important activity, is to appraise the underlying values implicit in those methods.

*** *Please note that this is a 'working syllabus', which means that while the learning objectives and core requirements will not change over the term, there may be minor modifications to assignments, order of presentations, and timing of topics. Modifications will be described in class and course participants are required to be up-to-date on any changes. Last updated: January 7rd, 2014*

Upon completing this course you will be able to conceptualize, apply, and evaluate approaches for investigating environmental planning challenges. Several learning goals form the basis of this course. They include:

- Understanding current methodological developments in environmental planning;
- Assessing the types of data and information necessary for addressing environmental planning challenges;
- Identifying and applying appropriate methods to 'real world' challenges faced by planning practitioners and researchers;
- Working with teams to address a pressing problem in environmental planning; and,
- Developing clear and concise presentations in written and verbal formats.

Although we will spend more time on quantitative applications in examining data, we do not privilege one form of inquiry over others. We do, however, recognize the importance of systematic and consistent approaches to addressing questions posed in this course.

Reading and Materials
(1) Randolph, J., 2012. Environmental Land Use Planning and Management, Island Press *(required)*.
(2) Articles to be downloaded from on-line sources *(required)*.
(3) Lein, J.K., 2003. Integrated Environmental Planning, Blackwell Publishing *(optional)*.

Course Structure
The course structure reflects the aforementioned three-part framework by dividing class time into discussion, lecture, and lab sessions. Discussions generally consist of a presentation of a peer-reviewed article by a member in the course and review of the assigned readings. Lectures contextualize recent developments in the field by offering theoretical foundations for specific topics in environmental planning. On occasion we will have speakers from the School of Urban Studies and Planning, PSU, or an outside agency *(depending on availability).* Lab sessions consist of applying planning methods to regional environmental challenges.

Evaluation Criteria
You will be evaluated on a 1000 point scale, divided into the following criteria:

Article Discussion (100 points):	*15%*
Assignments (200 points):	*20%*
Midterm Exam (200 points):	*20%*
Final Project (300 points):	*30%*
Course Participation (200 points):	*15%*
TOTAL (1000 POINTS)	**100%**

Late work will be automatically marked down unless prior arrangements have been made with the instructor. Regular class attendance and participation is necessary and expected. Points will be deducted if a student is absent from more than one class. Participation includes: involvement with class discussions (includes listening), asking substantive questions, addressing instructor's questions, working effectively in teams, and sharing relevant news and information.

Discussions, Weekly Assignments, Midterm Exam, and Final Project
To pass this course you will need to lead a discussion, complete assignments and the midterm exam, participate in class activities and exercises, and complete a final project. The course work is cumulative, assuming that assignments will be helpful in passing the exam and completing the final project. The attached 'Course Outline' table (last page) provides a brief description and important dates for course requirements.

Leading Discussion: At each class meeting class participants will be responsible for leading a 10-15 minute discussion regarding a recent environmental planning issue. To lead class discussion, each participant will select one peer-reviewed article focusing on an application of an environmental planning method. Discussions should address four questions: (1) what was the author's *motivation* and intention in writing this article; (2) what environmental planning *method* was used; (3) what were *limitations* in their analysis; and (4) how would you *improve* on the analysis? Make every effort to ensure that the article is peer-reviewed, uses at least one explicit environmental planning method, and applicable to issues discussed in the urban and regional planning literature. The PSU library contains several journal subscriptions for and inter-library loan supplements any articles not available. Journals where you can find appropriate articles include (but are not limited to): *Journal of Environmental Planning and Management, Journal of the American Planning Association, Journal of Planning Education and Research, Landscapes and Urban Planning, Urban Ecosystems*, and *Ecology and Society*. If you are in doubt if a specific article or journal is appropriate for leading the discussion, please consult the instructor.

Assignments: When assigned, students will be required to submit exercises before beginning the next class session. The assignments will vary from writing exercises, group activities, and computer-intensive applications. In most cases, you will have an opportunity to become acquainted with the assignment during in-class lab sessions.

Exam: The aim of the exam is to ensure that you are on track with the basic learning objectives in this course. The exam will cover all the major concepts you've learned in class. The exam requires that you apply what you've learned in lectures, readings, and assignments by addressing several short-answer questions. The exam will be in-class, closed-book, and take place on _February 11_. Past experience suggests that if you come to class, paid attention, and participated in the exercises the midterm will be an uneventful exercise.

Final Project: The aim of the final project is to learn about innovations and applications of planning methods to regional environmental challenges. Course participants will have a choice of working independently or in groups (3 or less). The final project is an opportunity to apply planning methods discussed in this course to a 'real world', regional environmental problem. In most cases, final projects will require the collection and analysis of primary datasets, and the use of multiple methods for addressing a research question (mixed-method approaches are encouraged!). Below is a detailed description of each stage in the final project, and _optional_ due dates for each element – the objective of providing these dates is to ensure that course participants stay 'on track' with completing their projects. The

300 points attributed to this project will be divided up according to your written (200 points), and final in-class presentation (100 points).

- Project Idea – January 21
    - Brief background of the environmental planning issue:
        - Describe why it is appropriate for this course?
        - What is your central research question(s)/hypothesis?
        - What do you expect to find?
- Revised Project Idea – January 28
    Same as Project Idea with modifications based on instructor's feedback
- Literature Review – February 4
    - Provide a summary of the recent developments related to this issue:
        - What are the unanswered questions in the literature?
        - What methods have been used to address this issue – are there limitations or advantages to any of these methods?
        - How will resolving this issue provide guidance to planners?
- Data Sources and Analysis – February 11
    - Describe what types of data and analysis are needed:
        - What is the basis for selecting these datasets?
        - What types of analysis will be required given the available data and questions asked?
    - What limits in data and/or analysis do you expect, and how do you intend to resolve them?
- Data Interpretation – February 18
    - Complete analysis of data and provide a summary of your results:
        - What are the central findings in your analysis?
        - What surprises did you find?
        - How do your findings address your initial research question(s)/hypothesis?
- *Conclusions – February 25*
    - Describe how your approach provided additional insight to the research or practice of environmental planning?
        - Do your results provide guidance to environmental planners? If so, how? And if not, why not?
        - Should you have another opportunity to examine this issue, how would you change your approach?
- Presentation – March 18
    - 10 minute presentation
    - Consider an outlined that includes the following elements:
        - Background, methods, analysis, conclusions/recommendations
    - Final project presentations will be evaluated on content (40%), organization (40%), and effective communication (20%)
- Final Report – *March 13, by 12PM (on D2L)*
    - The final report should include the following sections:
        - *Introduction/Background* - What should the general audience know about the subject matter to help them understand the issue and your motivation for selecting this one?

- *Literature Review* – Provide a summary of the recent developments related to this issue. What are the unanswered questions in the literature? How will resolving this issue provide guidance to planners? What methods have been used to address this issue – are there limitations or advantages to any of these methods?
- Methods – Describe what types of data and analysis used. What is the basis for selecting these datasets? What types of analysis will be required given the available data and questions asked?
- Discussion – Describe the meaning of your analysis and how it applies to the central questions/hypotheses. What are the central findings in your analysis? What surprises did you find? How do your findings address your initial research question(s)/hypothesis? In what ways are your results and interpretations applicable in an international context?
- Conclusions – Describe how your approach provided additional insight to the research or practice of environmental planning? Do your results provide guidance to environmental planners? If so, how? And if not, why not? Should you have another opportunity to examine this issue, how would you change your approach?
  - o In terms of length, reports should be no more than 20 pages (double-spaced, 12-point font, includes figures but not references). Reports will be graded on how well they have addressed each of the above questions with specific attention to content, organization, and clarity.

Academic Integrity

Portland State University (PSU) takes academic integrity very seriously. PSU strives to provide students with the knowledge, skills, judgment, and wisdom they need to function in society as educated adults. To falsify or fabricate the results of one's research; to present the words, ideas, data, or work of another as one's own; or to cheat on an examination or project corrupts the essential process of higher education. Students failing to adhere to these principles of academic integrity will be penalized (e.g. reduction of points, fail the course, etc.). For further information please refer to PSU's student conduct code (http://www.pdx.edu/dos/conduct.html) or consult the instructor if you are unsure what constitutes a breech of academic integrity.

Disabilities

Every effort will be made to accommodate individuals with disabilities. Please notify the instructor by the first week of the course so that any necessary accommodations can be arranged. More information can be found at:
http://www.pdx.edu/iasc/drc_faculty_resources.html

Web-Based Course Management

We will be using D2L, an online course management system, to organize all course materials. Specific uses of D2L include: updates to the syllabus, readings, submitting assignments, communicating with the class, and posting relevant materials. *Please also use D2L to communicate (email) with the instructor*. D2L is located at: https://d2l.pdx.edu/. You will need to sign in using your user ID and password. Please contact PSU's HELP Desk (*tel. 503-725-HELP or email, help@pdx.edu*) if you are having any trouble with D2L.

Course Outline

Module	Module Objective	Week	Date	Readings*	Due — Assignment	Topic	Final Project Schedule
1	Establish a common understanding of environmental planning -- what is (and is not) considered	1	7-Jan	No Readings		Overview of course; Intro to Environmental Planning	Encounter a topic/question of relevance to environmental planning
		2	14-Jan	Text, Chap 1 - 3	Assignment 1	Land use Planning and Environmental Management; Plan making (EIS Lab)	Identify what is known and unknown about this issue
2	Identify approaches used to examine environmental planning challenges -- patterns and process in human dominated landscapes, and human behavior and decision making	3	21-Jan	Text, Chap 4, 5, 15	Project idea; Assignment 2	Collaborative Environmental Management and Public Participation; Land conservation; Geospatial Data and GIS (Lab)	Develop a conceptual framework for studying this topic/question
		4	28-Jan	Text: Chap 6, 7, 17	Revised project idea; Assignment 3	Sustainable Design, Soils, Topography and Land use;	Develop information collection plan with identification of key informants, analysis required, and expected results
		5	4-Feb	Text: Chap 8, 9, 16	Literature review of project	Low Impact Development; Stormwater management and Stream Restoration	Collect data necessary for analyzing the topic/question
		6	11-Feb	Text: Chap 10, 11, 18	Data sources and analysis; Assignment 4	**Midterm**; Market and Non-Market Approaches; BioDiversity; Urban and Landscape Ecology	Analyze data in terms of relevant environmental planning methods
		7	18-Feb	Text: Chap 12 & 13	Data interpretation	Air Quality; Climate Change; Natural Hazard Mitigation	Develop means for systematically understanding the relevance of your analysis
3	Evaluate application of environmental planning methods to 'real world' challenges	8	25-Feb	Text: Chap 14	Conclusions	Decision Support System; Environmental Modeling and Simulation	Develop a report summarizing your approach, findings, and limitations
		9	4-Mar	Text: Chap 19	First draft final project	Wrap up with course topics	Develop a written and visual presentation of your findings
		10	11-Mar	No Readings	Revised draft final project	Final Project Work Time (no instructor)	
		11	18-Mar	No Readings		**Final project -- Student Presentations**	
						Spring break!	

Final Project Report -- Submitted by March 20th, 12pm on D2L.

*Supplemental readings will be provided on occasion, and can be found on D2L.