

UAP 5794

ENVIRONMENTAL PLANNING STUDIO

(Fall 2005)

Tuesday 3:50 – 6:20

Thursday 3:30 – 4:45

Architecture Annex Rm. 111

Instructor: – D.R. Chance

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Office and Office Hours: Sorry folks, I don't have much of an on-campus office – Environmental Planning and Design Studio PhD “Bullpen” located in the small brick building next to the Architecture Annex. I will gladly meet with anyone at any prearranged time at the Architecture Annex or other campus location. It is best to set it up by email or at class. It is also fine to call me at home (really, I don't mind).

Required Texts

Landscape Graphics: Plan, Section, and Perspective Drawing of Landscape Spaces. Grant W. Reid, 2002. (The text is available at the various bookstores or can be ordered on-line. \$25 to \$16).

Trees of North America: A guide to field identification. Golden field guide from St. Martin's Press (Also available at the various bookstores or can be ordered on-line. \$10 new, \$6 used).

Supplemental Texts on Reserve in the Library (Newman) or on-line

www.lar.arch.vt.edu/forests (website on forest based conservation design subdivisions)

Plan Graphs. Walker and Davis. 1990 edition and 2000 edition.

Plan and Section Drawing. Thomas Wang. 1996.

Color Drawing: Design Skills....etc. Michael Doyle. 1999.

Land Development and the Natural Environment

Land Development Handbook: Planning, Engineering and Surveying. Dewberry & Davis

Real Estate Development Principles and Process. Miles et.al. 2000

Land Development. Linda Kone. 2000.

Land Development and Design. Paul Syms, 2002.

Site Planning and Community Design. Frederick Jaris. 1993

Rural by Design. Randall Arendt 1994

Conservation Design for Subdivisions. Randall Arendt 1996

Required Materials

The class will require a basic compliment of drafting/graphics tools. A suggested basic list is attached. These basic tools will be of use to you over the years and have been selected as an affordable package. You will just have to believe me on this one – if you own the tools you will have a tendency to use them over and over again, maintaining and improving your graphics skills year after year. If you develop the skill, you will use it constantly.

Emphasis is placed on manual graphic skills over computer generated graphics for three reasons. It is faster, even for professional illustrators, and offers convenience and artistic latitude. Computer graphics software and hardware is expensive and will not always be readily available to you in a given office, and it is obviously completely useless in the field. Finally, unless you use computer graphics programs on a regular basis you will find that you will have to relearn them every time you go back to them.

The package has been pre-assembled as a kit and is available at Mish Mish at a 10% discount under my name. A few of you may already have some or all the items. I anticipate that the basic package if you acquire all the items will cost approximately \$85.

Objectives

The objective of this course is to transcribe former classroom studies into fundamental environmental management field skills that are routinely used in the profession. The particular focus is to gain practical experience in the most common activities of land planners in site specific environmental analysis and conservation oriented design. By the end of the course you should:

1. Be able to take a land parcel and at the most basic level “read” its general environmental attributes from a combination of field observations and office based analysis;
2. Identify basic vegetative types, in particular riparian vegetation and common East Coast trees and their forest associations so that you may generally interpret the land management history of a parcel and the factors affecting its forest ecology. In addition, you should be able to identify general forest fire hazards related to development proposals, and have a better comprehension of what constitutes flora and fauna resources of major importance;
3. Make general field observations and interpret map data on soil considerations and geologic hazards including slopes, slumps, soil creep, wetland boundaries, flood plains, poor drainage and high groundwater, shallow bedrock, shrink/swell potential and septic system suitability;
4. Understand the fundamentals of septic system design options and their construction and maintenance on rural sites, and the review and approval process associated with permitting such systems in the state of Virginia;
4. Roughly interpret field indicators of high energy shoreline areas and literal drift;

5. Comprehend the implications of zoning and subdivision ordinance language in the design process as regards conservation objectives and other related design considerations;
6. Analyze a parcel's physical development potential and devise a general residential subdivision plan for it that is conservation friendly while accommodating other development objectives;
7. Engage in basic manual graphics; and
8. Comprehend better what you know and don't know in the context of an environmental professional. Appreciate the expertise of environmental and design specialists that you will work with in the future, and be able to comprehend and communicate with them at a level that will save you embarrassment and not overstep your training. Gain confidence that you can grow into your future professional responsibilities.

CLASS FORMAT

The class has a strong field lab format tied directly to a central project. While a number of preparatory lectures will be held in the early weeks of the class, most of the coursework will involve the development of specific work projects leading to a final submittal and presentation associated with the central project. Students will need to car pool to field locations within 20 minutes of campus on a number of occasions. You will find little structured reading associated with the class but a substantial amount of independent project work and personal research. The class will not meet for every scheduled class period or for the full length of each class. Instead field and office work will constitute major time commitments.

Please don't be fooled. While the work load associated with this class is comparable to other 3 credit graduate courses, it comes in a different format, involving many hours in the field with independent analysis and practice to produce a professional quality final product. Lack of commitment on the student's part will be readily apparent in the quality of work submitted. You will find the skill development required in this class to be personally rewarding and even fun, not to mention tremendously useful, but it requires practice – lots of it – early and often right to the end.

ASSIGNMENTS

After 5 weeks of classroom and field preliminaries the class will focus exclusively on a 230 acre parcel of land in Giles county that is under consideration for residential development by the owner. This is not a drill. The owner is specifically interested in the ideas and plans developed by each student as the potential basis for an actual submittal to the Giles county permitting authorities. The Giles county planner has specifically encouraged this outreach activity and will review your final proposals along with the owner in a public presentation that you each will make individually. The owners are your client. You are to be sensitive to their criteria, as any planning consultant would be, while also doing your best to incorporate the profession's principals of environmental sensitivity and conservation.

Why so much emphasis on the development of a conservation oriented residential development plan? Nearly all public sector land planners engage in the review of development proposals during the course of their careers. Those best suited to review and guide such development activities are those that have faced the environmental site planning process directly themselves – the more you have done it the more qualified you are to accurately judge the work of others or to assist in design.

Dendrology quiz. In early field trips you will be introduced to 40 species of common North American trees – their identification and ecological traits. There will be one dendrology quiz given in the field in which you will have to identify the common name of 10 trees. (Relax – this is fun stuff that you will come to appreciate later).

Graphics and Site Analysis Practice: The studio has a number of separate graphics exercises which are designed to gradually develop your basic skills in preparation for the larger project assignment described below. The first four exercises will progressively develop your manual skill sets while introducing you to environmental analysis graphical representations. The last two exercises are designed to integrate your growing graphic skills with the specific application of environmental analysis. In exercise five you will conduct a rough project site analysis based on a site visit and graphically represent the site's environmental characteristics (restraints and capabilities). In the last exercise you will illustrate an existing residential development.

Project Assignment: You will develop a written project concept submittal with illustrations for the County planning commission/County Commission. The submittal should provide among other components:

1. An environmental analysis and conservation justification for the proposed design.
2. Project concept explanation.
3. Discussion of zoning and subdivision provisions or associated rezone requests.
4. Proposed general road standards – think environmental impact reduction.
5. Sewage and water utilities explanation.
6. Management plan for the development once completed (covenants or other mechanisms along with content specially focused on issues of environmental protection)

(Graphics Component of project)

1. Cardboard topo model of the site (done as a group project in class - non-graded)
2. Bubble diagram of site characteristics
3. Bubble diagram of concept plan
4. Site environmental analysis – specific attributed illustrations (slope, soils...whatever you think is appropriate)
5. Composite environmental site analysis development potential.
6. Detailed site plan proposal.

Communications/Presentation Component Each studio participant will give one formal 20 minute presentation on their development proposal. During the course of the

semester daily impromptu speaking exercises will also be held. No grade will be given for these later speaking exercises – they are just for you to practice being good on your feet under pressure.

GRADES

- 10% - Dendro quiz
- 5% each -- Six graphics exercises.
- 50% - Final project
- 10% - Final presentation

ADMINISTRATIVE

Honor Code

The Virginia Tech Honor System will be strictly enforced in the course. Get to know it if you do not already. You may learn about it at:

<http://www.honorsystem.vt.edu/index.html>

Disabilities

If there is anyone in the class who has special circumstances that require some revision or assistance in completing the assignments or to promote better learning, see the instructor to make these arrangements early in the semester. This applies to both those who are formally recognized by the university as having disabilities and those who are not. The intent is to ensure everyone an environment in which they can effectively learn.

For more detailed information on your rights please refer to:

<http://www.dos.vt.edu/SSD/default.html>

COURSE SCHEDULE AND READINGS

Date	Topic	Assignments and Due Dates
Aug. 23	Class Orientation	
Aug. 25	Manual Graphics Techniques for Environmental Analysis	Read and review Reid graphics Chapters 1 & 2. Scan graphic books on reserve in library.
Aug. 30	Introduction to forest ecology and dendrology lab for environmental planners. (on –campus)	Read Tree Guide p. 3-19. 1 st graphics assignment - Turn in graphics exercises 2.1 – 2.7

Sept. 1	Forest ecology and dendrology lab for planners. (on-campus)	
Sept. 6	Geologic constraints and considerations in site planning	2 nd graphics assignment due– Chapters 3 & 4. Exercises 3.1- 3.5 and 4.1 – 4.8
Sept. 8	Soils primer for the planner	
Sept. 13	Geology and soils field lab (off-campus)	Dendro quiz. 3 rd graphics assignment due – Chapter 5. Exercises 5.1 – 5.5, copy page 90 (don't trace)
Sept 15	Exercise in the construction of a topo model - Introduction to project site.	
Sept 20	Meet and interview project client	Visit and read material on www.lar.vt.edu/forest 4 th graphics assignment due – Chapter 5 continued. Copy page 92.
Sept. 22	Field trip to review 5 local projects for environmental sensitivity, design and market strategy.	Collect field sketches to do bubble diagram for next week's graphics
Sept. 27	Field trip to project site. Preliminary site analysis. – meet at 3:30	5 th graphics assignment due – Chapter 6 and Exercises 6.1 and bubble diagram from previous field trip.
Sept. 29	Interview local realtor – Shirley Sellers regarding market analysis of project. (Meet at 3:30)	
Oct. 4	Interview County Planner and zoning code administrator regarding project and ordinance considerations. (Meet at 3:30)	Review Giles Country Zoning Code and Subdivision Ordinance. 6 th graphics assignment – draft bubble diagram of project site characteristics and field sketches.
Oct 6	Environmental considerations in road design and placement in site development.	
Oct. 11	Septic system design options and placement considerations	
Oct 13	The construction of covenants and other management mechanisms to advance project design concepts.	
Oct. 18	Cluster design formats and other conservation features in site design.	
Oct. 20	Group review and discussion of project options and considerations.	Due – Bubble diagram of site characteristics, site environmental analysis illustrations (both composite and individual attributes)

Oct. 25	Group review and discussion of project options and considerations.	
Oct. 27	Individual consultation with students by appointment	
Nov. 1	Individual consultation with students by appointment	
Nov. 3	Open	
Nov.8	Open	
Nov. 10	Open	
Nov. 15	Group review of progress	
Nov. 17	No class	
Nov. 29	Final presentations	
Dec. 1	Final presentations	
Dec. 6	No class	

BASIC GRAPHICS LIST:

Drafting Board (12"x17" will work)

T- Square (21" or 24")

Engineering Scale and Architectural scale

Triangle – either 45-90 or 30-60 in the 8" or 10" size (owning both would be best but not necessary)

Dusting brush

Flexible curve

Circle template or compass

Drafting tape

Soft erasers

Erasing shield

Ames lettering guide

Tracing paper - white

Velum (11"x14" or 11"x 17" pad)

Sketch book for field – Academie 9x6 spiral bound works nicely

Lead holder

Leads – HB, H, 2H, and 4H

Lead pointer

Liquid Shapie (black) or Eberhard Faber Design Marker 229 pointed Nib tip.

Chisel tip sharpie or similar black marker

Extra Fine tip hard tip – Pilot V-Ball extra fine, Pigma Micron 005 and 01

Prismacolor chisel tip marker in medium gray

Assorted pencils or mechanical pencils in the .05 and/or .07 size

Tree Identification List

The general Yew Family

Eastern White Pine

Virginia Pine

Scotch Pine

Larch

The general genus of Spruce plus Norway Spruce

Eastern Hemlock

The general genus of Firs plus Douglas Fir

Baldcypress

The general genus of Cedars plus Virginia Red Cedar

The general genus of willows

Eastern Cottonwood

Bigtooth Aspen

Black Walnut

The general genus of Hickory plus Shagbark Hickory

The general genus of Birch

American Beech

Allegheny Chinkapin

The general genus of Oaks plus White, Northern Red, Black, Pin, Chestnut,
and willow oak

The general genus of Elm

The general genus of Ash

Yellow Poplar

Sassafras

Sweetgum

Sycamore

The general genus of Cheery

The general genus of Maple plus Red, Sugar, Striped and Norway

Eastern Redbud

Flowering Dogwood

Black Locust

The general genus of Buckeye