

**Course Syllabus****A. Instructors.**

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**B. Class Meeting Arrangements.**

Lectures: T/Th, 12:30–1:50, 145 Baker

**C. Introduction.**

Landscapes contain a multitude of interactions between biotic and abiotic elements. Responsible utilization of land requires an understanding of these elements and the setting created by their presence and interaction. Because design and planning is fundamentally about organizing and manipulating resources to satisfy our goals, learning about the physical and biological context of a setting is central to the design and planning process. Those who practice design and planning bear primary responsibility for impacts to the environment caused by their creations. This doesn't mean you must be an expert on all environmental topics, but it does require sufficient breadth and depth of knowledge about these topics to make informed judgements and to work effectively with other disciplines when their expertise is needed.

**D. Course goals and objectives.**

This class is concerned with the interaction between natural environmental processes and human endeavors of land development and site design. The goal is to describe the environmental processes and relate them to the influence they have on the built environment. Since these topics are complex and cover many fields of study, the subject material must be addressed in a broad and integrated manner.

The purpose of this course is to provide students with an understanding of:

1. The presence and function of natural processes in the landscape.

2. The effects of natural processes on design and planning activities.
3. The need for collaboration between environmental disciplines.
4. The role of values, ethics, and politics in the decision-making process.

Course objectives include:

1. To familiarize students with the vocabulary and concepts associated with natural physical and biological attributes of the landscape.
2. To establish cause-and-effect relationships between natural processes, landscape design and planning activities, and resulting environmental quality.
3. To encourage a sense of curiosity, enthusiasm, and environmental ethic with respect to landscape resources and the way we use them.

**E. Course organization.**

The content of the course is addressed through lectures and readings. The topics include natural physical attributes of the environment, natural biotic attributes of the environment, and case studies of projects which exemplify sensitivity for natural processes in design and planning. The focus is not only on technical matters, but also on attitudes, ethics and cultural concerns about the environment.

Refer to the class schedule for a listing of lecture topics and the timing of quizzes and exams.

**F. Grading policy.**

1. Five quizzes, 50 points each. The lowest quiz grade is automatically dropped, leaving a total of 200 quiz points counting toward the final grade.
2. Midterm and final exams, 100 points each, 200 points total.
3. There are no makeup quizzes (the lowest quiz grade is dropped, eliminating the effect of one grade of 0). There also will be no makeup examinations without prior individual arrangement with the professor. The individual must demonstrate unavoidable extreme personal circumstances. "I

overslept" or "my car wouldn't start" are not acceptable reasons.

4. Quizzes and the midterm exam will be returned in class one week after the date the test was taken. Claiming quizzes and the midterm exam are the student's responsibility. All materials not claimed within two weeks of their return date may be discarded.
5. The final exam will not be returned. Grades will be available one week after the date the final examination is taken. Appointments will be accepted for individuals wishing to review their performance on the final exam.

With 400 points possible on all course work, grades will be assigned according to the following point categories:

- |                          |                           |
|--------------------------|---------------------------|
| 1. 400 to 370 points: A  | 6. 319 to 310 points: C+  |
| 2. 369 to 360 points: A- | 7. 309 to 290 points: C   |
| 3. 359 to 350 points: B+ | 8. 289 to 280 points: C-  |
| 4. 349 to 330 points: B  | 9. 279 to 240 points: D   |
| 5. 329 to 320 points: B- | 10. 239 points or less: F |

**Note:** Point categories represent initial grade assessments. Final grades may be adjusted according to individual extenuating circumstances and demonstrated performance.

#### G. Reading materials.

This course utilizes distributed class notes, as well as required readings and other optional (FYI) readings. Content listed as other is elective and therefore will not appear on quizzes or exams.

All course materials are available by electronic download from <http://blackboard.syr.edu/>

Your Blackboard logon NetID is the same as the text to the left of your @syr.edu e-mail account, and your password is the same as your e-mail password. After logging on, look for the course materials under:

[LSA.311/611.Merged.FALL10.Natural Proc-Design&Plan](#)

Each student is responsible for obtaining course materials from the online source. If you have difficulty obtaining or using these materials, please see the professor or course graduate assistant. All college and class e-mail correspondence is sent to your syr.edu e-mail address. Please remember to check this account regularly for official correspondence, and do not let e-mails build up in your inbox. Once full, all additional announcements will be blocked until you make space by deleting some mail from your inbox.

Much of the content for this course is explained and placed into context during class lectures, thus attendance is strongly encouraged for all class activities. No specific penalties are incurred by absence from class, since grades are determined by the points awarded on quizzes and examinations. However, regular attendance is advantageous to the learning experience and thus is viewed favorably for grade assessment.

**Course Schedule****Week 1:**

Tuesday, 8–31

Lecture: Course introduction  
Natural processes—science, culture, perceptions, values, politics, laws and policies

Reading: Lecture notes, readings and FYI materials

6:00–8:00 pm, 145 Baker, Home (video)

Thursday, 9–2

Lecture: Basic geology—landscape structure & stability  
The CNY landscape  
Great Lakes (video), NYC (video)

Reading: Lecture notes, readings and FYI materials

6:00–7:00 pm, 145 Baker, How the Earth Was Made (video)

**Week 2:**

Monday, 9–6, Labor Day Holiday

Tuesday, 9–7

Lecture: Solar (EM radiation), wind, climate (perceptions)

Reading: Lecture notes and FYI materials

Thursday, 9–9

Lecture: Sound in the landscape

Reading: Lecture notes and FYI materials

Friday, 9–10, Eid Ul-Fitr Holiday

**Week 3:**

Tuesday, 9–14

**Quiz One**—intro background, geology, climate, sound

Lecture: Soil composition, structure and processes

Reading: Lecture notes and FYI materials

Thursday, 9–16

Lecture: Soil nutrients, minerals, pH, and food web

Reading: Lecture notes and readings

**Week 4:**

Tuesday, 9–21

Lecture: Soils mapping, stability and suitability  
Soils management—compaction, irrigation, amendments and erosion control

Reading: Lecture notes

Thursday, 9–23

**Quiz Two**—soils**Week 5:**

Tuesday, 9–28

Lecture: Ecotourism (Dr. Diane Kuehn)

Other: FYI materials

Thursday, 9–30

No Class: Assigned reading materials on basic ecology

Reading: Reading and FYI materials

**Week 6:**

Tuesday, 10–5

Lecture: Ecology—basic concepts (continued)  
Rareness, endangered species, "lunatic fringe", and preservation of biological resources

Reading: Lecture notes

Thursday, 10–7

Lecture: Categorizing and mapping vegetation  
Landscape ecology and island biogeography—patches, corridors, ecotones, species diversity, and landscape structure

Reading: Lecture notes and FYI materials

**Week 7:**

Tuesday, 10–12

Lecture: Succession—change in the ecological landscape  
Community ecology as an organizing principle for site design and landscape management

Reading: Lecture notes and FYI materials

Thursday, 10–14

**Quiz Three**—ecology

Lecture: Restoration ecology, conservation landscaping, natural landscaping and landscaping with native plants

Reading: Lecture notes and FYI materials

**Week 8:**

Tuesday, 10–19

Lecture: Midterm review session

Thursday, 10–21

**Midterm Exam**—all topics through ecological design

**Week 9:**

Tuesday, 10–26

Lecture: Basic hydrology—planetary water balance  
Surface water movement and watersheds  
Aquifers and groundwater recharge/discharge

Reading: Lecture notes and FYI materials

Thursday, 10–28

Lecture: Stream flows, hydrographs, watersheds, ground-  
water, floodplains and flood management  
Runoff quantities and rates—the design storm  
Storm water management—RM, TR–55, pond  
and swale design

Reading: Lecture notes and FYI materials

**Week 10:**

Tuesday, 11–2

Lecture: Water quality—sedimentation, contamination, eu-  
trophication, and groundwater contamination  
1972 CWA, NPDES and SPDES  
Hydrology in site design—case studies

Reading: Lecture notes and FYI materials

Thursday, 11–4

Lecture: NYS stormwater management (Don Ferlow)

Reading: Handouts and FYI materials

**Week 11:**

Tuesday, 11–9

**Quiz Four**—hydrology

Lecture: Wetland ecosystems—hydrology, soils & plants

Reading: Lecture notes and FYI materials

Thursday, 11–11

Lecture: Wetlands regulatory process—an overview  
Federal and state permits

Reading: Lecture notes and FYI materials

**Week 12:**

Tuesday, 11–16

Lecture: Wetlands regulatory process—jurisdictional  
determination, nationwide permits, impact miti-  
gation, and monitoring

Reading: Lecture notes and FYI materials

Thursday, 11–18

Lecture: Wetlands impact mitigation and monitoring

Reading: Lecture notes and FYI materials

**Week 13:**

Tuesday, 11–23

**Quiz Five**—wetlands

Lecture: Wetlands as a design opportunity

Thursday, 11–25

No class, **Thanksgiving Holiday**

**Week 14:**

Tuesday, 11–30

Lecture: Stream restoration and greenway design (Karen  
Missell, NYS DOT)

Other: FYI materials

Thursday, 12–2

Lecture: Natural processes in landscape design—  
case studies (Don Ferlow)

**Week 15:**

Tuesday, 12–7

Lecture: Marine ecology and conservation  
Coastal and aquatic recreation management

Reading: Lecture notes and FYI materials

Thursday, 12–9

Lecture: Natural processes in design and planning  
Course summary—design concepts, politics,  
economics, opportunities and responsibilities

Reading: Readings

**Week 16:**

Tuesday, 12–14

Exam Review Session, 8:30–10:00, 319 Marshall

Thursday, 12–16

**Final Exam** (assigned date), 5:15–7:15, 145 Baker