

**Rutgers—the State University of New Jersey,
School of Environmental and Biological Sciences
Department of Landscape Architecture**

CONSTRUCTION III –11:550:441 Design Implementation and Practice

COURSE SYLLABUS Fall 2017

Credits: 4

Instructor: Richard Alomar, RLA, CLARB
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Schedule: Lecture: T F 9:15AM-10:35PM
Lab: T F 10:55AM-12:15PM
Office Hours: T 12:30-2:00PM and by appointment

Overview

Construction III, Design Implementation and Practice, is the final course in the Construction Sequence in the Department of Landscape Architecture at Rutgers University. It will take a project from existing conditions to final construction drawings based on a specific concept, performance requirements and scope of work. The course will approach the work as a real- world design studio, simulating the dynamics, structure and requirements of a professional office. Students will apply their knowledge of skills in data collection and research, design development, digital representation and learn the construction drawing production and administration process.

As a capstone course, it assumes the successful completion of all prerequisite courses and proficiency in design, grading, materials, technical drawing and digital representation. If you are not comfortable with any of your skills in these areas, please make time early in the semester to review and practice.

Course Goals

1. To develop skills to interpret science, technology, and cultural context to design and development innovative solutions in sustainability, land stewardship, and other contemporary urban challenges.
2. To acquire professional abilities with ethical, technical, and industry standards to foster social well-being through safe, accessible, and healthy environments.
3. To explore how to creatively design space and spatial relationships.

Learning Objectives (LO)

The learning objectives of this course are:

1. Learn the technical aspects of design through the production of plans, sections, details and notes.
2. Learn the professional and administrative aspects of design construction through readings, lectures and focused class discussion.
3. Learn time management skills through coordination of multiple tasks and deadlines.

The course is designed to review and expand the skills required to develop documents for the construction of a proposed design. The sequencing of work has been developed to build on existing knowledge of design fundamentals, grading and drainage, planting design, materials and construction documentation and administration.

Each phase of work will have multiple parts and will extend over multiple weeks. The assignments are a guide for completing the project successfully and an opportunity to receive input and make revisions to your design and working drawings. They will later form part of the analysis and design for final construction documents.

As a record of your progress and to develop your project management skills you will be required to keep a field book. The field book is a bound notebook that contains to-do lists, work completed and project notes. The field book will be reviewed weekly during studio and will for count in your overall course grade. This reiterates the importance of managing and planning your work.

Course Description

The course is divided into three topic areas: Earthworks, Plants and Soils and Implementation. The Earthworks topic covers a review of grading, stormwater management, best management practices for sustainable design and implications of earthwork forms in construction. The assignments will focus on building technical skills in the production of grading plans and sections and back up calculation material.

The Plants and Soils portion of the course reviews soil properties and focuses on water movement through the soil profile and plant selection based on water and sun requirements and spatial and aesthetic considerations. The assignments will emphasize the production of planting plans, sections and details.

The Implementation section of the course is an introduction to the production of construction drawings and a review of the design, construction and administrative phases of work in professional practice. Design, grading, planting, materials and detailing will be discussed and practiced through lectures, assignments and the production of construction documents. Aspects of specification writing, construction management and administration will also be discussed in general terms and how they relate to the final project.

Schedule

Earthworks: Design and Technical Aspects of Grading and Stormwater

- Week 1 Introduction, Contour Signatures and Slope calculations
Assignment 1-Slope calculations and signature identification
Readings: Site Engineering (SE) pgs. 68-75, 33-62, 63-68
- Week 2 Grading Elements
Assignment 2- Existing Conditions Survey Interpolation
Reading: SE pgs.77-100
- Week 3 Grading Process
Assignment 3-Greenhouse Path and Swale Grading Plan
Reading: SE pgs.101-122
- Week 4 Earthworks
Assignment 4- Greenhouse Design Grading
Reading: SE pgs.129-145
- Week 5 Stormwater Management
Readings: SE pgs.147-56, 14-156
- Week 6 Stormwater Management
Assignment 5- Rain Garden Design
Reading: SE pgs. 207-226, 227-243
Exam 1: Grading Implementation Terminology

Plants and Soils: Soil Properties and Planting Design

- Week 7 Soil Profiles, Plant Layout and Water Movement
Assignment 6- Rain Garden Planting Plan
Reading: SE pgs.113-128, Detailing for Landscape Architects (DLA) pgs.51-65

Implementation: Construction Documentation and Administration

- Week 8 Horizontal and Vertical Layout (Plan and Section)
Assignment 7- Greenhouse Grading Plan
Reading: SE pgs. 279-290
- Week 9 Landscape Details: Water Movement, Accommodating Growth
Assignment 8- Greenhouse Layout Plan and Sections
Readings: DLA pgs. 21-50, 67-94, 95-102
- Week 10 Landscape Details: Health and Safety, Life Cycles
Reading: DLA pgs. 113-121, 127-146
- Week 11 Landscape Details: Constructability
Assignment 9- Greenhouse Planting Plan
Reading: DLA 149-182, Landscape Architectural Standards (LAS) pgs. 432-454
Exam 2: Construction Detail Terminology

- Week 12 Environmental and Legal Aspects of Construction
 Assignment 10- Greenhouse Design Material Quantities
 Reading: Landscape Architectural Standards LAS pgs. 39-42
- Week 13 Project Administration: Project Management and Business Administration
 Reading: LAS pgs. 43-48, AIA Contract Documents (AIACD) pgs.4-7,
 Thanksgiving Holiday
- Week 14 Cost Estimating, Bidding and Construction Observation
 Reading: LAS pgs. 49-56, AIACD pgs. 82-106
 Final Exam
- Week 15 Final Project Submittal

For a full description of the semester's project please refer to the Project Scope of Work and Schedule.

Lecture and Lab Guidelines:

1. Plan your work and schedule.
2. Take advantage of your time in lab.
3. Keep track of what's been done and what needs to be done. If you plan you'll never be late or miss a deadline.
4. No texting, phone calls or non-course related web searches in lecture or lab.

Reading (Required)

1. Hopper, Leonard J. 2006. Landscape Architectural Graphic Standards. New York, NY: John Wiley and Sons.
2. Ryan, Tom R, Edward Allen and Patrick Rand. 2011. Detailing for Landscape Architects. Hoboken, N.J.: John Wiley and Sons
3. Strom, Steven, Kurt Nathan and Jake Woland. 2013. Site Engineering for Landscape Architects. 5th Edition Ed., Hoboken, N.J: John Wiley & Sons.

Additional topical readings will be provided by the course instructor.

Grading

Course work is designed to work from short assignments to larger projects, progressively. The final project will progress based on a schedule with milestone submittals. Submittals will be reviewed by a supervisor or mentor, and returned, with comments, for revision.

Revisions will continue through the semester until the work demonstrates a suitable level of proficiency. The milestone submittals and final submittal will contribute to your overall course grade. You will also be responsible to keep track of and plan your work in a Work Log.

The individual break down of your cumulative semester grade is as follows:

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|--------------------------------|-----|
| 1. Assignments (10) (200 pts) | 40% |
| 2. Exams (2 + Final) (100 pts) | 20% |
| 3. Projects (2) (50/150 pts) | 40% |

Final letter grades will be assigned using the following scale:

- A > 90%
- B > 80%
- C > 74%
- D > 65%
- F ≤ 65%

The Department of Landscape Architecture uses the following guidelines for understanding appropriate grading in its courses:

A – Outstanding – This not only means fulfilling the requirements, but impressing and going beyond the initial expectations of the project. The student has demonstrated a superior grasp of the subject matter coupled with a high degree of creative or logical expression, and strong ability to present these ideas in an organized and analytical manner.

B – Very Good – The student has demonstrated a solid grasp of the material with an ability to organize and examine the material in an organized, critical, and constructive manner. The projects and in-class performance reveal a solid understanding of the issues and related theories or literature.

C – Acceptable –The student has shown a moderate ability to grasp concepts and theories for the class, producing work that , while basically adequate, is not in any way exceptional. This performance in class display a basic familiarity with the relevant literature and techniques.

D – Unacceptable – The work demonstrates a minimal understanding of the fundamental nature of the material or the assignment with a performance that does not adequately examine the course material critically or constructively. Students cannot graduate from the Landscape Architecture program with 2 D's in required 550 classes.

F – Failure – The student has demonstrated a lack of understanding or familiarity with course concepts and materials. Their performance has been inadequate. Failure is often the result of limited effort and poor attendance which may indicate that the student is not in the proper field of study.

It will be the responsibility of each student to track their own academic progress throughout the semester. Interim grades will be available to students on an individual basis. Students should make an appointment with the instructor to review interim grades.

Appointments must be made at least one week in advance of any meeting.

Attendance

Attendance at scheduled Lab and Lecture sessions is mandatory. If a circumstance arises which prohibits your attendance at any class session, please notify the instructor 24-hours prior to the class and an alternate arrangement will be made. Keep in mind that your participation in class discussions and submission of in-class exercises will contribute to your overall course grade.

There will be no opportunity to make up a missed quiz, in-class exercise or guest lecture.

Beyond the above recommendations, this course utilizes the Department's policy on attendance which reads:

Attendance and participation in all lectures and studios are essential if the student is to achieve his/her maximum potential. More than three unexcused absences will result in a step reduction in your semester grade. Each additional three absences will result in another step reduction.

A minimum level of participation is defined as being in attendance for the entire duration of a class session. It is the student's responsibility to be in attendance at all required classes and all personal plans should be made in accordance with the schedule.

Please note that attendance will be taken at the start of each class and late arrivals will be marked as an absence.

Student Work

Submitted drawings, models, photographs, or written papers for any project assigned in Landscape Architecture courses are considered the property of the Department and may be retained in its archives for exhibition and accreditation purposes. Should your drawings be retained by the Department, you will be given the opportunity to obtain a print or photographic record of your work. Department files are otherwise not available to students.

Facilities

No class can be taught without reliable facilities. But your use of the facilities is dependent upon responsible use with particular regard to the clearly established rules about their use as specified in the student handbook:

http://landarch.rutgers.edu/current_students/student%20handbook/StudentHandbook_web_Sectl.pdf

These rules cover access to studio and vandalism, table assignments, personalization of work space, smoking and drinking, use of the lockers, access to the reference collection, and basic rules governing the use of the computer lab. Failure to observe rules may result in loss of access.

Equipment

The student handbook also includes a section governing the use of equipment:

http://landarch.rutgers.edu/current_students/student%20handbook/StudentHandbook_web_Sectl.pdf .

This section includes rules specifying use department equipment including of projection equipment, department cameras, and drafting equipment.

Personal Circumstances

If you encounter any personal circumstances that inhibit your ability to fulfill the requirements of this course, you should contact the instructor immediately. Likewise, any student with special need, circumstance or disability should make an appointment with the instructor during the first week of class.

Academic Integrity

The intentional copying of another student's file, or portion of that file, and representation of that work as one's own, is in direct violation of Rutgers' University Integrity Policy. Please review the policy online: <http://academicintegrity.rutgers.edu/integrity.shtml#one>. Consistent with this policy, any copying and/or "sharing" of exercises, assignments and projects will be treated as Level 2 violations and subject to the sanctions as outlined in the Integrity Policy.