LA 3001

Ecological Restoration Studio

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Fall 2017. Design 217.
Monday, Wednesday, & Friday 1:30am–5:20pm.

Course Description

In this studio you will plan and design the restoration of the Golden Meadows coastal wetland. You will conduct research and develop designs across spatial and temporal scales. First you will map and model landscape patterns and processes at regional to site scales using geographic information systems (GIS) and digital illustration. Then you will develop a masterplan for the region based on shifting ecological baselines and suitability analysis. Finally you will design the wetland park and reserve with a phased planting plan that will evolve over time. You will keep a sketchbook through the studio to record your research, inspirations, design process. This course will introduce you to the basics of cartography, geospatial analysis and modeling, digital fabrication, and rapid ideation. You will use both analog and digital media including freehand drawing, GIS, 3D modeling, and laser cutting.

Design week

08.21.2017 – 08.23.2017 **Charrette |** Louisiana Governor's Mansion

Field trip

We will visit Washington DC and New York City. In Washington DC we will explore traces of the L'Enfant plan and tour the city's museums and monuments. In New York City we will visit design firms including MVVA and SCAPE and tour projects like the Brooklyn Bridge Park and the High Line. We will also learn about US Army Corps of Engineers' coastal resilience projects and tour their projects on the New Jersey shore. You will record your impressions of the cities, landscapes, and art with drawings and notes in your sketchbook.

08.26.2017 – 09.02.2017 **Field trip |** Washington DC and New York City

Course Schedule

08.25.2017	**Studio** | Introduction
09.06.2017	**Studio** | Precedent studies
09.08.2017	**Studio** | Precedent studies
09.11.2017	**Lab** | Cartography
09.13.2017	**Studio** | Cartography
09.15.2017	**Studio** | Cartography
09.16.2017	**Site visit** | Golden Meadows
09.18.2017	**Lab** | Topography
09.20.2017	**Studio** | Topography
09.22.2017	**Studio** | Topography
09.25.2017	**Lab** | Hydrology
09.27.2017	**Studio** | Hydrology
09.29.2017	**Studio** | Hydrology
10.02.2017	**Lab** | Ecosystems
10.04.2017	**Studio** | Ecosystems
10.06.2017	**Review** | **Mapping**

10.09.2017	**Lab** | Digital fabrication
10.11.2017	**Seminar** | Ecological baselines
10.13.2017	**Charrette** | Ecological baselines
10.16.2017	**Lab** | Suitability analysis
10.18.2017	**Studio** | Suitability analysis
10.23.2017	**Lab** | Trail planning
10.25.2017	**Studio** | Trail planning
10.27.2017	**Studio** | Trail planning
10.30.2017	**Studio** | Masterplanning
11.01.2017	**Studio** | Masterplanning
11.03.2017	**Review** | **Masterplan**

11.06.2017	**Workshop** | Drawing
11.08.2017	**Studio** | Site design
11.10.2017	**Studio** | Site design
11.13.2017	**Studio** | Planting design
11.15.2017	**Studio** | Planting design
11.17.2017	**Studio** | Planting design
11.20.2017	**Studio** | Trail design
11.27.2017	**Studio** | Phased planting
11.29.2017	**Studio** | Phased planting
12.01.2017	**Review** | **Site design**

Projects

You will work in small teams and submit a digital collection of your design work at the final review.

Precedent studies In groups you will study one of the following projects:

Louisiana Coastal Masterplan | http://coastal.la.gov/2017-coastal-master-plan/
Netherlands National Coastal Strategy |
http://rijksoverheid.minienm.nl/nvk/NationalCoastalStrategy.pdf
The Sand Engine | http://www.dezandmotor.nl/en/
Delta Works | http://www.deltawerken.com/
MOSE | https://www.mosevenezia.eu/
Oystertecture | http://www.scapestudio.com/projects/oyster-tecture/
New Meadowlands | http://newmeadowlands.org/
Fresh Kills | http://freshkillspark.org/

Mapping Your team will use GIS to map, analyze, and simulate the physical patterns and processes that shape the Bayou La Fourche watershed. At the review your team will present maps of infrastructure, topography, hydrology, and ecosystems representing each of these systems at a range of scales.

Masterplanning Your team will develop a GIS-based masterplan for the region using map overlay, suitability, and least cost path analysis. At the review your team will present an illustrative masterplan, concept diagrams, and a physical model of the landscape.

Site design Your team will develop a site design addressing program, trails, and planting for the restored wetland. At the final review your team will present a site plan, a series of phased planting plans, sections, and a perspective.

Grading

Sketchbook	25%
Project | Mapping	25%
Project | Masterplan	25%
Project | Site design	25%

Supplies

Alcohol-based markers | *Chartpak or Copic*
Felt-tip markers | *Tombow Dual Brush Pens or Pentel Sign Pen*
Trace | *White or Canary*
Polymer enriched sand | *Kinetic Sand, 11 lbs*
Museum board

Software

GRASS GIS | https://grass.osgeo.org/
QGIS | https://www.qgis.org/
ArcGIS | http://www.esri.com/arcgis/about-arcgis/
Rhinoceros | https://www.rhino3d.com/
RhinoTerrain | http://www.rhinoterrain.com/
RhinoCAM | https://mecsoft.com/rhinocam-software/
Adobe Creative Cloud | http://www.adobe.com/creativecloud.html

Resources

Intro to GRASS GIS | https://ncsu-geoforall-lab.github.io/grass-intro-workshop/
Hydrology in GRASS GIS | https://grasswiki.osgeo.org/wiki/Hydrological_Sciences

Readings

Desimini, Jill, Charles Waldheim, and Mohsen Mostafavi. 2016. *Cartographic Grounds: Projecting the Landscape Imaginary*. Princeton Architectural Press.

Acciavatti, A. 2015. *Ganges Water Machine: Designing New India's Ancient River*. ORO Editions.

Kingsbury, Noel, and Piet Oudolf. 2013. *Planting: A New Perspective*. Portland: Timber Press.

Willis, Katherine J, Miguel B Araújo, Keith D Bennett, Blanca Figueroa-Rangel, Cynthia A Froyd, and Norman Myers. 2007. "How can a knowledge of the past help to conserve the future? Biodiversity conservation and the relevance of long-term ecological studies." *Philosophical Transactions of the Royal Society of London B* 362:175–86. doi:10.1098/rstb.2006.1977.

"Pleistocene Park: Does re-wilding North America represent sound conservation for the 21st century?" 2006. *Biological Conservation* 132 (2): 232–238. doi:10.1016/j.biocon.2006.04.003.

Donlan, Josh. 2005. "Re-wilding North America." *Nature* 436 (7053): 913–914.

Willis, K. J., L. Gillson, and T.M. Brncic. 2004. "How 'virgin' is virgin rainforest." *Science* 304:402–403. doi:10.1126/science.1093991.

McHarg, Ian L. 1992. *Design with Nature*. New York: Wiley.

Policies

Time Commitment Expectations LSU's general policy states that for each credit hour, you (the student) should plan to spend at least two hours working on course related activities outside of class. Since this course is for three credit hours, you should expect to spend a minimum of six hours outside of class each week working on assignments for this course. For more information see: http://catalog.lsu.edu/content.php?catoid=12&navoid=822.

LSU student code of conduct The LSU student code of conduct explains student rights, excused absences, and what is expected of student behavior. Students are expected to understand this code: http://students.lsu.edu/saa/students/code.

Disability Code The University is committed to making reasonable efforts to assist individuals with disabilities in their efforts to avail themselves of services and programs offered by the University. To this end, Louisiana State University will provide reasonable accommodations for persons with documented qualifying disabilities. If you have a disability and feel you need accommodations in this course, you must present a letter to me from Disability Services in 115 Johnston Hall, indicating the existence of a disability and the suggested accommodations.

Academic Integrity According to section 10.1 of the LSU Code of Student Conduct, "A student may be charged with Academic Misconduct" for a variety of offenses, including the following: unauthorized copying, collusion, or collaboration; "falsifying" data or citations; "assisting someone in the commission or attempted commission of an offense"; and plagiarism, which is defined in section 10.1.H as a "lack of appropriate citation, or the unacknowledged inclusion of someone else's words, structure, ideas, or data; failure to identify a source, or the submission of essentially the same work for two assignments without permission of the instructor(s)."

Plagiarism and Citation Method Plagiarism is the "lack of appropriate citation, or the unacknowledged inclusion of someone else's words, structure, ideas, or data; failure to identify a source, or the submission of essentially the same work for two assignments without permission of the instructor(s)" (Sec. 10.1.H of the LSU Code of Student Conduct). As a student at LSU, it is your responsibility to refrain from plagiarizing the academic property of another and to utilize appropriate citation method for all coursework. In this class, it is recommended that you use Chicago Style author-date citations. Ignorance of the citation method is not an excuse for academic misconduct.