Course Syllabus/Fall 2015

Ecological History of North America

INSTRUCTORS: Claus Holzapfel/Frank Gallagher
OFFICE/OFFICE HOURS: Boyden 408 TBA
COURSE LOCATION(S): Hill 216

EMAIL: holzapfe@andromeda.rutgers.edu
COURSE WEBSITE: Blackboard, TBA
EMAIL: gallagher@sebs.rutgers.edu

MEETING TIME(S) Tu, 8:30-11:20 AM

Course Description:
Almost all of North America today is shaped by human activity. Despite this, the continent still has a wealth of natural resources and harbors a large biodiversity. This class will explore why North America has a special ecology. By exploring the biological history of the continent from pre-human times to today (and even beyond), this class is investigating how the biota (flora and fauna) of the continent developed over the millennia and archived at its current status. The class will use range from topics from paleontology, archaeology, historical and bio-geography to urban ecology and conservation biology. The topic will be approached using lectures, field trips, student facilitated discussion and paper presentation, and computer experiments.

Required Text:
In addition to the text, research or review papers (including selected chapters form “edited-volume” books) will be assigned for each topic.

Learning Goals:
Ecological history attempts to explain current ecological conditions by retracing the changes that occurred through time. By searching for traces of this change, the historical ecologist can gain a better understanding how current ecosystem function and what can be done to improve them (if needed). Therefore, the main objectives of the new course are (a) to give students a better understanding on how current ecosystem were shaped, (b) why they are as they are, and (c) how environmental problems can be addressed in more holistic way. During class we will be increasingly focuses on urban systems. In this process our urban students will understand and appreciate "urban ecologies" better and will learn how to experience and to see their environment more actively. The "story" will start where we are now, in an urban landscape. In lectures, field trips and field exercises we will foster an enhanced understanding of our habitat better and we will review the methods used in urban ecology research. Only after that, can we backtrack in time and review how the urban landscape formed during deep history - before
human appeared - and throughout human history. All this will be facilitated by engaging students in active 
student group projects related to urban ecology and on field trips that cover urban-extra urban gradients so typical 
for cosmopolitan New Jersey.

**Learning Objectives**

a. As much as human history teaches us about what we are (or could be), this account of the ecological history of 
our continent will foster an understanding of why we arrived at the current ecological condition.
b. Students will understand that natural processes are active in human dominated landscapes as well and how 
urban environments are part of the natural history as well.
c. Students will gain an awareness of how to read the current landscape and look for signs of the past that explain 
the present (and maybe the future).
d. Students will appreciate how natural and human histories are connected.
e. Students will understand how to address problematic human impacts and find ways of allowing natural 
processes to continue less impeded. As such they will see that science must play a central role in addressing 
problems of societal concern.

**Assessment and Grade Calculation:**

- Field Trip protocol review 10%
- Midterm and Final exam 45%
- Project (Group Presentations and Write up) 45%

**Departmental Grading Guidelines:**

While the assignment of grades is ultimately the purview of the instructor, the department uses the following 
guideline 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 SSO 
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.
**Academic Integrity:**
The course has a zero tolerance policy for academic dishonesty, including plagiarism and cheating. Instances of dishonesty will be punished by a zero on the assignment and consultation with the Academic Integrity Officers to determine if further action is required. If you have any questions about what constitutes plagiarism or cheating, please ask your instructors or refer to the academic integrity websites for Rutgers and NJIT:
- [http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers](http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers)
- [http://studentconduct.rutgers.edu/](http://studentconduct.rutgers.edu/)

**Attendance:**
Class attendance is Mandatory. 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 trips. All personal plans should be made in accordance with the class schedule.

Attendance and active participation in class is a fundamental part of learning. The interaction, discussion, and activities that takes place during class will be critical to both the development of your design for this class, but also your development as a designer. Unexcused absences are not permitted. If you miss class for illness or an emergency, please provide a written explanation of this absence to the instructor, preferably before the class missed, but no more than a week after the absence. An absence is not an excuse for not being prepared for the next class.

The course requirements above are in addition to, and do not obviate any departmental requirements as are laid out in the departments Student Handbook, ([http://landarch.rutgers.edu/current_students/policies_st.html](http://landarch.rutgers.edu/current_students/policies_st.html)).

**Work Becomes Department Property:**
Submitted drawings, models, photographs, or written papers for any project assigned in the Department’s courses are considered the property of the Department and may be retained in its archives for exhibition and accreditation purposes. All projects will be graded and returned to the student at a location designated by the instructor. 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 OFF LIMITS to students.
**Ecological History of North America**

**Schedule and Course Outline:** Dates listed by week; lectures will meet twice every week and recitation will meet every week, unless otherwise noted. Weekly dates of quizzes and due dates for written projects are listed, but please note there will be additional smaller assignments throughout the semester. Due dates for these assignments will be regularly updated on the course Blackboard site.

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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Week 1 - Sept. 1</td>
<td>Intro: The role of human in nature, the role of nature for humans: Course Overview</td>
<td>Video Prehistoric NYC / Where are you from</td>
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<td>Week 2 - Sept. 8</td>
<td><strong>Urban Ecology:</strong> where we are now: human dominated landscape and biota</td>
<td>Field trip on campus</td>
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<td>Week 3- Sept. 15</td>
<td><strong>Urban Ecology:</strong> field trip</td>
<td>Field Trip to Branchbrook Park (man-made nature and suburban greens)</td>
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<td>Week 4 - Sept. 24</td>
<td><strong>Urban Ecology:</strong> Stewardship for a natural future: Restoration and conservation in human landscapes</td>
<td>Biodiversity sampling on campus</td>
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<td>Week 5 - Sept. 29</td>
<td><strong>Urban Ecology:</strong> field trip</td>
<td>Field Trip to LSP (urban nature and &quot;non-nature&quot; urban)</td>
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<td>Week 6 - Oct. 6</td>
<td>Methods: Ecological forensics2, also preparation for field project day</td>
<td>Written summaries of field trips due.</td>
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<td>Week 7 - Oct. 13</td>
<td><strong>Full Day Field Trip</strong> on weekend: date TBA, most likely weekend 12/13 (hurricane date 19/20)</td>
<td>Field Project: Jockey Hollow</td>
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<td>Week 8 - Oct. 20</td>
<td>Pre-History: fast backwards North America takes shape: Cretaceous and onwards + The peaceful Eocene and the time of (non-human) immigrations: towards the ice ages</td>
<td>Midterm?</td>
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<td>Week 9 - Oct. 27</td>
<td>History: Humans move in (end of the ice age) &amp; Second discovery: from 1491 on</td>
<td>Draft term paper due.</td>
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<td>Week 10 - Nov. 3</td>
<td>History: Industrious overkill: the industrial revolution and after</td>
<td>Student Presentations / Final paper due</td>
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<td>Week 11 - Nov. 10</td>
<td>History: of today and tomorrow: &quot;The world without us&quot;?</td>
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<td>Week 12 - Nov. 17</td>
<td><strong>Urban Ecology and Ecological forensics</strong></td>
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<td>Week 13 - Nov. 24</td>
<td>Thanksgiving Break (no class, TU becomes TH)</td>
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<td>Week 14 - Dec. 1</td>
<td><strong>Urban Ecology:</strong> urban furture</td>
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<td>Week 15 - Dec. 8</td>
<td>Conclusion: Why is North America's ecology different: a global comparison; a revision of our role on Earth</td>
<td>Draft term paper due.</td>
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<td>17-Dec</td>
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<td>Finats?</td>
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