Think Big: Global Issues and Ecological Solutions
IDSEM-UG.1628
FALL 2011

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Time: Wednesdays, 6:20 pm – 9:00 pm
Location: 1 Washington Place, RM 527

SYLLABUS

Course Description
What are the most stimulating solutions to global climate change? If we were given an imaginary “client” with an unlimited budget and colossal power, what should we design? The resounding formula for green thinking is broadly interpreted in three meta-themes; apocalyptic, technological, and traditional. Each category promises solutions and/or interpretations of our current environmental calamity. We explore critical philosophical, artistic, and scientific positions in each meta-theme that will help elucidate this dilemma. Students will read, evaluate, and synthesize projects and texts from great minds such as; William Cronon, Bill Mckibben, Bruce Mau, Mike Davis, Marshall McLuhan, Bjorn Lomborg, David Orr, Paul Virilio, Marshall Mclean, Laurence Buell, and others. The final project is the production of a mock Madison Ave. advertising campaign that promotes urban “sustainability”.

Learning Outcomes
The purpose of this course is for the student to improve their understanding of the sensibilities and causal theories that support ecological design. A profound emphasis on the intersections of science, media and architecture will be explored and researched. Students will increase their knowledge within the conventional practice of architecture, environmental planning and urban design. We will collectively seek to comprehend large scale ecosystem issues and dynamically provide novel solution spaces. We will emphasize improved communication skills in various visual formats.

Instructor Information
Mitchell Joachim is Co-Founder at Terreform ONE and Planetary ONE. He earned; Ph.D. at Massachusetts Institute of Technology, MAUD Harvard University, M.Arch. Columbia University, and BPS SUNY at Buffalo with Honors. He is an Associate Professor at NYU and previously was the Frank Gehry Chair at University of Toronto. Earlier, he was faculty at Columbia, Syracuse, Washington, and Parsons. He was formerly an architect at Gehry Partners, and Pei Cobb Freed. He has been awarded fellowships at TED2010, Moshe Safdie Assoc., and Martin Society for Sustainability. He won the History Channel and Infiniti Award for City of the Future, and Time Magazine Best Invention of 2007 w/ MIT. He was chosen by Wired magazine for “The 2008 Smart List: 15 People the Next President Should Listen To”. Rolling Stone magazine honored him in “The 100 People Who Are Changing America”. Popular Science magazine has featured his work as a visionary for “The Future of the Environment” in 2010.
Resources and Readings (** indicates required text)


Department and Class Policies

Attendance is mandatory. There is no substitute for working and participating in class. If a student fails a class due to attendance, he/she is no longer permitted to attend the class. Absence will impact final grade. Undo tardiness following a given break will result in an absence. Leaving before the class is over is considered an absence. Three absences are grounds for failure.

**Tardiness:** Two tardies will be counted as one absence. Ten minutes late considered tardy. Over 20 minutes late is considered absence.

**Academic Warning:** Students who do not complete and submit assignments on time and to a satisfactory standard will fail the class. It is the student responsibility to obtain missed assignments from other classmates and make up work in time for the next class.

**Evaluation and Grading:** Based on projects, participation and attendance. In order to receive a grade, students must complete all assignments, participate in class and maintain a daybook.

Grade Description

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>4.0  Outstanding quality</td>
<td>C+</td>
<td>2.3  Average</td>
</tr>
<tr>
<td>A-</td>
<td>3.7  Excellent work</td>
<td>C</td>
<td>2.0  Adequate</td>
</tr>
<tr>
<td>B+</td>
<td>3.3  Work of high quality</td>
<td>C-</td>
<td>1.7  Passing work</td>
</tr>
<tr>
<td>B</td>
<td>3.0  Very good work</td>
<td>D</td>
<td>1.0  Below avg.</td>
</tr>
<tr>
<td>B-</td>
<td>2.7  Good work</td>
<td>F</td>
<td>0.0  Failure</td>
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Course Requirements

Assignments- all assigned work is due at the beginning of the following session unless otherwise indicated, after that is considered late and will be marked down accordingly. Preparedness- students are expected to bring required materials to all classes. In addition, each student is expected to maintain a visual and written journal, which will be a collection of observations, inspirations, class notes, vocabulary, questions, clippings, drawings, ideas, and preparation sketches for assignments.

Evaluation and Grading
Attendance 20%, Assignments 20%, Mid-term Presentation 30%, Final Presentation 30%.

Course Outline and Weekly Schedule
Sept. thru Dec. 2010

WEEK TOPIC + ASSIGNMENT
Part I ECOLOGICAL IDEAS

1. Lecture: Introduction to Ecological Design
Readings:
Thoreau, Chapter: Economy
Carson, Chapter 1, A Fable for Tomorrow
Carson, Chapter 2, The Obligation to Endure
McDonough, Chapter 1-3
Assignment: TBD

Readings:
Buell, Chapter 1-4
Carson, Chapter 3, Elixirs of Death
Carson, Chapter 4, Surface Waters and Underground Seas
McDonough, Chapter 4
Assignment: TBD

Readings:
Buell, Chapter 5
Carson, Chapter 5, Realms of the Soil
Carson, Chapter 6, Earth's Green Mantle
McDonough, Chapter 5
Assignment: TBD

4. Lecture: Review of Water Efficiency
Readings:
McKibben, Chapter 1-3
Carson, Chapter 7, Needless Havoc
Carson, Chapter 8, And No Birds Sing
Assignment: TBD
5. Lecture: Review of Energy & Air Quality
Readings:
McKibben, Chapter 4-5
Carson, Chapter 9, Rivers of Death
Carson, Chapter 10, Indiscriminately from the Skies
Fuller, Chapter 1-3
Assignment: TBD

Readings:
McKibben, Chapter 6-7
Carson, Chapter 11, Beyond the Dreams of Borgias
Carson, Chapter 12, The Human Price
Fuller, Chapter 4-7
Assignment: TBD

7. Lecture: Review of Environmental Planning
Readings:
Carson, Chapter 13, Through a Narrow Window
Carson, Chapter 14, One in Every Four
Fuller, Chapter 8-10
Assignment: Assemble detailed documentation materials of a selected project to develop an ecological design case study. Establish mid-term project goals.

Part II Ecological Design Application

8. Lecture: Review of Innovation & Design Issues
Readings:
Alexander, Chapter 1-4
Carson, Chapter 15, Nature Fights Back
Carson, Chapter 16, The Rumblings of an Avalanche
Assignment: Review Case Study project for Ecological Context Realization.

9. Lecture: Case Study precedents
Readings:
Alexander, Chapter 5-7
Carson, Chapter 17, The Other Road
Assignment: Review Case Study project for Eco-Efficiency Realization.

10. Lecture: Case Study precedents
Readings:
Alexander, Chapter 8-10
Todd, Chapter 1-4
Assignment: Review Case Study project for Energy & Air Quality

11. Lecture: Case Study precedents
Readings:
Todd, Chapter 5-7
Assignment: Review Case Study project for Materials & Resources.
12. Lecture: Case Study precedents
   Assignment: Sketch project for Environmental Innovation & Design.

13. Final Presentation and Reviews

14. Final Presentation and Reviews

15. Review and Future Thoughts

Ideas in Images
Students will be invited to visualize their world saving judgments. Also they are expected to
   gain an advanced comprehension of a specific science thru imaging. They will be asked to
   investigate an ecological system in context and describe it. He or she must concentrate on
   illuminating the factors that are "unseen". Such as: wind passing through a tree line distributing
   leaf litter, scents, insects, and seeds. These diagrams will be known as; Ecograms. This can
   be accomplished in any variety of media, but preferably 2d montage and/or 3d computational
   modeling applications. Framework for the media explorations will be determined by available
   facilities and demo time.

Example Task
Imagine you are the sole leader of the free world. Produce a fabulous image/ propaganda piece
   that would forever benignly alter our global environment. To help you focus here are some
   directives to rethink one of many possible anthropocentric needs for the near future; any
   utilitarian object, public transport device, family dwelling, urban neighborhood, or regional
   network. Visualize a new deep-seated design that subsumes this human necessity entirely
   within a local ecology. Each designed element should adhere to a predetermined set of socio-
   ecological principles. This is an exercise in design. Therefore it is not possible to have a truly
   erroneous solution.