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AD 490-004: Special Topic - Eco-tectures (Revised for Remote Learning)

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AD 490 SPECIAL TOPIC

Eco-tectures

School of Art + Design – Spring 2020

Wednesdays 11:30am - 2:20pm

Instructor: Ana Peñalba

REVISED SYLLABUS & SCHEDULE FOR REMOTE LEARNING Spring 2020

Please note the following modifications to the syllabus and schedule due to “stay at home” orders put in place by the State of New Jersey to protect the health, safety, and welfare of the NJIT academic community.

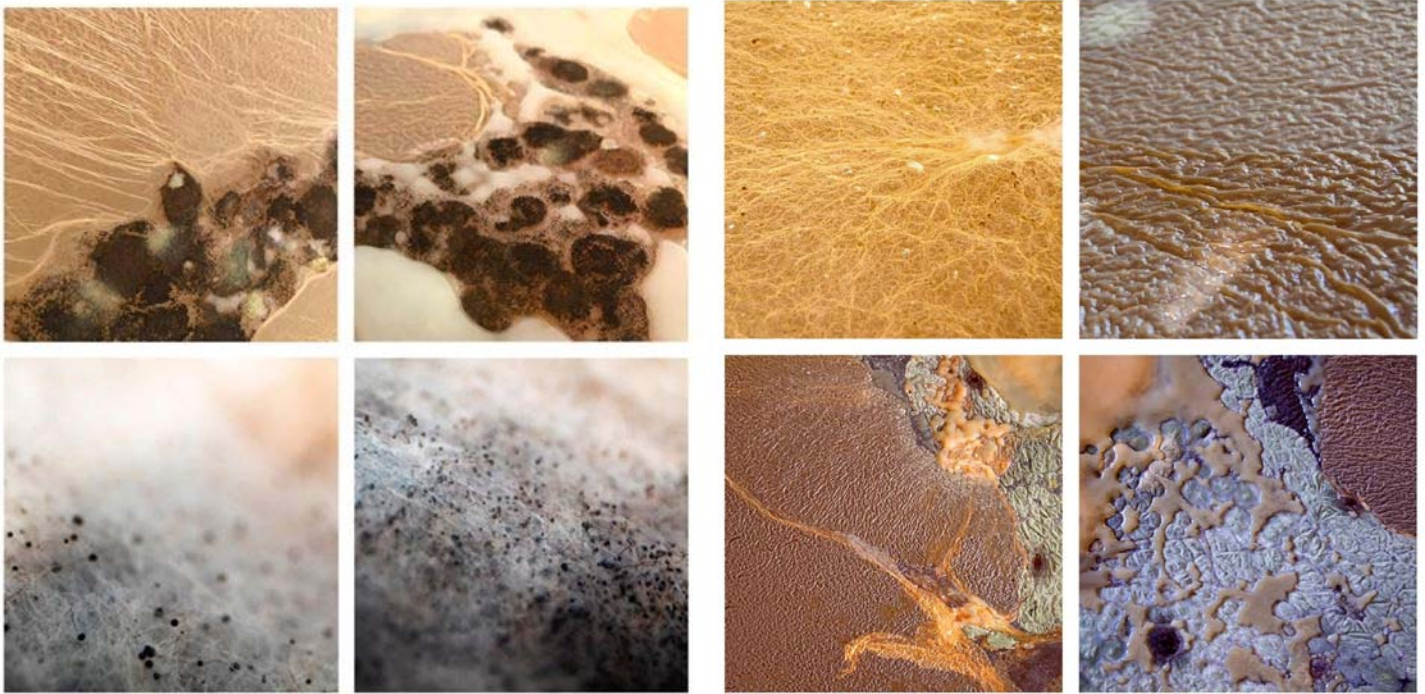
ECO-TECTURES: The invention of new Design Forms and Techniques to grow with our Environment

"Design is defense. Most theories of design present the human as under some kind of threat that needs to be urgently countered by design. The defense is seen to draw from some quality deeply embedded in the human, as if design itself is the natural human way to preserve the human. The most radical attempts to reshape the human are typically carried out under this guise of reinforcing and protecting the human. Design is a paradoxical gesture that changes the human in order to protect it"

Are we Human?

Notes on an archaeology of design by Beatriz Colomina & Mark Wigley

Do we really live in an era where what we need is protection or interaction? Do we want to keep considering our surroundings and the environment as a threat to the human or as an opportunity to grow together? We live in an age marked by technological progress and ecological crisis and, many Design aspects and goals need to be questioned.



"Breeding Space" by Maria Mallo

In this class we will investigate new ecological operations to develop physical and sensorial experiences that question our relationship with the environment. Students will research how the physical elements that compose our cities, buildings and interior-scapes have a critical role in the way we feel and mediate with our surroundings. Based on this analysis and observations, we will look at their spatial qualities and analyze their role in the construction of our atmospheric contexts. Every two weeks one new environmental resource will be assigned -light, water, air, earth-; students will explore the ways in which these 4 elements interact with us to invent new construction systems that translate the form of those spatial sensations in new design experiences. Students will design interior spaces, construction details, material architectures, and artifacts that responds not only to Human needs but also to environmental urgencies. The challenge will be, not to represent what you see but to unveil the design structures that configure our relationship with the environment and that creates innovative forms of experiencing and inhabiting our built settings.

Environmental Research Topics

LIGHT: The performance of the light in the city. Analyze the light movement, its density and color when interacting with the elements of the city. Look for the form of the shadows, their rhythms and their reflective sequences. Pay attention to the form, thickness and materials of the elements when the light goes through them.

WATER: Look for the presence of water and think in how the water move when it rains. Look for Green Spaces and the different permeability levels of the soil; places where the water could be accumulated in case of rain and observe their forms; inclination and morphologies of the streets; look for architectural elements that could act as a channel for the water such as the details and forms of the facades and the geometries of the roofs; look for components that might interrupt the flow of the water such as door canopies and other types of volumes that come off facades or stand in the street.

AIR: Look elements that might be affected by the wind and observe the different types of movement that the wind makes on them. Look for the heights and form of the facades of the buildings, traffic signals, vegetation and clothes of people and note the direction, intensity and rhythm of their movement.

EARTH: Look for how the Earth interact with the plants and animals that live on it. Look for how the roots of the trees interact with the ground, look for the geometrical compositions of the rocks, for the holes that insects build on them or for the material battles between the concrete and the natural soil.

LIVING BEINGS: Look for the other non-human beings appropriations of the environment.

NOTE: Addition of a 5th Environmental Research Topic (Living Beings) due to the removal of the "group" assignment and cancelation of our site visit

COURSE FORMAT

This course is framed as a Research Lab of Designers. The class will be divided in (4) groups of 3-4 people; one group per Environmental Element -Light, Water, Air and Earth- and we will work with 3 types of work formats- Lectures, Reading Discussions and Design Exercises. Innovation, collaboration, anticipation and entrepreneurship will be skills highly promoted among students. We will encompass the production of an individual design/research portfolio and a collective construction of a contemporary discussion.

PART 01: ECO-TECTURE'S INVENTORY

During the first part of the semester students will investigate on the **five** natural elements listed above - 2 weeks for each element-. Every other week a new environmental element will be introduced in the class and the investigation of each element will take 2 Wednesdays classes. By the end of the semester we will produce a collective catalogue of new material, construction systems and designs that challenge the limits between Environment and Architecture.

(1st) Wednesday of the assigned element: The Research

LECTURE + ECO-TECTURE EVIDENCES

PART 01: LECTURE / GROUP PRESENTATION

The class will be divided in 4 groups of 3-4 students that will present each, one of the elements of the class every other Wednesday. Each group will make a 20-30 minutes presentation explaining how climate change will affect to their research element and how those changes will challenge our way to relate to it. Students should respond at least to these 4 points:

- 1)Make a historical review on the role/relationship of the assigned element with our society.
- 2)Explain how the environmental crisis will affect to the qualities and performance of the assigned natural element.
- 3)Discuss how that change will influence to the relationship between Human beings and our natural surroundings?
- 4)Develop the narrative of at least one Futurible scenario if that natural source disappears or would dramatically change; and explain how our way of living and society would be modify by that change.

*Use Collage or 3D renders for the production of these scenarios

Deliverables:

1)Power Point Presentation

2)Essay of at least 3000 characters that explains the main points of your presentation. (These essays will be used as the introductions to each of the environmental elements in the final catalogue and must include the renders/images of the futurible scenario.

PART 02: ECO-TECTURES EVIDENCES: Surroundings Research / INDIVIDUAL PIN-UP

For this exercise students will have just to observe around them. For each Environmental Element students will present printed pictures showing anything that is considered relevant in the way that they experience a relationship with the week's assigned medium.

Deliverables:

1)The Pictures: A minimum of (3) 8.5x5.5" pictures (half a letter size paper)

*Students could make videos if that would better represent your ideas (for the picture take captures of the video)

2)The Drawings: A minimum of (3) 8.5x5.5" drawings (half a letter size paper) showing the main forms and features that contribute to create your researched experiences.

- *These drawings should capture the main spatial qualities to make your design in the next assignment
- *Put a very small "title" in each of the drawings in the bottom right corner describing the performative experience that you want to capture
- *By the end of the class, both, the Drawings and Pictures will be handed out to the group in charge of that element

(2nd) Wednesday of the assigned element: The Proposal

READING + ECO-TECTURES DESIGN: THE EXPERIENTIAL CATALOGUE

PART 01: READING / GROUP DISCUSSION

Every other Wednesday a reading will be assigned to discuss issues that addresses upcoming environmental challenges.

Deliverables:

Each student will **bring at least 3 points about the reading** to discuss in class

PART 02: ECO-TECTURES DESIGN: THE EXPERIENTIAL CATALOGUE / INDIVIDUAL PIN-UP

During this exercise students will learn to translate the spatial qualities of their selected urban settings into architectural elements that serve to the environment.

Deliverables:

1)The Proposals: Make one proposal (3D model) inspired by your research

2)The Pictures: Print at least (3) 8.5x11" sheets with different image/3D renders views/drawings of your design.

3)The Essay: Give a title to your proposal and write a 100 words essay that clearly explains the interest of your design and the following points:

-Explain the environmental experience of your design

-Explain its connection with our senses

-Explain how your design challenges our relationship with the environment and how that would impact in our society

*By the end of the class all pictures will be handed out to the group in charge of that element

*Digital files (from the first and second Wednesday) -pictures, drawings, essays and 3D file- will be submitted to both the professor and the group of students with that week assigned medium.

PART 02: ECO-TECTURE'S ROOMS/LANDSCAPES: The experience

During the last (2) weeks students will have to make a landscape proposal - WATER-scape, WIND-scape, LIGHT-scape and EARTH-scape-, using all the 3d models recollected during the assignments of each of the elements. Students will design Weather and Environmental Experiences that reconnect human beings with their assigned natural source. The goal of the construction of these landscapes is to show the possibilities and performance of your medium when interacting with the Humans. For this final exercise each student will represent the final form of their environmental landscape with:

1)Medium's Research Catalogue: Using the Template provided by the professor, each student will make a pdf file that contains the evidences and designs for the research of the 5 mediums produced during the first part of the class.

2)The Point: Write aprox 350 words essay explaining the experiential proposal between the humans and the natural element. Dont forget to give a very powerful title to your proposal!

3)The Renders: Using all the 3D files of your classmates designed for your assigned medium, make a 3D landscape and print at least (6) 11x17" digital renders that explain the most important points of your proposal.

4)The Drawing: Make (1) 24x36 Drawing that shows the script for your environmental performance

5)The Axonometric: Make (1) 24x36 Axonometric drawing that shows and explains all the elements designed to produce your environmental performance.

NOTE: This part of the course will be done individually instead of in groups as a consequence of the remote learning and the difficulty that some students may have to find the proper extra-time to work in groups. Also, due to the addition of a new environmental topic in the first part of the semester, the time to complete this assignment will be 2 weeks instead of 3. The submission Materials that are due for this Assignment has changed too. The Model and the Video have been removed due to the impossibility of the students to go around and "shop" for materials and because of the decrease of time to do this assignment from 3 to 2 weeks.

FINAL REVIEW

Each Student will present:

1)THE MEDIUM'S CATALOGUE (Part 01 of the Semester): PDF document (following the Catalogue Template) showing the Evidences and Design of the 5 Mediums

2)THE LANDSCAPE (Part 02 of the Semester): Present your Landscape Design (Renders + Drawings)

STUDENT LEARNING OBJECTIVES

1. Cultivate a work methodology that encourages a research process and design thinking simultaneously.
2. Learn to collaborate and share opinions with other students, demonstrating the importance of teamwork and knowledge share in the design field.

3. Develop ability to think creatively to encourage innovation and leadership skills.
4. Analyze and visually communicate different environmental and sensorial experiences.
5. Research, discuss and build narratives about some of the upcoming environmental challenges.
6. Provide a pedagogical space where to think critically and speculate about future design principles.
7. Develop an openness to new ideas and an informed concern about environmental and social design.

EVALUATIONS

This course will promote innovation, based on values such as imagination, experimentation, personal entrepreneurship, inspiration or anticipation. Active participation in class, critical analysis and communication skills are essential values for the success of the class. It is very important that all students work consistently and to attend every class unless there is an acceptable excuse.

1. Variety and extent of exploration.
2. Engage with the possibilities of your research findings through the questioning of everything using a creative and innovative mentality.
3. Teamwork capacity, collaborative attitude and active participation in class.
4. Overall quality of designed proposal, arguments and course process.
5. Work is on time; the schedule of deadlines must be strictly adhered to.

The final grade will be made under the following grading criteria of percentages:

Part 01: Overall quality of Environmental Design Prototypes and Research _____ **60%**

NOTE: Because of the addition of a fifth environmental element, this part of the course will increase its percentage from 50% to 60%

Part 02: Group Production, Design quality and Presentation of Landscapes _____ **20%**

NOTE: Because of the reduction from 3 to 2 weeks for this part of the assignment, the percentage for this part will decrease from 30% to 20%

Work Progress _____ **10%**

Attendance and Participation in Group Discussions _____ **10%**

*Creativity, experimentation and, self-motivation will be highly evaluated.

NOTE: Changes to the final grading policies for Spring 2020 due to the temporary measures mandated by the institute can be found here: The Special Final Grading Policy

<https://www5.njit.edu/provost/sites/provost/files/Special%20Final%20Grading%20Policy%20Provisions%20for%20Spring%202020.pdf>

CLASS GUIDELINES

1) ATTENDANCE: You are expected to attend every class unless there is an acceptable excuse (see below). You are expected to be present in class for the entire duration of the class. If you arrive late or leave early without prior approval of your instructor you will be considered absent. If you miss a class, you are responsible for the material and directions covered. The NJIT attendance policy for ALL Students is as follows: For those courses that meet only once per week, there may be a FULL grade penalty for each absence after the third. This means that any student who would have received an "A" will now receive a "B", a "B+" reverts to a "C+", etc. Beyond the attendance requirements, participation will be considered as part of the final semester grade.

Acceptable Absences:

Documented Illness

Documentation of an illness is accomplished in one of two ways; (1) personal observation by the instructor and (2) written excuse by a medical professional/practitioner who is not a family member of the student.

Religious Observation

Students must inform their instructor prior to the class that they will miss a session (or more) due to religious observance. Students are permitted to observe religious holidays of one and only one religion per semester.

NOTE: As of Monday, March 23, attendance is contingent upon regular participation in remote online meetings during class hours as coordinated by your instructor. Any extenuating circumstances as to a student's ability to access the digital resources necessary to meet online MUST be communicated to your instructor as early as possible.

2) COURSE/ASSIGNED WORK: Work is due as scheduled on the Syllabus or assigned by your instructor. Your active participation in all the classes is a learning expectation of this course.

3)PIN-UP AND PRESENTATIONS :There will be periodic pin-up reviews during the semester. Active participation in these reviews is an important part of your course experience. Each student should be prepared to present and stay for the entire class. If you are not prepared to present (or are not present) your grade for the presentation may be reduced.

4) DIGITAL TECHNOLOGY: Cell phones and all PDA devices are not permitted to be used in class to send or receive messages. If your phone disturbs the class you may be asked to leave and assigned an absence for that day. Laptop computers are to be used exclusively for note taking, computer aided drafting and modeling (CAD), and approved research. Under no circumstances are students permitted to use email, instant messaging, web surfing, or video/audio streaming during studio unless expressly authorized by the instructor for the purpose of specific classroom instruction.

5)STUDENT ACCOMMODATIONS

All reasonable efforts will be made to accommodate a student with a temporary disability (e.g., broken arm, protracted illness, etc.) as long as the student is responsible for communicating with their instructor about the issue and for cooperating in its resolution. Students with more permanent physical or learning disabilities must provide documented requests for accommodation to their instructor at the beginning of the semester (or as soon as the disability is diagnosed and documented). Students should contact the Disability Office (<http://www.njit.edu/counseling/services/disabilities.php>) for further information and instruction for obtaining medical and/or psychological disability documentation.

ACADEMIC CONDUCT & HONESTY

Each student is responsible for reading and conducting themselves within the parameters of the NJIT University Code on Academic Integrity. Please refer to the NJIT website for the complete text of the policy:

<http://www.njit.edu/education/pdf/academic-integrity-code.pdf>

Students should also familiarize themselves with the following document that outlines best practices for maintaining academic integrity:

<http://www.njit.edu/education/pdf/academic-integrity-code.pdf>

If you have questions of interpretation in this class, please see your studio instructor for clarification. We welcome a discussion of our expectations

SCHEDULE

NOTE: The schedule has changed due to the cancelation of our site visit and the addition of one more environmental research medium and the reduction of the final landscape assignment

Week 01: Intro

PART01: Week 02-12: The Inventory

First Wednesday: Lecture + Evidences

First Wednesday: Reading Discussion + Design

*This structure will be applied to the 5 topics

PART 02: Week-13-14: The Landscapes

Week 15: Final Review

Week 01 / Wednesday January 22nd: INTRODUCTION

TOPIC 01: LIGHT

Week 02 / Wednesday January 29th: LIGHT EVIDENCES

Part01: GROUP LECTURE: LIGHT/ Deliverables
Power Point Presentation + 3000 character Essay

Part 02: PIN-UP RESEARCH / Deliverables
(3) 8.5x5.5" Pictures + (3) 8.5x5.5" Drawings

Week 03 / Wednesday February 05th: LIGHT DESIGN

Part01: READING DISCUSSION: "The role of Human Beings in Design"

"Are we Humans?" By Beatriz Colomina and Mark Wigley

Chapters -Human Centered Design -Designing the Body -The Design of Health

Part 02: PIN-UP DESIGN / Deliverables

100 words essay + (3)11x17" sheets with Renders and Drawings

TOPIC 02: WATER

Week 04 / Wednesday February 12th: WATER EVIDENCES

Part01: GROUP LECTURE: WATER / Deliverables

Power Point Presentation + 3000 character Essay

Part 02: PIN-UP RESEARCH / Deliverables

(3) 8.5x5.5" Pictures + (3) 8.5x5.5" Drawings

Week 05 / Wednesday February 19th: WATER DESIGN

Part01: READING DISCUSSION: "Our Senses"

"The eyes of the skin" By Juhani Pallasmaa

Part 02: PIN-UP DESIGN / Deliverables

100 words essay + (3)11x17" sheets with Renders and Drawings

TOPIC 03: AIR

Week 06 / Wednesday February 26th: AIR EVIDENCES

Part01: GROUP LECTURE: WATER / Deliverables

Power Point Presentation + 3000 character Essay

Part 02: PIN-UP RESEARCH / Deliverables

(3) 8.5x5.5" Pictures + (3) 8.5x5.5" Drawings

Week 07 / Wednesday March 04th: AIR DESIGN

Part01: READING DISCUSSION: "Politics and Health"

"Our Posthuman Future" by Francis Fukuyama

Part 02: PIN-UP DESIGN / Deliverables

100 words essay + (3)11x17" sheets with Renders and Drawings

TOPIC 04: EARTH

Week 08 / Wednesday March 11th: EARTH EVIDENCES

Part01: GROUP LECTURE: EARTH / Deliverables

Power Point Presentation + 3000 character Essay

Part 02: PIN-UP RESEARCH / Deliverables

(3) 8.5x5.5" Pictures + (3) 8.5x5.5" Drawings

Week 09 / Wednesday March 18th: SPRING BREAK

Week 10 / Wednesday March 25th: EARTH DESIGN

Part01: READING DISCUSSION: "The world without us"

"The world without us" by Allan Weisman

Part 02: PIN-UP DESIGN / Deliverables

100 words essay + (3)11x17" sheets with Renders and Drawings

Week 11 / Wednesday April 01st: LIVING BEINGS EVIDENCES

Part01: BRAINSTORM ABOUT LIVING BEING EVIDENCES

Week 12 / Wednesday April 08th: LIVING BEINGS DESIGN

Part01: READING DISCUSSION: "Tribute to Michael Sorkin"

a)Research on the work of Michael Sorkin in general (Terreform organization)

b)Watch a few interviews of him

c)Read a text from Michael Sorkin published in internet.

d)Write one point explaining the text that you choose + one point about what you think he represents as a Designer (his professional character) and his relationship with the sustainability .

Part 02: PIN-UP DESIGN / Deliverables

100 words essay + (3)11x17" sheets with Renders and Drawings

Week 13 / Wednesday April 15th: ECO-TECTURES LANDSCAPE

Group Reviews about the Design and Concept of student's Environmental Performances.

Submission of each student Mediums Catalogue

Week 14 / Wednesday April 22th: ECO-TECTURES LANDSCAPE

Group Reviews about the Design and Drawings Production of student's Environmental Performances.

Week 15 / Wednesday April 29th: FINAL REVIEW