INTRODUCTION

The history of architecture is, arguably, the history of the relationship between nature, culture and technology. Concomitantly, buildings and cities are the manifestation of a complex web of forces that reflect and project—implicitly or explicitly—a philosophical view or ethos and give rise to an idea about how we imagine and conceive our environment. Le Corbusier's dictum that a city “…is the grip of man upon nature” is evidence of one such view. Architecture, he argues, is a tool used to control and domesticate nature. The site is a ground for the building-object and typically stands in stark contrast or opposition to the landscape—the machine in the garden—juxtaposition and difference reign.

At the same time, another model posited a complementary relationship between buildings and landscapes—the garden in the machine—and is exemplified by garden cities and also by Wright’s Prairie Houses and Broadacre City. In the latter case, the city is imagined as a patchwork of gardens, farms and dwellings—an agrarian village that is based on ideals of self-sufficiency.

While both examples project utopian visions for the city, they represent two very different points of view regarding the relationship between living systems (“nature,” ecology) and cities (culture). Indeed, as an unlikely couple or pairing they provide an opportunity for comparison and serve as a basis for articulating a set of critical questions and, as importantly, developing a heuristic and critical position. This is subject matter of studio. The questions we’re posing will be a result of empirical design research and are intended to foster debate. Given this premise as our working thesis, the 505b studio will explore several topics of equivalent importance involving the relationship between informal patterns of spatial organization and growth, net zero dwelling prototypes, sustainable programs and systems and, models for innovative agri-villages.
COURSE OBJECTIVES
Arch 505bL is the second studio in the M.Arch + 3 sequence and will continue with the development of architectural design knowledge and skills introduced in Arch 505aL, with an emphasis on the following topics:

• Develop a comprehensive understanding of the various components of an architectural idea along with the capacity to synthesize these elements into critical architectural concepts and proposals;

• Acquire proficiency in an expanded range of spatial organization strategies, tactics and diagrams;

• Develop an analytical and intuitive awareness and understanding of the correspondence between design approaches and processes, particularly as it pertains to form generation and development, visualization and representation;

• Use significant architectural precedents tactically and critically in the development of an architectural proposal;

• Acquire proficiency working with various building systems including spatial, structural, material, sustainable, and environmental.

PROJECT SUMMARY
There will be three design research projects over the course of the semester and two brief representation & visualization workshops. The first project is essentially a drawing project and 2-D construction that will introduce various ideas, principles and diagrams of spatial organization with a particular emphasis on the concept of the informal.

The second project will involve examining several topics pertaining to the architecture of the house: the primitive hut, existenzminimum, micro-house and Tiny House movements, and will serve as a basis for inquiry in order to develop prototypes for net zero and/or off-grid dwellings. Additionally, topics such as building typology and morphology, construction and material systems, passive energy strategies, branding and mass-customization, environmentally-sound principles and practices, and sustainable systems will also be introduced and incorporated into design proposals.

The third and final project for the semester will synthesize ideas and principles developed in Projects 1.0 and 2.0 in order to develop innovative models and scenarios for agri-villages in several different climatic regions. Architecturally, the objective is threefold:

A. To develop spatial diagrams for agri-villages by critically examining the relationship between part and whole. More specifically, between figure and field, soft and hard systems and, buildings and landscapes;
B. To explore strategies and tactics for producing variation;
C. To develop and implement ideas of informal form, arrangement and aggregation.

PROJECT 1.0
Forming the In(form)al: Inorganic and Organic Patterns and Aggregations
Duration: 2 weeks; Monday, Jan. 12 – Friday, Jan 22

PROJECT 2.0
The Future Primitive Hut: Net-Zero Dwelling Prototypes
Duration: 7 weeks; Friday, Jan 22 - Friday, Mar. 6
Representation & Visualization Workshop I (with Brian Andrews)
Duration: .5 week; Monday, Mar. 9 - Wednesday, Mar. 11

Representation & Visualization Workshop II (with Andrew Atwood)
Duration: .5 week; Wednesday, Mar., 25 - Friday, Mar. 27

PROJECT 3.0
Figural Fields: Models and Prototypes for 10 Agri-Villages
Duration: 5 weeks; Monday, Mar. 27 - Friday, May 01

STUDIO STRUCTURE
The studio meets M-W-F from 2:00 to 5:50 p.m. Students are required to be in studio during these hours productively engaged in individual and group design activities. Each of the individual studio sections will follow the same program, schedule and grading system. There will be a regular program of lectures, typically held every Monday at 2:00 to 3:30 p.m. in Harris 102. Attendance at these lectures is mandatory and students are responsible for understanding and using the material presented.

EVALUATION AND GRADING
Studio instructors will monitor and evaluate each student’s progress and performance over the course of the semester. Individual grades will be issued within one week of the completion of each project. The criteria for evaluation and grading are outlined below. At the end of the semester instructors will review each student’s final performance and evaluation to assure evaluation standards are consistent throughout the studio.

The grade of B will be issued to students that complete all work and meet the requirements of the course; the grade of A will be reserved for those students that consistently demonstrate excellence and work at a level that exceeds the expectations and standards of the studio. A minimum semester grade of a C is required to continue onto the next studio sequence. Students performing at or below this minimum standard will be notified in writing. Students should consult the University policies for the ‘Incomplete’ (IN) grade and should be aware of the semester schedule for key withdrawal dates as established by the University. The final semester grade is determined according to the following criteria:

Visual Communication
The ability to demonstrate proficiency in graphic communication utilizing a range of techniques, media and projective systems including but not limited to analytical and generative diagrams and technical drawings (orthographic, axonometric, isometric, oblique and composite projections).

Verbal Communication
The ability to communicate clearly and concisely during desk critiques and verbal presentations using tools such as PowerPoint effectively.

Digital Skills
The ability to use digital software as a generative design tool as well as for visualization and representation. This includes producing generative diagrams, descriptive drawings and renderings and, physical models and constructions of an exemplary quality.

Physical Modeling Skills
The ability to fabricate physical models at various scales employing analog and digital tools and techniques including: laser cutting, CNC milling, 3-D printing, and vacuum forming. This includes
preparing files, monitoring fabrication and assembling components with a level of craftsmanship that’s appropriate to graduate level work.

**Design Logic and Reasoning**
The ability to identify problems that are architecturally relevant, form multiple design proposals by working iteratively, develop architectural concepts that are critical and contribute to the contemporary discourse, and, demonstrate knowledge and proficiency in various design approaches.

**Creativity**
Demonstrate a knowledge of the discipline; the ability to synthesize elements of an architectural idea into a critical and creative concept; and, a willingness to explore various possibilities in the effort to generate, develop and implement compelling and critical solutions and design proposals.

**Design Process and Execution**
An aptitude for critical and generative thinking along with a work ethic that is appropriate to graduate-level studies. Specifically, the ability to use time efficiently and productively, work collaboratively, demonstrate curiosity, initiative and resourcefulness, work iteratively and have new or updated or revised work for each session, and, use precedents tactically and effectively in the development of critical design proposals.

**Systems and Technical Development**
Demonstrate a knowledge of various building systems including spatial, structural, material, sustainable, environmental along with the ability to integrate them in a rigorous and sophisticated manner.

**Contribution to Studio Culture**
Demonstrate an exceptionally high level of participation in readings, discussions and reviews as well as actively engaging in any special projects.

<table>
<thead>
<tr>
<th>Project</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Project 1.0</td>
<td>25%</td>
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<tr>
<td>Project 2.0</td>
<td>25%</td>
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<tr>
<td>Project 3.0</td>
<td>25%</td>
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<tr>
<td>Participation (Readings, Discussion, etc.)</td>
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<tr>
<td>Portfolio</td>
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<td><strong>Total</strong></td>
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**SCHEDULE**

**Week 01: Jan. 12 - 16**
Mon., Jan. 12
Introduction and course overview; Project 1.0 introduced; studio groups and teams formed.

Wednesday, Jan. 14
Review of drawings in-progress

Friday, Jan 16
Pin up and review of work-in-progress

**Week 02: Jan. 19 - 23**
Mon, Jan. 19
Martin Luther King’s Birthday: Studio does not meet

Wed., Jan. 21

Fri., Jan 22

**Week 03: Jan. 26 – 30**
Mon, Jan. 26
Lecture: 2:00-3:30p / Harris 102
Project 2.0 introduced;

Wed., Jan. 28

Fri., Jan 30

**Week 04: Feb. 02 – Feb. 06**
Mon, Feb. 02
Lecture

Wed., Feb. 04

Fri., Feb. 06

**Week 05: Feb. 09 – 13**
Mon, Feb. 09

Wed., Feb. 11

Fri., Feb. 13

**Week 06: Feb. 16 – 20**
Mon, Feb 16
*President’s Day: Studio does not meet*

Wed., Feb. 18

Fri., Feb. 20

**Week 07: Feb. 23 – 27**
Mon, Feb. 23

Wed., Feb. 25

Fri., Feb. 27

**Week 08: Mar. 02 - Mar. 06: Midterm Reviews [Grad]**
Mon., Mar. 02

Wed., Mar. 04
*Final Review: Project 2.0 [Harris 115 & Upper Rosendin]*

Fri., Mar. 06
Week 09: March 09 – 13
Mon, Mar. 09
Visualization & Representation Workshop I (with Brian Andrews)

Wed., Mar. 11

Fri., Mar. 13

Week 10: Mar. 16 – 21: Spring Recess
Studio does not meet

Week 11: Mar. 23 – 27
Visualization & Representation Workshop II (with Andrew Atwood)
Mon., Mar. 23
Lecture

Wed., Mar. 25

Fri., Mar. 27

Week 12: Mar. 30 – Apr. 03
Mon., Mar. 30
Lecture

Wed., Apr. 01

Fri., Apr. 03

Week 13: April 06 - 10
Mon., Apr. 06
Lecture

Wed., Apr. 08

Fri., Apr. 10

Week 14: Apr. 13 - 17
Mon., Apr. 13
Lecture

Wed., Apr. 15

Fri., Apr. 17

Week 15: Apr. 20 - 24
Mon., Apr. 20
Lecture

Wed., Apr. 22

Fri., Apr. 23
Week 16: Apr. 27 – May 01
Mon., Apr. 27

Wed., Apr. 29

Fri., May 01
Last Day of Classes

Week 17 - 18
May 02 – 05: Study Days

May 06 - 13: Exams

May 11 – 15: Final Review, Exhibition and Commencement
Mon., May 11
EXPO: Final Reviews and Exhibition

Tues., May 12
EXPO: Final Reviews and Exhibition

Fri., May 15
Commencement

Note: The schedule is subject to revision.

SELECTED REFERENCE MATERIAL

PROJECT 1.0
Required Reading(S)


PROJECT 2.0
Required Reading(s)


Recommended Reading(s)


PROJECT 3.0
Required Reading(s)

WORKac, 49 Cities. (New York: Storefront for Art and Architecture, 2010).

COURSE BIBLIOGRAPHY
Dwelling Typology
Arieff, Allison and Bryan Burkhart. Prefab. (Salt Lake City, UT: Gibbs Smith, 2002).


Kaufmann, Micheele and Catherine Remick. Prefab Green. (Salt Lake City, UT: Gibbs Smith, 2009).

Kunz, Martin Nicholas and Michelle Galindo. Modular Houses. (Stuttgart / Los Angeles: Fusion Publ., 2005).


Landscape / Building Landscapes / Landform Buildings


Energy / Ecology / Sustainable Systems


**Computation & Digital Fabrication**


**STATEMENT ON ACADEMIC CONDUCT AND SUPPORT SYSTEMS**

**Academic Conduct**

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information.
in SCampus and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/. Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity http://equity.usc.edu/ or to the Department of Public Safety http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems
A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information http://emergency.usc.edu/ will provide safety and other updates, including ways in which instruction will be continued by means of Blackboard, teleconferencing, and other technology.