

Multivariate Design Studio UNC Charlotte SoA	Prof. Jefferson Ellinger, AIA NCARB	Arch 7101
		MWF: 2:00 - 5:15
		6 CR

Professor: Jefferson Ellinger, AIA NCARB

Hours: By Appointment

email: jefferson@uncc.edu

Office: Storrs 145

DESCRIPTION

Multivariate Design. Philosopher Manuel De Landa presents a design logic in contrast to modernist or post-modernist thought whereby he rejects thinking in terms of pure essences and representations of the ideal to a more inclusive understanding of multiplicities and differentiation¹. He describes this kind of design thinking as a 'material' process whereby multiple internal and external constraints work together to produce a resultant condition. Understanding the relationships between force and material that result in specific relationships produced from the intricate differences between these variables rather than reductive averages is the proposition in this design thought. To fully leverage these intricate differentiations, advanced computational techniques will be studied and developed to promote a solution that is the result of a multivariate process.

Specifically, the design explorations will begin by researching techniques that have leveraged the relationships between form and performance to produce novel architectural interventions. Performance in this sense refers to the complete building function, from energy and sustainability to program and social equity. The techniques developed from the research will be applied to drive the formal, spatial and structural development of the final project.

The studio will explore the architectural potential of multivariate digital design processes towards the evolution of the classical architectural problem of how a building meets the ground. The studio will emphasize a directed theoretical/technical approach to explore the building/ground relationship, rather than the traditional program-site approach. This technique would then cascade through the design of the project developing a multi-scale intra-communication of parts redefining the part/whole relationship.

It is the intention of this studio to display that although architecture cannot ever be fully divorced from the physical world, it is in this digital/physical negotiation that truly novel architecture effects can be produced. The work will focus on issues surrounding living and working environments, approaching them with the intent of using formal explorations to re-negotiate relationships within each. It is the assertion that novelty lies in the

¹ Manuel Delanda. "Philosophies of Design, The Case of Modeling Software." In *Verb, Architecture Boogazine* (Aktar 2000). Pg 131-142

Multivariate Design Studio UNC Charlotte SoA	Prof. Jefferson Ellinger, AIA NCARB	Arch 7101
		MWF: 2:00 - 5:15
		6 CR

dynamic interchange between form and effect, as every formal move has a number of real physical and spatial consequences. It will be the desire of the work to understand and to fully examine these consequences through a persistent exchange of working at a multiplicity of scales: from modeling structures within the computer, to hand made models, to computer aided models and back into the computer. Each exploration is able to handle a different scale of relationships and possibilities, additively combining to produce a coherent whole.

This semester will be constructing a project that is the adaptive reuse of a 'big box' store. With retail, including grocery shopping, being completely transferred to the internet we will explore how the immense building stock of big box stores can be reused and adapted for new program that could benefit local communities from urban centers to rural areas.

NAAB CRITERIA

- A.2 Design Thinking Skills: Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.
- A.5 Ordering Systems: Ability to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three- dimensional design.
- B.1 PreDesign: Ability to prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.
- B.2 Site Design: Ability to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.

Multivariate Design Studio UNC Charlotte SoA	Prof. Jefferson Ellinger, AIA NCARB	Arch 7101
		MWF: 2:00 - 5:15
		6 CR

Course Outline

The schedule will be determined and posted on canvas.

Key Dates:

8/27 Site Selection trips

9/3 Labor Day

9/12 Pin-Up

9/21 Review Project 1

9/27 Structures Exam

10/5 Comp Methods Midterm

10/8-12 Fall Recess/Travel Week

10/19 Interim Review Project 2

11/15 Structures Exam

11/21-23 Thanksgiving

12/5 Final Review

EVALUATION

Success in the course is dependent on the level of one's engagement of the issues that outline the projects and the degree to which one assumes responsibility for the work throughout the entire course. Other factors relating to success are:

- the level of intensity, enthusiasm and focus exhibited in the work
- the quality of representations [graphic, three-dimensional, oral or written].
- the timely resolution and completion of the work.

Project 1: 30%*

Project 2: 70%

Design Studio	Studio Fa18 v1.0-	p3
---------------	-------------------	----

Multivariate Design Studio UNC Charlotte SoA	Prof. Jefferson Ellinger, AIA NCARB	Arch 7101
		MWF: 2:00 - 5:15
		6 CR

ACADEMIC INTEGRITY

All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: <http://www.legal.uncc.edu/policies/ps-105.html>.

ATTENDANCE

In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

SoA Policies

COMPUTERS AND LABS

All students are expected to execute work in both analog and digital environments. The machines in the SOA computer labs contain all of the necessary software. The SOA also has a digital fabrication lab, a wood lab, and a metal lab. Use of the labs may require training and/or following specific procedures. Students are responsible to contact lab managers to inquire about their use and to request any necessary training.

PRINTING

Students are expected to print their digital work on a regular basis. We understand that printing is not cheap, and alternatives to printing are sometimes possible, but students must understand that printing their work is a necessary stage of the design process, not something that occurs only for final reviews.

Multivariate Design Studio UNC Charlotte SoA	Prof. Jefferson Ellinger, AIA NCARB	Arch 7101
		MWF: 2:00 - 5:15
		6 CR

GRADING

Grading of courses conform to the following grading scales and values and are determined according to the following criteria:

A 90-100	Excellent
B 80-89	Good
C 70-79	Fair
D 60-69	Passing
F 59 & Below	Failing

A (Excellent / Commendable): Meets or exceeds stated requirements of the course; exhibits significant improvement, development, and/or intellectual growth over the course of the term; exhibits research efforts from which both the instructor and students may learn; all work turned in on time and presented in a professional manner.

B (Good / Satisfactory): Meets the stated requirements of the course; exhibits good improvement, development, and/or intellectual growth over the semester; provides a measure for student emulation; and all work is turned in on time and well presented.

C (Fair): Meets most requirements of the course; exhibits limited improvement, development, and/or intellectual growth over the semester; and all work is turned in on time and neatly presented. An accumulation of 3 marginal C grades will result in suspension of a student's enrollment. For Bachelors of Architecture students, a grade of C is the minimum passing grade.

D (Passing): Fails to meet most requirements of the course (the work is incomplete to a significant degree); exhibits little or no improvement, development, and/or intellectual growth over the semester; and/or work is of a caliber only marginally acceptable at the university level.

F (Failing): Fails to meet the requirements of the course; and/or the work is incomplete or of a caliber unacceptable at the university level.

RESEARCH

Multivariate Design Studio UNC Charlotte SoA	Prof. Jefferson Ellinger, AIA NCARB	Arch 7101
		MWF: 2:00 - 5:15
		6 CR

For assistance with research, students are encouraged to contact COA+A Librarian Lareese Hall at lhall62@uncc.edu and to ask questions via email or make an appointment to talk with her. Lareese is very familiar with architectural and urban subjects and is eager and willing to work with students. She will be in Storrs Monday and Friday 12:00 – 6:00 pm, and Wednesday 10:00 am – 2:30 pm. She also has a blog related to research on art and architecture: <http://artsandarch.wordpress.com>

POLICIES

All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the University Undergraduate and Graduate Catalogs. For more information about these policies, please refer to the appropriate catalog, which can be found online at: [http://www.provost.uncc.edu/catalogs/2007%2D2009/\(undergrad\)](http://www.provost.uncc.edu/catalogs/2007%2D2009/(undergrad)).

Academic Integrity: All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: <http://www.legal.uncc.edu/policies/ps-105.html>.

Disability: UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information on accommodations, contact the Office of Disability Services at 704-687-0040 or visit their office at Fretwell 230. All information about your disability and accommodations will remain confidential.

Please see the instructor if you are interested in being an official scribe (note taker) for this course. Your notes will be made available to others in the class with special needs (including students for whom English is a second language and/or students with learning disabilities).

Late Work: Late work will not be accepted, and will not receive credit. Failure to present a complete presentation at two major reviews is grounds for automatic failure of the course.

Electronics & Equipment: Being fully present in studio also means that cell phones are switched off and computer usage is limited to studio work during studio hours. All students are required to abide by the UNC Charlotte policy on Responsible Use of University Computing and Electronic Communication Resources, which can be found online at: <http://www.legal.uncc.edu/policies/ps-66.html>. Remember that harassment, as defined in the UNC Charlotte Sexual Harassment Policy, is prohibited, even when carried out through

Multivariate Design Studio UNC Charlotte SoA	Prof. Jefferson Ellinger, AIA NCARB	Arch 7101
		MWF: 2:00 - 5:15
		6 CR

computers or other electronic communications systems, including course-based chat rooms or message boards.