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### SYLLABUS

ARCH/IDES/LARC 223 Computer Applications in Architecture, Landscape Architecture, and Interior Design (3 cr). No prerequisite.

COLLEGE OF ARCHITECTURE  
University of Nebraska-Lincoln

### INSTRUCTOR

Nathan Miller  
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246 Architecture Hall West  
Lincoln, NE 68588-0107

**Office hours:** By appointment after class Monday 6:30-7:30 (or Skype video conference M-F)

**Blog:** The Proving Ground: <http://nmillerarch.blogspot.com>

### LECTURE

Monday 5:45-6:35pm, Section 150  
Room 127 - Arch Hall West

### LABS

All Labs shall take place in the College of Architecture computer lab, 23 Arch Hall West.

**Prior to your first day in lab, activate your username and password, <https://adactivation.unl.edu>**

Tuesday-Thursday 8:30-10:20am, Section 151  
Tuesday-Thursday 10:30-12:20pm, Section 153

**TA Lab Instructor: Matt Neaderhiser ([mneaderhiser@gmail.com](mailto:mneaderhiser@gmail.com))**

Tuesday-Thursday 2:30-4:20pm, Section 154  
Tuesday-Thursday 4:30-6:20pm, Section 155

**TA Lab Instructor: Dan Williamson ([williamson.dan.allen@gmail.com](mailto:williamson.dan.allen@gmail.com))**

### COURSE DESCRIPTION

The principal objective of this course is to introduce to design students without prior technical experience the basic theories, concepts and applications of digital technology relevant to the design and practice of the design professions. Through this course, students are expected to achieve basic knowledge and comprehension about computer hardware, operating systems, data storage options, computer-aided two-dimensional drafting and three-dimensional modeling (i.e. digital representation and simulation), digital design foundation, and digital presentation strategies. In addition, this course should prepare students with the basic knowledge necessary for digital representation, design and fabrication skills utilized in the Architecture, Landscape Architecture, and Interior Design curriculum.

- Introduce basic principles and concepts of applications of computer technology for architecture, landscape architecture, and interior design.
- Develop fundamental knowledge and skills to make effective use of computer technology to aid investigation in design studios.

### COURSE OBJECTIVES

Completing this course students are expected to have acquired and will be evaluated on:

1. An understanding of basic theories and concepts in areas of digital technology as it relates to architectural design and presentation.
2. An ability to start using digital techniques to assist in the design development at various stages of the design process.
3. An ability to use available digital technologies to generate various modes of architectural representation.

Students are expected to embark on the exploration of Digital Architecture which requires proficiency with a specific foundation set of **digital skills** such as: *2D composition, vector graphics, image manipulation, 3D modeling: surface modeling, solid modeling, video editing, motion graphics, rendering, animation, parametrics, drafting, communications, layout, printing, presentation, database operations, web interface, CAM-based fabrication and performance analysis: lighting, structures, systems, etc.*<sup>1</sup>

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<sup>1</sup> Julio Bermudez & Kevin Klinger (editors) DIGITAL TECHNOLOGY & ARCHITECTURE White Paper Submitted to the NAAB

### NAAB CRITERIA

The National Architectural Accrediting Board identifies (34) performance criteria it determines to "constitute the minimum requirements for meeting the demands of an internship leading to registration for practice." Information describing the National Architectural Accrediting Board (NAAB) Conditions and Procedures for accreditation can be found by going to that organizations web site <naab.org>

Ability: 2, 3, 4, 11  
Understanding: 5, 8

FIDER Criteria: Standard 3 & 5

### COURSE FORMAT

This course is formatted in a series of lectures and labs. Lectures shall introduce concepts, techniques and frame larger issues as they relate to the increasingly interconnected realms of digital technology and architectural design. Labs shall provide each student the ability to work directly with a series of software packages. Labs will also be an environment for discussion of larger topics and issues presented in the weekly lectures.

Project assignments will be issued in the Lecture portion of the class. You should plan to spend a portion of your Lab working directly on your assignment. Be mindful that working on the Assignments will require your attention outside of regular lab hours and you will be expected to use additional computer resources, such as your own computer as required by the Department, or use of the Computer Lab outside of normal Lab hours. The unavailability of lab computers will not be a justification for poor or incomplete work. If you do not have the latest Department-required software packages of **Adobe Creative Suite**, Autodesk **Architecture Revit**, Autodesk 3ds MAX, or **Rhinoceros 3D 4.0 or 5.0** (check in with lab prior to purchase/install), please advise your instructor immediately, all lab computers are fully equipped with the required software for your use.

Important to your success in this course will be the management of your electronic data. The College provides you with a working space on the "Archhome" file server for use during the labs. However, your personal folder will have a size limit and can only be used for ARCH 223 projects only. Furthermore, it is beneficial for you to develop a healthy distrust of storage devices available for general use. Accidents will happen: Machines break, hard-drives fail, files are mysteriously deleted and work becomes unrecoverable. With this in mind, it is advisable to acquire an alternative mobile storage device (such as a USB memory key) for your personal safe-keeping. You must take responsibility for your own data and recognize that backing-up your work is critical.

### ATTENDANCE/PARTICIPATION & DUE DATE POLICY

Your punctual arrival to class is required. Attendance (both physical and mental) for the full class period is required. It is your responsibility to be on-time and attentive each day. Your attendance for only a portion of class and not for the full duration will result in an absence. There will be one test during the semester which will cover every aspect of the course, lectures, software, and readings.

In each lab you are responsible for contributing to the lab environment, which includes participating in discussions and completing reading assignments. The reading assignments are both pragmatic skill-based readings and relevant theoretical readings. The skill-based readings are important so that you can follow along in the lab instruction and ask questions which relate to problems that arise. It is not acceptable to arrive at a lab session having not read and followed through with the skill-based readings and ask questions about basic operation which would have been covered in the readings. The theoretical readings are important so that you can contextualize your skills with the bigger ideas of the course.

Each day you will earn development grades for each assignment for lab attendance and participation. Your effort and rigor in each lab contributes to your development grade for each assignment.

If you are absent for FOUR (4) or more class periods, whether a lecture and/or lab, you will automatically receive a failing grade for this course, regardless of your course performance. Please plan accordingly. Should you have exceptional circumstances, you are personally responsible for explaining the reasons for your multiple absences to the Department Chair.

If you know you have a forthcoming absence, please provide the course instructor with prior notice. However, there are no "excused absences."

Assignments are due on the date, time and location specified by your instructor or TA. A late project will not be accepted and will result in no credit being given for that particular project. Late work will not be accepted without instructor's prior verbal approval and written agreement, to be signed by both student and instructor, as to revised due dates and grading policy. Absences from any scheduled review will also result in no credit given for that particular assignment.

### ACADEMIC HONESTY

The maintenance of academic honesty and integrity is a vital concern of the University community. Any student found guilty of academic dishonesty shall be subject to both academic and disciplinary sanctions. Academic dishonesty includes, but is not limited to, the following:

1. Cheating. Copying or attempting to copy from an academic test or examination of another student; using or attempting to use unauthorized materials, information, notes, study aids or other devices for any academic test, examination or exercise; engaging or attempting to engage the assistance of another individual in misrepresenting the academic performance of a student; or communicating information in an unauthorized manner to another person for an academic test, examination or exercise.
2. Fabrication and Falsification. Falsifying or fabricating any information or citation in any academic exercise, work, speech, test or examination. Falsification is the alteration of information, while fabrication is the invention or counterfeiting of information.
3. Plagiarism. Presenting the work of another as one's own (i.e., without proper acknowledgment of the source) and submitting examinations, theses, reports, speeches, drawings, laboratory notes, or other academic work in whole or in part as one's own when such work has been prepared by another person or copied from another person.
4. Abuse of Academic Materials. Destroying, defacing, stealing, or making inaccessible library or other academic resource material.
5. Complicity in Academic Dishonesty. Helping or attempting to help another student to commit an act of academic dishonesty.
6. Falsifying Grade Reports. Changing or destroying grades, scores or markings on an examination or in an instructor's records.
7. Misrepresentation to Avoid Academic Work. Misrepresentation by fabricating an otherwise justifiable excuse such as illness, injury, accident, etc., in order to avoid or delay timely submission of academic work or to avoid or delay the taking of a test or examination.
8. Other. Academic units and members of the faculty may prescribe and give students prior notice of additional standards of conduct for academic honesty in a particular course, and violation of any such standard of conduct shall constitute misconduct under this Code of Conduct and the University Disciplinary Procedures.

**All work executed both within and beyond the classroom, in response to studio and lecture assignments, must be entirely the students' own. In any instance where 'quotations,' appropriations, derivations or other forms of 'borrowing' are used, these must be clearly cited by the borrower.**

#### RETENTION OF WORK

The College of Architecture has the right to retain any student work, either in part or in its entirety, for display, accreditation, documentation, recruitment or any other educational or legal purpose.

#### CLASS ETIQUETTE

##### General

All cell phones must be turned **OFF**, not "Quiet," prior to class and lab times. They must remain off for the duration of class.

The environment should be devoid of any material (visual, audible or otherwise) that may be offensive to a fellow student, faculty member, administrator or College visitor who does not share your life experience or viewpoint of the world. Every student is expected to be mindful of the general cleanliness of the space immediately around them.

Absolutely no food or drink is permitted in the Lab component of this class. Only water shall be permitted in the Lecture component. Be mindful of securing your personal belongings at all times.

Be especially alert when entering and exiting Architecture Hall at night.

##### Lab

Your time in the Lab is limited and so your full attention to the task at hand is required. To this end, students may not engage in non-class computer activities such as sending emails, instant messages or listening to music during the formal Lab times. Outside of formal Lab, fire away. Labs will typically begin with general comments from either your course instructor or TA. Some days will consist of formal instruction while others will enable you to work on your specific assignment.

In terms of learning new software, embedded within every application is a Help Menu and Tutorials. In combination with Resources provided in this Syllabus, these will serve as your primary resource for learning the tools, capabilities and framework for all the applications used in ARCH 223.

15<sup>th</sup> week policy: Final examinations for full semester classes are to be given ONLY at the regularly scheduled time as published in the official Schedule of Classes or at another time DURING FINALS WEEK mutually agreeable to all concerned. The only examinations that may be given during the last week (15th week) of classes are: laboratory practical examinations, make-up or repeat examinations, and self-paced examinations.

Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY.

### Lecture Series

As part of this course you are required to attend 5 of the 8 lectures offered by the 2011-12 Hyde/daOMA lecture series. You will be required to provide proof of attendance by signing a registration sheet. The lecture schedule can be found at: <http://hyde.unl.edu/>

### GRADING / EVALUATION

All work submitted must be of your own efforts.

Digital work, either 2D or 3D, must be the result of your own labors, and not the result of copying another's work. If any course personnel ascertain that copying of data has occurred, either in part or in its entirety, all students involved in the exchange are subject to failure of the course.

Semester letter grades will be determined by the following numerical scale:

A+: 100-96.67	A: 96.66-93.34	A-: 93.33-90
B+: 89.99-86.67	B: 86.66-83.34	B-: 83.33-80
C+: 79.99-76.67	C: 76.66-73.34	C-: 73.33-70
D+: 69.99-66.67	D: 66.66-63.34	D-: 63.33-60
F: 59.99 or below		

Grading benchmarks will be established for all Lab sections to better insure grade distribution and uniformity. Specific assignment grades will be set by the course instructor.

Semester numerical grades will be determined using the following scale:

Assignment 01	20%
Assignment 02	30%
Assignment 03	35%
<u>Assignment Subtotal</u>	<u>85%</u>
Lecture Test	15%
Total	100%

Each of the four Assignments will be given individual grades for

1. Development 50%  
(conceptualization, technique and rigor of process)
2. Execution 50%  
(quality of final product)

NOTE: Students who do not submit assignments and have not spoken with the instructor will receive an "F" for the assignment. See Course Schedule for date due.

**Media Center is typically open for printing from 8am-5pm M-F & 1-6pm Sunday (TBC with 2012 Schedule on Media Center Door).** Please allow time for printing before printed assignments or pin-ups are due. Let your TA know if extra time/hours is needed for printing.