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CFA AR428
Tuesday/Thursday: 6.30-9.15 PM

Architecture Site Design 1 CFA AR428

SYLLABUS
Architecture Site Design (AR428) will introduce students from the College of Fine Arts and the Architectural Studies concentration to basic architectural design principles with a focus on context. Lectures, readings, project assignments, and studio discussions will shape the course and will establish a fundamental understanding of space-making and form, driven by site-specific conditions. Through homework and reading assignments, students are expected to practice and improve on what they learned during class time. Students will gain a variety of skills over the course of the semester which will help them to tackle design problems with varying levels of complexity.

The course will introduce the students to three main topics:
1) Composition: basic two-dimensional and three-dimensional organizational principles of design
2) Context: external elements that influence a design. Understanding the importance of the natural environment (sun/shade, wind, etc.) and other site conditions (street scale, urban context, nearby program, etc.) to integrate them into the design process
3) Architectural representation: the communication of conceptual design ideas by using hand-drawn and digital tools

During the semester a series of short design problems will expose students to the complexities of context, spatial manipulation, and different representation techniques to communicate architectural design intentions. The course will start with an introduction to typical architectural representation techniques. Two-dimensional and three-dimensional compositional exercises will follow to teach students how to respond to site conditions such as solar orientation, wind direction, topography, and pedestrian circulation, among others, in addition to conceptualizing the spatial relationship between built components. This will be followed by a week and a half of software workshops that will introduce students to a number of digital tools that are commonly used in architectural practice. Students will then be assigned precedent projects to analyze and learn from in preparation for the final assignment. This project will require students to put what they have learned throughout the semester into practice by designing a small pavilion in a park close to campus.

Throughout history, the best architectural practices have been those which not only created formally and spatially unique architectural experiences, but also responded to context. The different physical and non-physical elements that comprise a building's context present both constraints and opportunities for design. Students will learn as they progress through the semester that how they address contextual elements opens up a multitude of possibilities. These will be explored through a non-linear, iterative design process, through which students will test multiple ideas out in parallel, and during which the process may turn back on itself, drawing from lessons learned from previously rejected ideas. The hours spent in this course require an attitude that is inquisitive and open-minded.
The exposure to non-linear problem-solving processes in this course will be beneficial to all students, regardless of whether or not they choose to pursue a future in the architectural design professions.

Course Goals:
1) Understanding the fundamentals of defining and making space
2) Learning how to analyze and document existing site conditions
3) Understanding the basic principles of different site conditions and learning to integrate them into the design process
4) Learning to work fluidly between different media and tools, and different methods and modes of learning
5) Learning the ability to use words and images to communicate project concepts as well as ideas and observations about the work of others
6) Understanding the stages of design: concept development, critique, transformation, refinement, and resolution

HUB LEARNING OUTCOMES

Creativity & Innovation

1. Students will demonstrate an understanding of creativity as a learnable, iterative process as a critical part of their architectural expression. They will gain a working knowledge of the principles of contemporary architectural design through multiple strategies of drawing, model-making, images, graphics, texts, and oral presentations. Through iterative processes of trial and error they will clarify both their technique/craft and ideas as part of their architectural expression. The process of imagining new possibilities in architecture involves risk-taking and reconceiving in response to feedback during critical discussions, pin-ups, presentations and reviews with the instructor, guest critics, and the studio at large. Students will be able to identify individual and institutional factors that promote and inhibit architectural creativity through exposure to current architectural pedagogy and practice via the introduction of basic design concepts, the execution of their design projects, and the course feedback processes.
2. Students will be able to exercise their own potential for engaging in creative activity by conceiving and executing original work within various architectural projects and formats through individual weekly assignments and in-class collaborative conversations and reviews.

Oral and/or Signed Communication

1. Students will be able to craft and deliver responsible, considered and well-structured oral arguments using drawings, models, narrative and descriptive text, graphics, and oral presentation skills during pin-ups and juried reviews.
2. Students will demonstrate an understanding that oral/signed communication is generally interactive, and they should be able to attend and respond thoughtfully to others. Pin-ups, mid-semester and final reviews are highly interactive. During all these, students have peer conversations about the work that involves questions about the technical approach, how the concept was created and was the student successful in communicating his/her idea visually. Throughout the critique process students must be respectful and provide feedback in a critical, but supportive way. During mid-semester and final reviews, students will interact as well with the invited jurors.
3. Students will be able to speak effectively in situations ranging from the formal, during pin-ups, mid-semester, and final reviews, to the extemporaneous during weekly studio discussions, and to interact comfortably with diverse audiences, which includes their peers, the instructor, as well as outside visiting architects and other jurors.

Digital/Multimedia Expression

1. Students will be able to craft and deliver responsible, considered, and well-structured arguments using various modes of expression within the context of informal and formal presentations and reviews. Media that will be employed include: hand sketching; formal architectural drawings in plan, section, and elevation; three-dimensional modeling in construction paper or cardstock, wood, and other materials; and digital software in two and three-dimensional representations.
2. Students will be able to demonstrate an understanding of the capabilities of various communication technologies, including various forms of analog architectural graphic representation (plans, sections, elevations), as well as the fundamentals of digital portfolio creation (scanning, photography, layout), and will use these technologies ethically and effectively.
3. Students will be able to demonstrate an understanding of the fundamentals of visual communication, such as principles governing architectural and graphic design, as well as the presentation of their forms and ideas in a digital portfolio.

Studio Policy:

The room will be shared with another class, so students are responsible for the following to keep the studio space clean:

- Upon the completion of a project, students must record the project by taking pictures and make sure to move it from the studio as there is limited storage space in the classroom.
- Doors are never to be propped open, for any reason.
- Food should not be consumed in the room at any time. Beverages with lids are allowed.
- Paper cutters are for the book arts class only. Physical model materials/ drawings must not be placed on them.
- Any space a student works at must be returned to its clean working state – paper scraps and eraser shavings should be removed. All other materials should be stored.
- Outside of class time, the studio is to be shared by any student enrolled in a class that uses the room. Students must be mindful of how much space is taken up by their activities so as not to prevent others from using the space.
- No letterpress materials may be used, including press or wood type. The covered press should not be used as a working surface.
- All electrical equipment must be unplugged upon leaving.
- Students should close windows and turn off lights upon leaving.
- Students should remind their classmates of these

Grading:

A design course has different considerations for grading than a typical academic course. Throughout the semester students will learn that there might not be only one good answer to a question in design. They will learn to make evaluations of their own work by comparing it to their colleague's work, through critiques with the instructor, and guest critiques. For criticism to be productive, students must realize that their work is the object of criticism, not their person. Guidelines to direct students for each project will be clearly listed on each assignment sheet. Grading will be determined on three levels: relative to a student's individual progress, relative to the entire work produced by everyone in response to the specific goals of the assignment, and relative to participation in and application of studio discussion. Grades will be assigned based on problem comprehension and definition, self-direction in response to criticism, commitment to imaginative exploration and problem-solving, dedication to refinement, and both graphic and verbal communication of design ideas. Students are expected to actively participate in all studio discussions and pin-ups. During times of in-studio desk crits, when waiting for a critique, students should either listen to their colleague's critique or work quietly until their turn.

Deadlines—both interim and final presentations—are to be respected. Attending mid-term and final reviews is required unless students have a medical condition or family emergency that prevents them from doing so. Students who do not present their work at the mid-term or final review without speaking to the instructor in advance will receive a failing grade. Students who do not come to class on submission day of a homework are still responsible for emailing their work to the instructor or giving a physical copy to a classmate for them to give to the instructor on the same day. Late and unfinished projects at the time of submission will receive a grade penalty commensurate with the degree of lateness and incompleteness. Redoing any completed project at any time for a higher grade is welcome. If you want to complete or improve your project after its submission, you are responsible for emailing the original submission that you brought to class when it was due to the instructor. Students will be graded on both what they brought to class on the day of submission and how they improved it after the submission. What to improve when redoing drawings must be discussed with the instructor in advance.

For students who miss a class, it is their responsibility to get in touch with their classmates regarding how to catch up and what needs to be prepared for the next class. Students can email the instructor for any supplementary reading that the instructor recommends for the missed class.

Grade Distribution:
A 4.0
A- 3.7
B+ 3.3
B 3.0
B- 2.7
C+ 2.3
C 2.0
C- 1.7
D 1.0
F 0.0 (Failing)

Grading Standards:
A| Excellent
Initiative beyond the description of the problem. Significant understanding of the problem. Conceptual clarity. Attended by and attitude of self-motivated exploration, open-mindedness, and a willingness to benefit from criticism.
B| Good
Convincing development and comprehensive resolution, some exemplary work. A thorough understanding of the problem. Project displays conceptual foundation and is well-crafted. Competence and master of skills. Open, inquisitive attitude.
C| Satisfactory
Consideration of alternatives in the resolution of the project. Adequate work which meets the minimum requirements of the problem and course. Shows understanding of the problem with some deficiencies. Reasonable master of skill and concepts. This grade represents the average solution.
D| Low, pass
Consideration of factual knowledge and complete presentation. Work, which is complete but does not show and understanding of the problem or expectations and demonstrates deficient skills. Work often attended with closed-minded attitude with respect to criticism and self-motivation. Although technically passing, this work is unacceptable in a professional program.
F| Fail, no credit
Unsatisfactory work that does not meet the requirements of the problem or course. Shows a serious deficiency in skills or is incomplete. Raises questions with respect to the future success within the program.

Reference Texts:

Below is a list of books for students' reference. Students are not required to purchase these books as they will receive PDF copies of relevant articles and sections from these texts.

- Sun, Wind and Light: G.Z. Brown and Mark DeKay
- Site Analysis: Edward T. White
- Architecture, Form, Space and Order: Francis D.K. Ching
- Architectural Graphic: Francis D.K. Ching
- Architectural Drawing: Rendow Yee
- Design of Cities: Edmund Bacon
- Manual of Section: Paul Lewis, Marc Tsurumaki, David J. Lewis
- The Language of Architecture: Andrea Simitch and Val Warke
- Visual Notes for Architects and Designers: Norman C and Paul L
- Drawn to Design: Eric J. Jenkins
- Design with Climate: Victor Olgyay
- Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis: Roger H. Clark, Michael Pause

Attendance:

Three unexcused absences will result in a failing grade for the course. Students should make every effort to let the instructor know the reason for an absence prior to the missed class. It will be up to the professor whether the excuse will be accepted or not.
In the event that a student does miss class(es), the student is expected to stay informed of assignments and any special activities or tools s/he might need for the following class.

Printing:

Students are expected to print out all of their drawings and be ready for review before the class starts. Drawings may be printed at any size and scale depending on the project requirement. Prints on 11"x17" sheets will be accepted in all instances. Printing on larger size paper is welcome, but not mandatory. Students should set aside a budget of $100-$150 for printing throughout the semester.

Software:

The course will introduce students to the most commonly used digital tools and representational techniques through a series of workshops. During these workshops, students are required to bring their laptops to the studio and test out software by following the instructor's demonstrations. Through student discounts or free educational licenses, students are required to have access to the software (AutoCAD, Adobe Photoshop, Adobe Illustrator, and SketchUp) that will be taught in class. Students need to use their university email address and choose "student" as the type of user in order to obtain an educational license. The programs should be downloaded, installed, and ready to use before spring break. Please speak with the instructor if there are any issues with the software requirements for the course.

<u>Recommended Tools and Materials:</u>
11"x17" pad of vellum
14"x17" drawing pad (Strathmore 400 series)
12" wide roll of white tracing paper
Sketchbook and sketching pencils (4H/2H, F/H, HB)
White eraser
18" metal ruler with non-slip cork back
Triangles and architect's scale
T-square (min. 18")
Cutting mat 12"x18"
Twist-lock knife and blades (e.g., Olfa)
X-Acto no. 1 precision knife
White craft glue (Tacky or Sobo recommended)
3-ring binder (to keep assignment sheets)
Container of 5/8" push pins
Drafting brush and drafting dots
Black and white cardstock or construction paper
White Strathmore, 4-ply
White foam board (3/16")
Double-ply chipboard & cardboard
Architectural markers

PROJECTS and GRADING

All projects engage with all Hub learning outcomes: 1) Guided, iterative, creative processes (Creativity & Innovation); 2) Developing expression in various communications media (Digital/Multimedia Expression); and 3) Communicating to others through informal and formal critiques and presentations.

Project 1: Orthographic Drawing 5% of final grade
In this exercise, students will be asked to represent a small object of their choice by using orthographic drawing conventions.

Project 2: Marsh Plaza 10% of final grade
Using drawing as a tool, students will learn to analyze a space and understand the design components make up the space and that affect how it is used. In addition to learning standard architectural representation by drawing plans, sections and elevations, the relationship between public, semi-public, and private space will be introduced.

Project 3: Mid-term Project | Massing Study 30% of final grade
Students will be introduced to basic design principles via two-dimensional and three-dimensional compositional studies. Students will be asked to consider different site conditions in a series of exercises as the design evolves to the final version.

Project 4: Digital Tools & Precedent Study 10% (5%+5%) of final grade
This one-and-a-half-week software workshop is intended to both introduce some of the most commonly used two-dimensional and three-dimensional representational programs as well as how these are effectively used as part of the design process. Students will be asked to study different pavilion examples and use digital tools to represent their analysis of an architectural concept that underlies their assigned project.

Project 5: Final Project | Pavilion Project 40% of final grade
This final design exercise asks students to design a pavilion in Magazine Beach Park near campus. Students will be expected to apply what they learned in the previous exercises to analyze the existing site conditions and design a context-responsive pavilion for public use.

Sketchbook 5% of final grade
The sketchbook should be a dedicated journal of ideas. It should have a significant number of sketches.

Note: Mid-term and final reviews will include a jury of practitioners, academics and designers to review the students work. Students are expected to have all their work complete, drawn, printed and graphically strong. A strong project starts with a clear sense of graphical representation and clarity of ideas, thus working towards the learning outcomes of Oral/and or Signed Communication, as well as Digital/Multimedia Expression.

Project Documentation
As part of the effort to record course work, all students will be required to submit a digital version of their projects upon the completion of each assignment. The submission file should be less than 10 MB and named following the convention, "Student Name_Project Assignment Name_S20".

WEEKLY SCHEDULE for AR428

Week 1

Project 1: In this exercise, students will choose a small object and draft it by using orthographic projection type. This exercise requires students to understand how a three-dimensional object is represented in two dimensions, that is, on paper. As part of this exercise, students are to learn multi-view drawings types and how to use architectural drafting tools to create an accurate set of drawings.

Studio time will be spent practicing and learning to draw followed by the instructor's in-class demonstration.

Week 2

Project 1 (continued): Students will continue working on their Project 1 and pin up their drawings at the end of the class for studio discussion.

Project 2: In this exercise, students will study the elements that define a space by documenting it through the techniques introduced in class. The study area for this assignment is one of the most recognizable spaces on campus: Marsh Plaza. By walking, physically pacing, and observing through drawing, students will document the spatial qualities of this public space and the interior lobby spaces of the buildings that surround it. One of the main goals of this assignment is to use drawing as part of the thinking process while examining an architectural space.

Followed by the studio discussion and demonstration, students will work on their drawings in class. The instructor will go around critiquing each of student's work separately.

Week 3

Project 2 (continued): Students will continue working on their drawings in class. The instructor will go around critiquing each of your work separately. Students will pin up their work at the end of the class for a general studio discussion. One sheet (11x17in) to be submitted to the instructor for final grading, per student.

Project 3 part 1: Composition is the purposeful arrangement of parts to form a whole. Architects compose spaces, relationships, components, transitions, scale changes, the contrast between light and shadow, and much more. Similar to composition in music, film, painting, and writing, architectural composition is what makes a project unique. In this assignment, by using at least one of each of the shapes given, students will create a two-dimensional figure & ground composition with a focal point. Followed by the studio discussion, students will use black and white cardstock or construction paper to create a composition on an 11"x17" sized layout.

Week 4:

Project 3 part 1 (continued): Followed by the studio pin up session, students are to submit their assignment.
Project 3 part 2: In this assignment students will transition from a two-dimensional composition to a three-dimensional composition and will consider the volumetric relationship between given masses. The shapes used in Project 3 part 1 are to be used as building footprints that need to be arranged around open spaces on a hypothetical site. While composing in three dimensions, students are to think about the topics discussed in class: solar orientation, wind direction, and shadows cast by buildings.

Studio time will be spent learning how to make physical models and sketching the initial design ideas.

Week 5:

Project 3 part 2 (continued): Studio time will be spent making the physical model and testing design ideas. The instructor will go around critiquing each of student's work separately.

Project 3 part 3: This exercise zooms in to a portion of the site layout and focuses on one of the masses for a more detailed architectural exploration. Based on their individual site plans, students are to pick one of the masses facing the main open space. A composition of three spaces will be designed within the selected mass. Through this process, students are to understand the fundamental principles of spatial definition and articulation driven by internal and external considerations.

Besides final physical model, a set of orthographic drawings will be expected from the students as part of the final deliverables.

Week 6:
Project 3 part 3 (continued): Students will continue developing their design ideas and testing them by making quick study models. The instructor will go around critiquing each of student's work separately.

Week 7:
Midterm Review:
Project 3 part 3 (continued): Students will finish up their work in class and present their work to guest reviewers at the end of the week.

Week 8:
Spring Break Week

Week 9:
Software workshop will introduce students to different software used to produce architectural drawings. Students are to explore and test the basics of the different software followed by the instructor's demonstrations.

Project 4: Students will be assigned one of the small scale pavilion project as a precedent project. During this assignment, the students will learn the fundamentals of architectural research, gaining a deeper understanding of what a concept is and how it can be driven by context, and methods of diagramming. Students are to represent their analysis through a series of diagrams or one comprehensive drawing, using software.

Students will compile the information they found on the precedent project and also compose a series of analytical diagrams on a densely packed 11"x17" paper.

Week 10:
Software workshop will continue with the instructor's in-class demonstrations.

Project 4 (continued): Students will pin up their drawings for studio discussion. Two sheets (11x17in) to be submitted to the instructor for final grading, per student.

Project 5_1: The final project calls for a freestanding public park pavilion situated in the open landscape of Magazine Beach Park across the Charles River from BU's campus. Applying the spatial lessons of the previous exercises, students will design a park pavilion and its surroundings. As first part of the assignment, students are to visit the site and do a site analysis based on the in-class discussions on site analysis techniques.

Week 11:
Project 5_1 (continued): Students will pin up their analysis drawings for studio discussion.

Project 5_2: Based on the given program, students are to come with the narrative and start designing a park pavilion that highlights or engages the park's unique natural features in some way.

Week 12:
Project 5_2 (continued): Students will start working on their physical site model. The rest of the class time will be spent on individual desk crits.

Week 13:
Time spent on individual desk crits.

Week 14:

Time spent on individual desk crits.

Week 15:
Final Review: Students will finish up their work in class and present their work to guest reviewers at the end of the week.