

Clad

The Greek word for architect is *arkhitekton* or “master-builder”. While the contemporary definition and expectations of such an individual have become much broader to engage and take on the characteristics of various disciplines, we always come back to building. In this studio you will design, fabricate and install three small pavilions sited within a 200-acre farm Northeast of Columbus. The pavilions will explore how particular materials and fabrication processes engage and adapt to a specific location. Given the logistics of the problem, the dichotomy of prefabricated versus in-situ construction will be addressed as an integral part of the process. As the pavilions are intended to be free standing and inhabitable there will be a focus on cladding and the impact it has on identity, volume and structure.



SITE

The three sites will each offer unique characteristics that inform the design and execution of the pavilions. The property, which is situated on the edge of the glacial boundary, sits poised between the foot of a valley, which is delineated by a creek, and its peak that is crowned by acres of trees. There are hills, fields, woods, a spring fed pond and a number of agricultural outbuildings in addition to the farmhouse.

MATERIAL

Wood is a natural, renewable resource and has been employed for thousands of years as a building material. It is famously easy to work – be it with a saw blade, chisel or routing bit. The dual character of wood as both timeless and protean makes it the perfect candidate for use as a primary material. This may be supplemented with materials that are typically used in the secondary processes of forming and casting as well as durable sheet materials. This provides for a broad range of possible fabrication techniques – both manual and CNC – and allows for significant engagement with the shop and digital fabrication facilities here at the school.

SOFTWARE

In partnership with AutoDesSys the studio will be using FormZ as the primary digital design software. An array of modeling tools will be introduced over the first part of the semester that will then be implemented in the subsequent fabrication workshop and pavilion design segments.

STUDIO STRUCTURE

The first part of the studio will be spent researching techniques of cladding and fabrication – both traditional and digital – that may be executed here at the school through precedent study and a workshop using available equipment. These are intended to both frame the problem of the pavilion and inform subsequent proposals. The second part will employ a charette format to address the building sites and develop design schemes that will culminate in the selection of three projects. Each team will continue development of their pavilion through material studies and large scale mock-ups before fabricating and installing the final projects on-site.

PARTICIPATION

Each student will be expected to attend and contribute to the discussions, pin-ups and workshops. Participation includes things such as class attendance, in-class discussion, and in-class assignments.

Attendance: Students who accumulate three unexcused absences will be immediately dismissed and given an "F." Students with three or more total absences (excused, unexcused, or combined) from the class must discuss their situation with the instructor. They will be in danger of failing the class. It is up to each student to keep track of his / her attendance record and to make an appointment to talk to the professor if necessary.

Only excused absences are permitted from missing class. Written verification for excused absences is required. Excused absences are as follows:

- **Personal Illness:** Please notify the instructor within one week after the period of illness.
- **Serious illness or death of a member of the student's immediate family:** Please notify the instructor within one week after the funeral or period of illness.
- **Military or Government Duty:** Please notify the instructor prior to service.
- **Official University trips (sponsored by classes; intercollegiate athletics or other activities).** Notice must be given prior to the event.
- **Major Religious Holidays:** A student must notify the instructor in writing (email is fine) of these dates; please submit to the instructor no later than the last day for adding class.

ASSIGNMENT DEADLINES

Course assignments are due as noted in each assignment.

- Students who miss deadlines due to excused absences may submit the required work at a date agreed upon with the instructor.
- Unexcused late projects are not accepted, incomplete projects are evaluated in relation to their degree of completion, and a student is allowed to present only if he or she presents sufficient work to the instructor.
- Failure to turn in any assignment will result in a failing grade for the course

GENERAL COURSE REQUIREMENTS

- Keep electronic copies of all of your work. Final documentation will be turned in on paper and electronically.
- **Save back-ups of your work.** Computer crashes and technology failures are not accepted reasons for late or missing work.

ACADEMIC CONDUCT

All members of the class are expected to follow the rules of proper academic conduct as defined in section 3335-31-02 of the university's legal policies (see below). Academic misconduct includes, but is not limited to, giving or receiving information during an exam and submitting plagiarized work for academic requirements. Students are encouraged to discuss class concepts and coursework with one another as this furthers understanding and fosters critical thought. However, any work submitted for evaluation must be your own work. The instructor reserves the right to ask you to explain your approach to particular exercises or exam questions. You must be able to verbally demonstrate your understanding of the principles involved and failure to do so may affect your grade. Any work submitted for evaluation that includes work done by another, copying of another's work, or the result of following another's direct guidance is a case of academic misconduct. When academic misconduct is found in any assignment or examination you submit for evaluation it will be reported to the Director of the School and you will receive a zero grade.

Students with Disabilities: If a student requires accommodation for a disability, he or she should immediately arrange an appointment with the professors and the Office for Disability Services. At the appointment, the professors, disability counselors, and student can discuss the course format, anticipate needs and decide upon accommodations.

Sexual Harassment: O.S.U.'s Sexual Harassment policy, which applies to all faculty, staff, and students, includes lewd remarks and inappropriate comments made in the studio environment, classroom, and computer labs as well as the "display of inappropriate sexually oriented materials in a location where others can see it." Students can file a complaint by contacting Student Judicial Affairs at 292-0748. Sanctions include reprimand, suspension, and dismissal from the University.

SCHEDULE

WEEK 1: SOFTWARE & PRECEDENTS

Monday	Jan 12 th	FormZ – Interface and basic tools
Wednesday	Jan 14 th	FormZ – Reshaping, Booleans & Derivatives [<i>Benjamin Bratton Lecture</i>]
Friday	Jan 16 th	FormZ – Nurbs & Subdivisions

WEEK 2 (visualization)

Monday	Jan 19 th	<i>No Classes; Offices Closed (MLK Day)</i>
Wednesday	Jan 21 st	FormZ – Visualization 1: rendering [<i>Daniel Barber Lecture</i>]
Friday	Jan 23 rd	FormZ – Visualization 2: layout & 3D printing

WEEK 3 (fabrication)

Monday	Jan 26 th	3D Printing Introduction: Materials, Methods & Workflow
Wednesday	Jan 28 th	Working session [<i>Goberna/Urtzi Lecture</i>]
Friday	Jan 30 th	Working session

WEEK 4: FABRICATION WORKSHOP

Monday	Feb 2 nd	REVIEW PRECEDENT WORK ; Introduce fabrication problem
Wednesday	Feb 4 th	CNC Routing Introduction: Materials, Methods & Workflow [<i>Tom Wiscombe Lecture</i>]
Friday	Feb 6 th	Working session

WEEK 5

Monday	Feb 9 th	Working session
Wednesday	Feb 11 th	Working session
Friday	Feb 13 th	Working session

WEEK 6

Monday	Feb 16 th	Working session
Wednesday	Feb 18 th	Working session [<i>Kristy balliet Lecture</i>]
Friday	Feb 20 th	WORKSHOP REVIEW

WEEK 7: DESIGN CHARETTE

Monday	Feb 23 rd	Site visit and pavilion Brief
Wednesday	Feb 25 th	Working session [<i>Lance Freeman Lecture</i>]
Friday	Feb 27 th	Review individual proposals – Split into 6 teams

WEEK 8

Monday	March 2 nd	Mock-up proposals
Wednesday	March 4 th	Mock-up production [<i>Carlo Ratti Lecture</i>]
Friday	March 6 th	Mock-up production

WEEK 9

Monday	March 9 th	Working session
Wednesday	March 11 th	Working session [<i>Andrew Witt Lecture</i>]
Friday	March 13 th	MID-REVIEW – Select final pavilions

WEEK 10: Spring Break

Monday	March 16 th	<i>NO CLASS (Spring Break)</i>
Wednesday	March 18 th	<i>NO CLASS (Spring Break)</i>
Friday	March 20 th	<i>NO CLASS (Spring Break)</i>

WEEK 11: DEVELOPMENT & FABRICATION

Monday	March 23 rd	Working Session: revisions
Wednesday	March 25 th	Working Session: revisions [<i>Guthrie/Nichol Lecture</i>]
Friday	March 27 th	Working Session: revisions

WEEK 12

Monday	March 30 th	Working session
Wednesday	April 1 st	Working session
Friday	April 3 rd	Working session [<i>Bas Smets Lecture</i>]

WEEK 13

Monday	April 6 th	Working session
Wednesday	April 8 th	Working session [<i>David Eskenazi Lecture</i>]
Friday	April 10 th	Working session

WEEK 14

Monday	April 13 th	Working session
Wednesday	April 15 th	Working session [<i>Henry N. Cobb Lecture</i>]
Friday	April 17 th	Working session

WEEK 15

Monday	April 20 th	Working session
Wednesday	April 22 th	Final Review TBD
Friday	April 24 th	Final Review TBD

SUGGESTED READING

Beorkrem, Christopher. *Material Strategies in Digital Fabrication*. New York: Routledge, 2013. Print.

Corser, Robert. *Fabricating Architecture: Selected Readings in Digital Design and Manufacturing*. New York, NY: Princeton Architectural, 2010. Print.

Dunn, Nick. "NURBS & Meshes." *Digital Fabrication in Architecture*. London: Laurence King, 2012. 40-45. Print.

Leatherbarrow, David, and Mohsen Mostafavi. *Surface Architecture*. Cambridge, MA: MIT, 2002. Print.

Moussavi, Farshid, and Michael Kubo. *The Function of Ornament*. Barcelona: Actar, 2006. Print.

Pell, Ben. *The Articulate Surface: Ornament and Technology in Contemporary Architecture*. Basel: Birkhäuser, 2010. Print.

Schröpfer, Thomas, and James Carpenter. *Material Design: Informing Architecture by Materiality*. Basel: Birkhäuser, 2011. Print.