

4.105 Cultures of Form

Syllabus

Class Times: Thursdays, 9:30:00am-12:30pm – rm. 5-234

Office Hours: Tuesday, 12:00-1:00pm – rm 10-481M

Credits: 9 (2-2-5)

Contact Information:

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Grading Criteria + Completion Requirements:

Attendance + Participation – 30%

Exercises – 70%

Course Description:

4.105 (Cultures of Form) provides a series of immersions within a range of cultures, both within and without the normative bounds of architectural disciplinary discourse, that produce, inflect, materialize, and systematize architectural form and its construction. In other words, we will explore a series of origins and reciprocities in form between conceptualization and realization. The course is project based, anchored by a weekly act of making. In exploring disciplinary and historically important cultures of form in architecture, we will investigate *geometry* and its optimization, rationalization, modularization, and underlying metrics of curvature in relation to constructive efficiencies. In exploring *material cultures*, we will cycle through a series of materializations – looking at typologies of stacks, sticks, casts, masses, and excavations across a range of geographic and temporal contexts, beginning with the normatively familiar formats of contemporary design and construction. In exploring *cultures of making*, we will extend these materializations to include analogue, craft-driven, non-western, and non-industrial modes of making. And finally, in exploring interfaces between *identity and culture*, each student will develop an individual constructive, formal, or material project through an iterative object series that establishes and explicates a set of values in form and making.

The first third of the course will be anchored by a series of intensive lectures and workshops, each providing historical and theoretical context, or technical and physical expertise in making. As this knowledge is imparted, the second third of the course will be anchored by a guest lecture series from recent course alumni, and notable practitioners or academics each providing a window into the modality of development between form, material, and meaning in their work. The final third of the course will be a platform and space given over to each student to develop an object series that articulates a working modality and set of values.

4.105 is part of a larger arc (together with a selection of Computation electives of the Spring), dedicated to establishing a common set of terms for the precise description of architectural objects. The exercises, lectures and workshops are designed to impart specific skills associated with their generation and representation. These exercises establish a reciprocal relationship with studio, and anticipate the instruments necessary to approach studio design problems.

Exercises will require 3-8 hours of work (outside class meeting times) each week to adequately complete. 4.105 is conceived as a course which serves design studio rather than interferes with it, therefore students should not exceed 8 hours of work per week on the exercises. In general, class meetings will include a pin-up, assignment presentation, and workshop. See attached course schedule for more information.

Policies:

Attendance at all class meetings is mandatory. If any meeting (lecture or workshop session) is to be missed, please notify the instructor prior to the scheduled class. Do not photograph or record any component of the course without express permission. Please remember to silence cell phones, and be courteous when using laptops in class. Most importantly, be respectful and engaged during fellow students' pin-ups. The MIT online course management system, aka Learning Module, will be used extensively in the course. Lecture handouts and exercise descriptions will be available there shortly after class is held. Students will also be submitting exercises and materials through this system, and must do so by the assigned due date. MIT's expectations and policies regarding academic integrity should be read carefully and adhered to diligently: <http://integrity.mit.edu>

4.105 Geometric Disciplines + Architecture Skills I

Syllabus

The following schedule is an adaptive outline, subject to adjustment and coordination with studio dates and topics

Month	Day	Date	Schedule
September (formal cultures: geometry)	Th	05	Introduction Lecture 01: Curve Tutorial 01: Rhino Orientation 01: 3D Print, Photography <i>Assignment 01: Print</i>
	Th	12	Lecture 02: Surface Tutorial 02: Rhino 02 Orientation 02: CNC <i>Assignment 02: Surface</i>
	Th	19	Lecture 03: Piece (Discretize) Tutorial 03: Surface Orientation 03: Plasma <i>Assignment 03: Discretize</i>
	Th	26	Lecture 04: System (Rationalize) Tutorial 04: Rationalize Orientation 04: Casting, vacuum forming <i>Assignment 04: Rationalized Mass</i>
October (material cultures)	Th	03	Student Lecture: Mara Jovanovich TA Tutorial: Jigs and assemblies <i>Assignment: Diffuse Assembly part 1</i>
	Th	10	Student Lecture: Mateo Feraud <i>Assignment: Diffuse Assembly part 2</i>
	Th	17	Student Lecture: Yuki Gray TA Tutorial: Visit Glass Lab, Forge, Mars Lab <i>Assignment: Research</i>
	Th	24	Guest Lecture: Carl Dworkin of Preston Scott Cohen Architects, Harvard GSD / Penn Design <i>Assignment: Proposal, draft model</i>
	Th	31	MIDREVIEW EXHIBITION Launch Final Exercise
November (Identity)	Th	07	Guest Lecture: Linda Zhang of Pararaum, Waterloo Architecture <i>Desk Crits</i>
	Th	14	Guest Lecture: Iman Fayyad of Project IF, Harvard GSD

			<i>Desk Crits</i>
	Th	21	No Class – Thanksgiving
	Th	28	<i>Desk Crits</i>
December (Final Project)	Th	05	<i>Desk Crits</i>
		TBD	FINAL REVIEW Long Lounge 7-429, 1:30pm-4:30pm

Completion Requirements:

Completion of each of the exercises, rigor in process and clarity in representation, as well as the overall progress of the semester (including attendance) will be fundamental to completing the course.

Evaluation Criteria and Grading:

The following criteria will be used for the evaluation of student's work, both in terms of helping their progress and in final grading. (01) Thesis: How clearly is the student articulating the conceptual intentions? (02) Translation of Thesis: How well is the student using their thesis to develop a design response to given problems? (03) Representation Appropriateness: How well matched is their choice of representational means to their intentions? (04) Representation Quality: How accomplished are they with drawing, modeling, digital representation, etc? To what degree does their representations convey what they ought to? (05) Oral Presentation Skills: How clearly are they presenting their ideas orally, whether at their desk, in class discussions, or to a more formal jury? (06) Participation in Discussions: How actively and how constructively are they involved in class discussions, both formally and informally? (07) Response to Criticism: How do they effectively take advantage of criticism from instructors, classmates and outside jurors? (08) Auto-Critical Skills: To what extent are they able to critique their own work regularly and effectively? (09) Attendance – see below.

A: Excellent - Project surpasses expectations in terms of inventiveness, appropriateness, verbal and visual ability, conceptual rigor, craft, and personal development. Student pursues concepts and techniques above and beyond what is discussed in class.

B: Above Average - Project is thorough, well researched, diligently pursued, and successfully completed. Student pursues ideas and suggestions presented in class and puts in effort to resolve required projects. Project is complete on all levels and demonstrates potential for excellence.

C: Average - Project meets the minimum requirements. Suggestions made in class are not pursued with dedication or rigor. Project is incomplete in one or more areas.

D: Poor - Project is incomplete. Basic skills including graphic skills, model-making skills, verbal clarity or logic of presentation are not level-appropriate. Student does not demonstrate the required design skill and knowledge base.

F: Failure - Project is unresolved. Minimum objectives are not met. Performance is not acceptable. This grade will be assigned when you have excessive unexcused absences.

Attendance: Attendance for the full duration of each class is mandatory. The studio is an exceptional learning environment that requires your physical presence as well as your intellectual presence. You are allowed three excused absences for the semester. An excused absence is defined as one that was discussed with and approved by the professor at least 24 hours prior to the date of absence, or a family or medical emergency that is confirmed by your physician or a dean in Student Support Services. Absences beyond the three allotted will result in a decrease in your final grade. If you miss six or more studio classes, you will be asked to drop the subject or receive a failing grade.