

SYLLABUS

TEACHING TEAM

Associate Professor J. Yolande Daniels
Associate Professor of Practice, J Jih
Lecturer, Adam Modesitt
Teaching Fellow, Ekin Bilal

STRUCTURES INSTRUCTORS

Associate Professor Caitlin T Mueller (Coordinator)
Eduardo Gascon Alvarez

TA TEAM

Courage Dzidula Kpodo, MArch 25
Nasibe Nur Dundar Arifoglu, SMArchS 25
Namhi Kwun, SMArchS 25

SCHEDULE

WK 1	Tu Sept 03	Registration
	Th Sept 05	PROGRAM INTRODUCTION + STUDIO LOTTERY + TEAM SPEED DATING
	Fr Sept 06	Individual Studio Sections Meet (Registration Deadline)
WK 2	Tu Sept 10	Desk Crits
	Th Sept 12	Field trip to ICA Watershed w/Alex Anmahian + Site Visit
	Fr Sept 13	TA Workshop/Tutorial
WK 3	Tu Sept 17	Desk Crits (Career Week)
	Th Sept 19	Desk Crits
	Fr Sept 20	STUDENT HOLIDAY
WK 4	Tu Sept 24	MODULE 1 REVIEW + ROUNDTABLE
	Th Sept 26	Desk Crits
	Fr Sept 27	Field trip to Eastie Farm + Site Visit
WK 5	Tu Oct 01	Desk crits (<i>YD out</i>)
	Th Oct 03	Studio Critic Lecture 1; Desk Crits
	Fr Oct 04	Field Trip (overnight) to Grace Farm (Fr 10/4) + Stone Barnes Ctr (Sa 10/5)
WK 6	Tu Oct 08	Desk Crits
	Th Oct 10	Desk Crits
	Fr Oct 11	TA Workshop/Tutorial
WK 7	Tu Oct 15	STUDENT HOLIDAY
	Th Oct 17	Studio Critic Lecture 2; Desk Crits (<i>NOMA Conference 10/16-20</i>)
	Fr Oct 18	TA Workshop/Tutorial
WK 8	Tu Oct 22	MIDTERM - MODULE 2 REVIEW + ROUNDTABLE
	Th Oct 24	Desk Crits
	Fr Oct 25	Field Trip to Community Rowing w/Alex Anmahian
WK 9	Tu Oct 29	Desk Crits
	Th Oct 31	Studio Critic Lecture 3; Desk Crits
	Fr Nov 01	TA Workshop/Tutorial
WK 10	Tu Nov 05	Desk Crits
	Th Nov 07	Desk Crits
	Fr Nov 08	Field Trip to MASS. Design Group w/Caitlin Taylor
WK 11	Tu Nov 12	Desk Crits
	Th Nov 14	Studio Critic Lecture 4; Desk Crits
	Fr Nov 15	TA Workshop/Tutorial
WK 12	Tu Nov 19	MODULE 3 REVIEW + ROUNDTABLE
	Th Nov 21	Desk Crits
	Fr Nov 22	TA Workshop/Tutorial (<i>BT Exhibition Studio @10am; Critics attend</i>)
WK 13	Tu Nov 26	PIN-UP - Final Review Mock-up
	Th Nov 28	HOLIDAY
	Fr Nov 29	MIT HOLIDAY
WK 14	Tu Dec 03	Desk Crits
	Th Dec 05	Desk Crits
	Fr Dec 06	TA Workshop/ Tutorial
WK 15	Tu Dec 10	LAST CLASS
	W Dec 11	FINAL – MODULE 4 REVIEW + ROUNDTABLE
(Date TBD)		Semester’s Project Archived

CONSTRUCTIVE RECIPROCITIES



"INSIDE" Terrestrial Trilogy, Frédérique Aït-Touati

COURSE INTRODUCTION

4.135|Architecture Design Core Studio III is the concluding studio of the MArch1 Core Program. It is integrated with Building Technology 4.463 and cross listed, in the undergraduate program, as 4.025|Architecture Design Studio III.

The approach of the studio encourages the study of reciprocal relationships between living organisms (plants, animals, humans, etc.,) and the habitats and ecosystems--both natural and constructed--that nurture them.

The studio framework, *Constructive Reciprocities*, encourages architectural design explorations that advance an integrated approach toward buildings and the environment and provides the opportunity to envision reciprocal and regenerative food and constructive systems in which local community members grow and share food while building practices of care and stewardship.

The course consists of a semester-long building project that encourages the development of an architectural design proposal with an integrated understanding of the material, spatial, structural, and environmental performances of a building in response to local and regional site and climatic and social conditions through the lenses of reciprocity and regeneration.

Each studio section will work from the same course framework and review deliverables guided by the direction and qualitative approach set by the individual instructors. Studio instructors will work with each student group and individual to support the development of a design process that emphasizes the exploration of design options through drawings and models, experimentation and clarity in representations, and the exploration of material and construction techniques. All students are encouraged to work in teams.

The studios will focus on the impact of building production and industrial food production on the environment in the design of a community supported agriculture and education center. These two societal inflection points (food and buildings) influence the future of cities and their inhabitants. The UN has reported that the building and construction industries contribute 37% of global emissions and that resource extraction is a significant cause of the climate crisis. 12.8 percent of the American population has experienced food insecurity. In Eastern Massachusetts, 1 in 8 people struggle with lack of access to an affordable healthy diet and the impact is greatest in the youngest populations. Students are encouraged to explore alternatives to extractive practices in building design and construction and food production by investigating reciprocal and regenerative approaches.

Our study of Constructive Reciprocities will occur in quarters (conceptual, spatial, performative, and systemic). The first quarter, Systemic Reciprocities, explores potential reciprocities between the patterns and performances of ecological and climatic systems, urban and building site systems, and the building program/use at the site. The second quarter, Performative

Reciprocities, encourages the development of performative reciprocities between Material and Constructive Systems and Building Program/Use and an initial building concept and massing. The third quarter, Spatial Reciprocities, encourages spatial and material systems integration through the continued analysis, exploration, and advancement of the building design. The final quarter, Conceptual Reciprocities, focuses on the refinement and graphic clarity of the building design thesis, project, and final presentation.

STUDIO SECTION STATEMENTS

J. Yolande Daniels

Envision an architecture with constructive details that span from macro to micro scales. The cosmos in relation to the world. The world in relation to Cities. Cities in relation to Buildings. Buildings in relation to inhabitants. People in relation to living organisms. Living organisms in relation to the cosmos. How can architecture bridge constructive reciprocities and material relationships at each scale?

Ekin Bilal

This section explores approaches to dialogic architecture, where the building engages in conversation through materiality and form, while imagining space as a catalyst for “mini many atmospheres,” both experiential and thermal. As our systems of agricultural production, financial frameworks, and visual culture grow alienated from everyday life, we will explore architectural figuration to foster reciprocal rhythms of care between the building and its material, environmental, social, and urban contexts.

J. Jih

How might the materiality and choreography of architectural assembly be placed in not a relationship of control with its context, but a relationship of fluid reciprocation? With a particular focus on the development and testing of models, maquettes, and prototypes, this section will examine the implicated sites of contact and opportunities for reinvention between architectural and agricultural material cultures in the urban environment.

Adam Modesitt

How can architects engage the consequences of construction directly—not by coopting instruments codified by policy makers, scientists, and engineers—but through unmediated acts of architecture? This section will emphasize the visual, tactile, and tectonic as a means of developing more nuanced understandings of reciprocity, and repositioning resource allocation within broader aesthetic and socio-cultural contexts.

LEARNING OBJECTIVES

The course consists of a semester long project exploring regenerative building systems through representations from drawings to physical fabrication. Students must also show an ability to

integrate structural, enclosure, climate, and architectural design strategies and understand the carbon impacts of material and construction system choices.

Students should be able to engage with an increasing level of design research through iterative studies and move fluidly between different modes and scales of operation. Conventions of design representation and communication through drawing and modeling will be explored. Students will need to demonstrate the application of design skills, an understanding of conventions, and an ability to sustain an increasing level of research in the projects over the semester.

EVALUATION CRITERIA

Grades will be assessed according to the following criteria:

1. Clarity of design concepts through the stages of design development.
2. Design concept translation in response to the program, site, building and detail scales.
3. Synthesis of the concept with the representational means.
4. Precision and rigor across representational modes (drawings, models, and fabrications).
5. Capacity to reflect upon and self-critique the work produced regularly and effectively.
6. Ability to establish an iterative design process to explore and synthesize design options.
7. Clarity of physical and oral presentation (from desk-crits to class discussions and juries).
8. Active and constructive involvement in class discussions (both formally and informally).
9. Effectively respond to criticism from instructors, classmates, and outside jurors.
10. Attendance

EVALUATION METHODS

Quantitative Evaluations

Completion of the course deliverables which all studio groups share, in addition to the specific instructions of the studio critic, and the integration of building technology in the architectural design projects. The integration of building technology will be evaluated through a demonstrated understanding of section, construction assembly and construction detail drawings in the studio projects (and through their problem sets in BT).

Qualitative Evaluations

In addition to the completion of deliverables, the development of each student's design process, design research skills and understanding of design integration across scales in architecture is evaluated through presentations, and discussions. The rigor in process and clarity in representation, and the overall qualitative progress of the semester (including participation and attendance) will be fundamental to completing the course.

In addition to conventional desk-crits, reviews and pin-ups, there will be presentations, workshops, tutorials, discussions, and field trips led by the faculty and teaching assistants. This mix allows for a range of discursive formats to engage students, faculty, and external guests in

conversation on students' design projects and will enable a range of voices and views to provide input and feedback toward the development of the proposed building designs.

Self-Reflective and Peer Evaluation

The intermeshing of skills in design analysis, representation and documentation paired with material research/experimentation provide space for self-evaluation and transitions between scales in architectural design. To foster reflection on their design work, students are encouraged after each project discussion to formulate a key question and list steps that they will initiate in response.

Student Participation

Participation is a critical component of the design studio. This ranges from participation in the studio process and collaborative teamwork to attendance, assignments, class discussions, desk crits, workshops, and tutorials pin-ups, reviews, and field trips.

Attendance Policy

The studio is an exceptional learning environment that requires your physical and intellectual presence. Attendance for the full duration of each class is mandatory. It is understood that leaving the studio to use fabrication facilities may be necessary, but it must not conflict with scheduled events in the design studio. Review attendance is mandatory.

Three excused absences are allowed for the semester. An excused absence is one discussed with and approved by the professor at least 24 hours prior to the date of absence, or a family or medical emergency confirmed by your physician or a dean in Student Support Services. Unexcused absences will reduce the course grade by half a letter grade, at minimum. Late arrival or early departure from class will count as a partial absence. 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.

Studio Culture

Work in studio will build sequentially. Therefore, your commitment to continual development daily is of paramount importance. It is important that you take advantage of the studio environment. Magnification of your development as a designer is made possible by the collective nature of the class. Group reviews are collective for a reason. Each of you has something to gain from your peers. Since the studio is a place for all, it necessitates careful attention to the needs of everyone in it. Please see your instructor and TAs if there are any problems you cannot resolve on your own.

Personal Conduct

Instructors, TAs, and students in this course are expected to act responsibly, ethically, and with respect for the dignity of all others, both within and outside the classroom. Issues relating to personal conduct, including discrimination and harassment, will be taken extremely seriously.

Students should take the time to become familiar with MIT's major policies on personal conduct, which can be found here: [MIT Policies: Conduct and Community Standards](#)

Academic Integrity/ Honesty

Massachusetts Institute of Technology students are here because of their demonstrated intellectual ability and because of their potential to make a significant contribution to human thought and knowledge. At MIT, students will be given unusual opportunities to do research and undertake scholarship that will advance knowledge in different fields of study. Students will also face many challenges. It is important for MIT students to become familiar with the Institute's policies regarding academic integrity, which can be found here: [Academic Integrity at MIT: A Handbook for Students](#)

GRADING RUBRIC

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.

STUDENT SUPPORT

Medical

If you are on a Medical Hold due to attesting to potential Covid symptoms, or have tested positive and must isolate, then please contact your instructors so we can make sure you have access to course materials, and we can discuss how we address the missed work. You can also contact Student Support Services for additional assistance.

Student Support Services (S3)

If something is getting in the way of attending class, completing work, or taking an exam, contact a dean in Student Support Services (S3). The deans will provide you with support and help you work with us to determine the next steps. We ask that you go to S3 so we know you have had a chance to talk through your situation with someone and to connect with any resources you might need. The walk-in queue is open from 10-12 and 2-4 on weekdays. Appointments can be virtual or in-person, depending on your comfort and convenience. For more information or to join the virtual help queue visit studentlife.mit.edu/s3 or e-mail s3-support@mit.edu.

Disability Accommodation and Access Services

MIT is committed to the principle of equal access and an inclusionary environment. Students who need accommodation are encouraged to speak with the instructor as early as possible. Students who need disability accommodations are encouraged to speak with Disability and Access Services (studentlife.mit.edu/das), prior to or early in the semester so that accommodation requests can be evaluated and addressed in a timely fashion.

If you have a disability and are not planning to use accommodations, it is still recommended that you meet with DAS staff to familiarize yourself with their services and resources. Contact Disability and Access Services with any questions at 617-253-1674 or via email das-student@mit.edu.

COURSE COMMUNICATIONS

Updates to the course schedule and content will be issued via Canvas announcements and to your MIT email address. Students are responsible for checking email regularly throughout the course. Students are also encouraged to email the instructor and/or TA with any questions, concerns, or requests that may arise during the course. Course information will be distributed via Canvas. The syllabus, schedule and submission deadlines, and the studio handbooks, will be distributed via Dropbox. Final coursework submissions are required via Dropbox. The Canvas course homepage can be found at: <https://canvas.mit.edu/courses/28121>