

School of Architecture | Georgia Tech | Fall 2026

ARCH 4016: Architecture Design Studio VI (5 credits)

Required Course for B.S.Arch.

Undergraduate Offering

ARCH 4016 Syllabus

On Plasticene: Designing Civic Institutions for the Plastic Age, 5 Credits

Fall 2026

Instructor Information

Instructor: Hyojin Kwon, Assistant Professor

Email: hkwon314@gatech.edu

Office Location: Architecture West, Room 355

Office Hours: Thursday 11am-12pm, by appointment

General Course Information

Course Description

Advanced studies in architectural design emphasizing application of analytical, conceptual, and representational skills within projects that engage and problematize urban context culturally, ecologically and technologically.

On Plasticene: Designing Civic Institutions for the Plastic Age

The ***Plasticene*** describes a contemporary condition in which plastic can no longer be understood simply as a material selected at the moment of architectural specification. Plastics circulate through systems of production, consumption, logistics, construction, waste management, policy, labor, and environmental exposure. They move between households, institutions, warehouses, recycling facilities, laboratories, factories, landfills, and waterways, connecting the intimate scale of everyday objects to metropolitan and planetary infrastructures.

This studio begins from the proposition that plastic must therefore be understood not only as waste or as a design material, but as a ***civic material***: a substance whose production, use, classification, recovery, and disposal are organized collectively through institutions. Yet the infrastructures that govern these processes remain largely invisible to the public. Most people encounter recycling through a bin or drop-off point, while the systems that follow—sorting, contamination, storage, labor, transportation, processing, market exchange, rejection, and disposal—remain spatially and institutionally fragmented.

The studio asks how architecture might intervene within this condition.

Rather than designing a conventional recycling center and subsequently adding public programs to it, students will investigate how material recovery itself might become the basis of a new civic architectural type. Recovery, fabrication, research, education, public assembly, environmental stewardship, and institutional coordination are treated not as adjacent programs, but as interdependent components of a public institution.

The central proposition of the studio is: *The studio does not ask students to design a recycling center. It asks them to redesign the institutions through which plastic becomes a civic material. Architecture becomes the final synthesis of institutional research rather than the starting point of formal speculation.*

Atlanta as a Living Laboratory

The studio is situated within Atlanta's existing network of material recovery, reuse, research, and fabrication. Municipal collection systems, private processors, organizations such as CHaRM and the Lifecycle Building Center, university laboratories, manufacturers, and community initiatives already participate in the city's material metabolism, but they operate through different territories, jurisdictions, economies, and forms of expertise.

Students will study these relationships through the specific context of **Blandtown**, an area shaped by the intersection of industrial production, rail infrastructure, waste processing, residential displacement, and contemporary redevelopment. The final project is located on the former Liberty Tire property on Huber Street, between active industrial infrastructure, the Atlanta BeltLine, and rapidly transforming West Midtown.

The site foregrounds a larger urban question: *What happens when productive infrastructure is treated as part of civic life rather than something that must disappear before urban redevelopment can occur?*

Instead of replacing production with another landscape of consumption, the studio asks how architecture might retain, transform, and publicly reconstitute the productive city.

Architecture as Institutional Research

The pedagogical premise of the studio is that architecture cannot responsibly intervene in complex material systems without first understanding the institutional relationships that produce them.

Research is therefore not treated as a preliminary exercise that ends when formal design begins. It operates as a design medium throughout the semester. Mapping reconstructs networks of materials, institutions, labor, logistics, and territory. Material experimentation tests the physical consequences of these systems at full scale. Architectural design then reorganizes those findings into a new institutional proposition.

The semester follows a cumulative process of:

Reconstruct → Interpret → Reorganize → Project

Students move repeatedly between metropolitan systems, physical materials, full-scale construction, and architectural organization. The final building is understood not as an autonomous formal object, but as the spatial manifestation of an institutional argument.

Studio Sequence

The semester develops through three interconnected phases.

Phase 1 — Atlanta Plastic Counter-Atlas

Students collectively reconstruct Atlanta's plastic metabolism through mapping, fieldwork, interviews, precedent research, and archival investigation. Individual studies trace materials, institutions, actors, logistical networks, and points of exclusion or failure within existing systems. Together, these investigations produce a collective counter-atlas that establishes the intellectual and territorial foundation of the studio.

Phase 2 — Material Prototyping & Construction

Research moves into direct material practice. Students work collaboratively with locally sourced post-consumer plastics through processes of collection, sorting, cleaning, shredding, pelletizing, computational design, and large-scale fabrication. The studio will design and construct a full-scale, reconfigurable public installation for the Rich Building patio. This phase allows students to test material behavior, assembly, structure, fabrication, panelization, and architectural expression at 1:1 scale while producing a public demonstration of circular construction.

Phase 3 — Plastic Commons

The final phase expands from material prototype to civic institution. Each student develops an individual architectural proposition of at least 40,000 square feet on the former Liberty Tire site. Proposals must engage the operational realities of material recovery—including intake, sorting, storage, processing, fabrication, distribution, service access, and residual management—while integrating these systems with public, educational, research, and civic programs.

As a senior-level comprehensive design project, the final proposal must resolve relationships among site, program, circulation, structure, building envelope, environmental systems, life safety, material and service logistics, construction, and spatial experience. Students are expected to demonstrate how their institutional thesis operates architecturally from the scale of metropolitan systems to building organization, envelope, assembly, and material detail.

The semester therefore moves across multiple scales—from the plastic fragment to the fabrication process, from the full-scale assembly to the building, and from the building to the city. Through this sequence, architecture is positioned as both a material practice and an institutional practice: a means of making the infrastructures that organize contemporary life more legible, negotiable, and public.

Course Learning Outcomes

Those students who successfully complete the course will be able to:

- 1. **Analyze and reconstruct complex urban, material, and institutional systems** through mapping, fieldwork, precedent research, and critical interpretation, and translate this research into a clearly articulated architectural position.
- 2. **Develop and test new institutional and programmatic typologies** that reorganize relationships among infrastructure, public space, material flows, environmental responsibility, and civic life.
- 3. **Design a comprehensive senior-level architectural project of at least 40,000 square feet** that integrates program, site, circulation, structure, building envelope, environmental

systems, life-safety requirements, service and material logistics, and spatial experience into a coherent architectural proposal.

- **4. Apply material research, computational design, prototyping, and fabrication methods** to evaluate the relationship between material behavior, construction logic, architectural form, and performance across scales from full-scale assemblies to building systems.
- **5. Communicate complex architectural ideas and technical resolution effectively** through drawings, diagrams, models, digital representations, writing, and verbal presentation appropriate to advanced undergraduate architectural design.

Required Course Materials

Readings

Readings will be assigned in conjunction with each phase of the studio. Specific texts will accompany individual assignments, ranging from historical and theoretical essays on typology, infrastructure, and civic architecture to contemporary case studies and material research. Students are expected to complete assigned readings prior to class discussions. All required readings will be made available through Canvas or the Georgia Tech Library unless otherwise noted.

Computer and Software

Students are required to have access to a personal laptop that meets the Georgia Tech School of Architecture hardware and software requirements. Students are responsible for ensuring access to and installation of the software required for coursework, using Georgia Tech resources, educational licenses, or other approved means as appropriate. Software requirements may vary by assignment.

A Cinema 4D educational license will be provided for use in this course.

For current School of Architecture hardware and software requirements, see:
<https://arch.gatech.edu/hardware-and-software-requirements>

Grading Policy

Final grades are determined by the weighted components listed below. Each graded component will be evaluated according to the criteria established in the relevant assignment brief and studio review rubric. Grades are based on demonstrated achievement of course learning outcomes and published evaluation criteria, not on performance relative to other students.

Students will receive feedback throughout the semester through desk critiques, pin-ups, formal reviews, and graded submissions so that they can reasonably assess their progress toward the final course grade. Final grades are based on the following weighted components:

Assignments

- **Phase 1 — Research: Atlanta Plastic Counter-Atlas:** 15%
- **Phase 2 — Material Prototyping & Construction:** 30%
- **Phase 3 — Plastic Commons: Final Architectural Project:** 35%
- **Studio Participation & Documentation:** 10%
- **Fall Portfolio Submission and Review:** 10%

Total: 100%

All major assignments must be completed to receive a passing grade.

Description of Graded Components**Phase 1 — Research (15%)**

Research, mapping, fieldwork, critical analysis, and communication of Atlanta's plastic and institutional systems.

Phase 2 — Material Prototyping & Construction (30%)

Design development, material experimentation, fabrication, technical resolution, and contribution to the collective full-scale installation.

Phase 3 — Final Architectural Project (35%)

A comprehensive architectural proposal of at least 40,000 square feet integrating site, program, circulation, structure, envelope, environmental systems, material strategy, and architectural representation.

Studio Participation & Documentation (10%)

Consistent preparation, participation in critiques and reviews, responsiveness to feedback, collaboration, and documentation of design development.

Fall Portfolio (10%)

Required School of Architecture portfolio submission and participation in the Fall portfolio review process.

Example Studio Grading Rubric

- A grade of "F" indicates failure to meet studio requirements, including attendance and minimum presentation requirements.
- A grade of "D" means significant attendance problems and failure to meet basic studio requirements.
- A grade of "C" means the basic requirements of the studio have just been met, with a plausible but substantially undeveloped project.
- A grade of "B" means basic requirements are met and the project is developed enough for evaluation against studio themes and criteria.
- A grade of "A" means the project clearly demonstrates understanding of studio themes, criteria, and self-motivated exploration beyond basic requirements.

Grading Scale

A	90–100%
B	80–89%
C	70–79%
D	60–69%
F	Below 60%

Course Schedule

Please see the annotated class schedule on Canvas. This schedule is subject to periodic revisions; updated schedules will always be posted on Canvas.

DATE	DAY	WEEK		Assignment
08/24	Mon	1	Introduction Lecture: Kwon	Issue: Assignment 01
08/26	Wed	1	Workshop: Cinema 4D	Issue: Assignment 02
08/31	Mon	2	Trash Lab Tour + Desk Crits	Issue: Assignment Template
09/02	Wed	2	Workshop: Cinema 4D	
09/07	Mon	3	NO CLASS – Labor Day	
09/09	Wed	3	Workshop: Cinema 4D + Desk Crits	
09/14	Mon	4	Assignment 01 Pin-up / Presentation	Due: Assignment 01
09/16	Wed	4	Workshop: Cinema 4D	
09/21	Mon	5	Guest Lecture 1+ Desk Crits	
09/23	Wed	5	Workshop + Desk Crits	
09/28	Mon	6	Assignment 02 Pin-up	
09/30	Wed	6	Workshop + Desk Crits	
10/05	Mon	7	Desk Crits	
10/07	Wed	7	Workshop + Desk Crits	
10/12	Mon	8	Desk Crits	
10/14	Wed	8	Midterm Review	Due: Assignment 02
10/19	Mon	9	Workshop + Desk Crits	
10/21	Wed	9	Guest Lecture 2 + Desk Crits	
10/26	Mon	10	Workshop + Desk Crits	
10/28	Wed	10	Desk Crits	
11/02	Mon	11	Workshop + Desk Crits	
11/04	Wed	11	Desk Crits	
11/09	Mon	12	Pin-up / Presentation	
11/11	Wed	12	Desk Crits	
11/16	Mon	13	Desk Crits	
11/18	Wed	13	Final Review	Due: Assignment 03
11/23	Mon	14	Desk Crits - Portfolios	
11/25	Wed	14	NO CLASS – Thanksgiving Break	
11/30	Mon	15	Desk Crits - Portfolios	
12/02	Wed	15	Desk Crits - Portfolios	
12/07	Mon	16	Portfolio Event	Due: Portfolio

Course Policies

Attendance and/or Participation

Regular attendance, preparation, and active participation are essential to studio learning and are included in the Studio Participation & Documentation component of the final grade.

Students are expected to attend all scheduled studio meetings, critiques, reviews, field visits, workshops, and other required course activities.

Students should communicate anticipated absences as early as possible and follow the School of Architecture and Georgia Tech policies below regarding excused absences and documentation.

SoA Attendance Policy

Active participation at all class meetings is mandatory. Absences will be excused only for medical or family emergencies, Institute-approved events, and religious holidays documented in writing. (Notify your instructor in writing during the first two weeks of the semester about any anticipated religious holiday absences.) Late arrivals will be counted as absences.

Attendance of SoA lectures during studio time on Monday or Wednesday from 12:30–1:30 p.m. is required for M. Arch students and highly recommended for B.S. Arch, M.S., and Ph.D. students.

NOTE: Absences due to special and/or unforeseen circumstances must be discussed with the instructor as early as practically possible.

Missing three classes without an approved excuse will result in a letter grade reduction. Missing more than three classes, excused or unexcused, may result in a meeting with your instructor and the Architecture Program Office to determine a course of action, and can result in an incomplete (I) or failing grade (F).

Students are highly encouraged to submit absence verification for documented illness, hospitalization, accidents, family emergencies, or lengthy illnesses to the Dean of Students: <https://studentlife.gatech.edu/request-assistance>

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards.

Review [Georgia Tech's Honor Code](#) and the student [Code of Conduct](#). Any student suspected of cheating or plagiarism will be reported to the Office of Student Integrity.

For expectations of student and instructor conduct, consult [Code of Conduct \(rules/19\)](#) and [Student-Faculty Expectations \(rules/22\)](#).

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body.

The [Student-Faculty Expectations Agreement](#) articulates some basic expectations that you can have of me and that I have of you. Simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek.

Core IMPACTS

[Core IMPACTS](#) is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus statement about the Core area and associated [career competencies](#). [This resource from Georgia State University](#) includes template syllabus statements for each Core IMPACTS area that you may adapt for your course.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the [Office of Disability Services](#) (404-894-2563) as soon as possible to make an appointment, obtain an accommodations letter, and discuss your special needs. Please also schedule an appointment with your instructor to discuss your learning needs.

Collaboration, Group Work, and Use of Generative AI

Limited Generative AI Use Permitted

Use of Generative AI (including but not limited to ChatGPT, Microsoft Copilot, Gemini, Perplexity, Midjourney, Stable Diffusion/ComfyUI, and Adobe Firefly) is permitted but only within instructor-approved boundaries. Its use must be transparent and documented in a required AI Usage Statement with each submission, including: tool used and date of access, the input (prompt) provided, a copy of the output, and a description of how you used or edited the AI-generated content. Failure to disclose its use may be considered a violation of Georgia Tech's academic integrity policies.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

Work for all assignments is due at the start of class on the published due date. Work for all reviews (pin-ups, progress reviews, mid-term reviews, and final reviews) are due at the start of class on the published date. Assignment due dates and review dates are noted in the class Calendar, as published and updated through the semester. Extensions for the completion of required work may be requested for substantive personal reasons (sickness, family emergency, observed religious holidays, etc.) and approved School or Institute activities (other class field trips, career days, etc.). Unexcused late work, missed assignments, and absences will directly affect grading. Students are strongly encouraged to have early and transparent conversations with the instructor about such potential conflicts, and other issues that may affect their performance in the class, so that reasonable accommodations can be made, and they do not fall behind.

Inclement Weather and Digital Learning Days

If campus operations are modified due to inclement weather or other emergencies, class may be moved online or otherwise adjusted in accordance with Georgia Tech policy. Any changes will be communicated through Canvas and/or email.

Student Use of Mobile Devices in the Classroom

Laptops, tablets, and mobile devices may be used during studio. Students are expected to use them responsibly and in a manner that does not disrupt critiques, presentations, discussions, or the work of others.

Digital Proctoring

Not applicable.

Extra Credit Opportunities

No extra credit opportunities are planned for this course.

Additional Course Policies

Students must follow all applicable safety procedures when working in shops, fabrication laboratories, and other shared facilities. Completion of required safety training and compliance with facility-specific rules are mandatory. Students are responsible for respecting shared workspaces, equipment, materials, and the work of others.

CIOS — Course Evaluations

At the end of the term, students are asked to complete the online course evaluation for all courses at Georgia Tech (<https://gatech.smartevals.com>). CIOS scores and comments have different degrees of visibility based on roles:

Reporting access by role	CIOS Scaled Results	CIOS Comments	TA's Scaled Results	TA's Comments
Instructor	Their Own	Their Own	All within their own course	All within their own course
TA Supervisor	N/A	N/A	All within their own course	All within their own course
Teaching Assistant	None	None	Their Own	Their Own
School Administration	All within their own unit	None	All within their own unit	All within their own unit
Students	All – Summary only	None	None	None

More information: [CIOS Student FAQ](#)

Campus Resources for Students

Undergraduate Student Academic Success Resources

A list of resources for undergraduate students' academic success and advising can be found at [Success at Tech](#). Academic Support (a unit in the Office of Undergraduate Education & Student Success) provides free tutoring: success.gatech.edu/tutoring.

Graduate Student Academic and Professional Success Resources

A list of resources for graduate students is available on the [Office of Graduate and Postdoctoral Education](#) website.

Student Well-Being

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A [comprehensive list of wellness-related resources](#) has been compiled by the Office of the Vice President for Student Engagement and Well-being.

Library & Archives

Contact your Architecture Library subject specialist, Catherine Mancini (catherine.mancini@library.gatech.edu), for research help and information on available resources.

Contact your Architecture Archives liaison, Jody Thompson (jody.thompson@library.gatech.edu), for assistance with archival research and collections.

Georgia Tech Library: <https://library.gatech.edu/> Georgia Tech Archives: <http://library.gatech.edu/archives>

Approved Communication Platforms

[Georgia Tech Approved Communication Platforms](#)

Georgia Tech Values Statement

At Georgia Tech, we see different backgrounds and perspectives as essential to learning, discovery, and creation. We strive to remove barriers to student success and to build a welcoming community where everyone has the opportunity to contribute to our mission. As outlined in our [strategic plan](#), we want to create an environment of holistic learning where all individuals can grow and learn to lead healthy, purposeful, impactful lives.

SoA & College of Design Policies

Archiving

At the end of the semester, all students are required to submit physical and/or digital examples of their work to their instructors or administration for archiving no later than one week after the end of term. By enrolling, each student grants a license to reproduce and display their work online, in forthcoming print publications, and in public exhibitions.

Ownership

For the purposes of continuous improvement efforts, such as accreditations and periodic program reviews, the School will select samples of student work submitted to satisfy course requirements. This includes digital files, papers, drawings, models, etc. Collected samples may be returned to students upon request.

College of Design Facility Rules and Guidelines

Please consult the [Georgia Tech Student Handbook](#) regarding the use of facilities and all Institute policies. Aerosol sprays of any kind are strictly banned from the studio and surrounding areas. A spray painting booth is available in the College of Design shop on the ground floor of the East Architecture Building.

Course Expectations & Guidelines

Per the [GT Catalog](#), all work produced in the College of Design as part of a degree program becomes the property of the College; it may be retained or returned at the discretion of the faculty. The faculty of the School of Architecture reserves the right to refuse credit for any project executed outside the precincts of the College or produced without proper coordination with the faculty.

Emergencies

In case of emergency (e.g., fire, accident, or criminal act), please call the Georgia Tech Police at 404-894-2500. Perry Minyard, IT Support Administrator for the College of Design, is also a firefighter and EMT certified in performing CPR.

Studio Housekeeping (for design studio only)

Daily Workspace Maintenance

Keep Your Space Organized:

Maintain an organized workspace that respects those around you. Avoid clutter that could distract others or create safety hazards.

Drawings and Models:

Store drawings in designated areas and keep models and materials off the floor. Items left on the floor will be considered trash and discarded by cleaning staff.

Food Policy:

No food is permitted in studio during class hours. Dispose of all food-related trash immediately in designated bins.

Desk Assignment:

Use only your assigned desk unless you have prior permission to use another workspace.

Materials and Production**Surface Protection:**

Never use spray paint, spray adhesive, paint, stain, plaster, concrete, resin, or similar materials on unprotected surfaces. Conduct this work at the CoD shop or other designated facilities.

Cutting Materials:

Always protect desk surfaces when cutting materials. Direct contact can cause permanent damage.

Daily Cleanup:

Clean your workspace at the end of each day: organize your desk, dispose of trash, and return equipment to proper storage.

Shared Equipment:

Clean up after using machinery in the CoD shop, DFL, laser cutter rooms, or other shared spaces. Neglected facilities will be closed until properly cleaned.

End-of-Semester Requirements

All personal belongings and materials must be removed by the announced deadline. Studios and lockers are completely cleared during winter break, summer break, and before the End-of-Year Show. Items remaining past the deadline will be discarded. Failure to comply may result in an Incomplete grade or grade reduction.

Review Space Protocol

- Remove your work immediately after presentations — others may discard items left behind
- Dispose of trash in designated bins
- Protect wall surfaces from damage or marks
- Return chairs to their original positions