**School of Architecture | Georgia Tech | Fall 2019**

**ARCH 7013: Urban Design Studio 1**

**A Georgia Conservancy Blueprints, Georgia Tech Serve-Learn-Sustain and Turner Foundation Studio:**

**City of Atlanta NPU-G – Design Research – Water and Urban Design**

Instructor: Richard Dagenhart, [Richard.Dagenhart@design.gatech.edu](mailto:Richard.Dagenhart@design.gatech.edu), with Tom Debo and Guest Critics

Meeting Times: M, F 1:25-6:25, W 1:25-3:25 and TBA

Classroom: Hinman Building

Office Hours: by appointment

Office Location: 355 West Architecture Building

**Course Description**

The studio is required for students in the Master of Science in Urban Design, recommended for dual degree students in the M.ARCH and MCRP, and open to Master of Architecture.

Urban design studio instruction engages students in making proposals to address real problems on real sites and help communities become more sustainable. The particular site and focused research question vary each semester. What remains constant in Urban Design 1 is the instruction in fundamental urban design skills and the introduction to the various natural systems and social contexts which impact the sites and urban design proposals. The skills taught include:

* Introduction to site analysis and design with a focus on understanding ecological systems, topography, hydrology, and green infrastructure.
* Introduction to land subdivision into developable lots, including dimensional knowledge of lots, blocks, streets and public spaces.
* Introduction to processes of community engagement and oral and graphic communication that explains to local citizens both the problems addressed, design processes and solutions proposed
* Introduction to design and graphic presentations of regulating and illustrative plans.

These skills will be introduced through a series of site visits, lectures/workshops, readings and research into precedents. The skills will be applied through assignments on small sites which will then culminate in team-produced proposals integrating small-scale design proposals with larger-scale infrastructural transformations. In addition to being reviewed by faculty and outside professionals, these proposals will be presented at neighborhood meetings of the communities they are proposed for so students will receive direct feedback.

In addition to these fundamental urban design skills, students will learn how to research and think through design solutions to contemporary challenges facing cities and metro regions. This learning occurs through an iterative process of presenting proposals to stakeholders and professionals, revising those proposals based on feedback and increased knowledge and speculation about the impacts of their proposals.

**This semester’s Design + Research Question is:** How can stormwater management, specifically based in green infrastructure strategies, contribute to the three primary challenges facing 21st century cities, neighborhoods and real estate development projects --

* Adapting to climate change – with fundamental concerns for water and carbon.
* Re-purposing urban infrastructure – ranging from urban highways to existing streets to urban waterways.
* Retrofitting automobile dominated sites and districts – whether in suburban or urban locations.

-- and, by doing so, create new and revised urban frameworks of lots and blocks and streets that produce a vigorous and equitable public domain in parallel with diverse and accessible private real estate developments?

We will aim to answer this very broad question by working collaboratively with the Georgia Conservancy, the Westside Watershed Alliance and environmental engineering consultants to prepare a new master plan for NPU-G. The NPU group of neighborhoods sit at the mouth of the Proctor Creek Watershed as It flows into the Chattahoochee River, and the NPU also fronts the Chattahoochee River at the Atlanta Industrial Park. After being contaminated and abandoned for generations, Proctor Creek itself is currently being developed as a greenway trail from near downtown to the Chattahoochee River and beyond. In a recent acquisition, Invest Atlanta now owns the Atlanta Industrial Park frontage to the Chattahoochee and will implement a multi-use public access trail along the riverfront. The challenge to NPU-G, the most underserved group of neighborhoods in the City, is to contribute ecologically to the re-purposing of Proctor Creek, participate in the City’s only public access to the Chattahoochee River, while also guiding and stimulating future real estate development, and addressing gentrification in creative ways.

The studio is part of a Turner Foundation grant to prepare an NPU-G Master Plan revision that focuses on ecological infrastructure as a basis of neighborhood planning and design. In addition to the Georgia Conservancy and WAWA, studio critics and resources include the Atlanta Housing Authority, City of Atlanta Watershed Management, the Atlanta Regional Commission, Chattahoochee Riverkeeper, Emerald Corridor and Sherwood Design Engineers. The studio is affiliated with Georgia Tech: Serve-Learn-Sustain and involves an experimental cross-connection with an undergraduate biology class which has laboratory settings on Proctor Creek in NPU-G.

# Course Objectives

* Demonstrate proficiency with fundamental urban design skills: site analysis and design, subdivision platting, oral and graphic communication, production of regulating and illustrative urban design proposals.
* Understand and be able to discuss the issues and strategies related to climate change and stormwater while re-purposing infrastructure and retrofitting an automobile-oriented landscape.
* Understand water as a fundamental resource for urban design practice and be able to conduct a basic hydrologic analysis, prepare a hydrologic/stormwater design strategy and deploy green infrastructure BMP’s in the landscape.
* Be able to weave hydrologic analysis, stormwater design strategies and green infrastructure BMP’s into a urban design project, including both graphic and verbal presentations.
* Be able to conduct case study research on urban design, public space and green infrastructure and prepare summary documents for public presentations.
* Be able to conduct design-research, meaning using architecture, planning, landscape architecture and urban design knowledge to prepare design alternatives and evaluate/measure the results.

# Assignments

# The studio will include three major project assignments. First is an urban design framework, responding to hydrologic concerns of stormwater management and green infrastructure as public spaces. Second are demonstration projects including new development proposals for three vacant former public housing sites (Bowen Homes, Hollywood Homes and Bankhead Courts) and three retrofit proposals adjacent to the public housing sites. And third are specific green infrastructure/public space proposals for each of the six proposals.

**Required Readings**

Scott Stanley (2017) *Sustainable Stormwater Management*

University of Arkansas Community Design (2010) *Center, LID – Low Impact Development*

**Recommended Readings**

Bry Sarte’, et al (2017) *Water Infrastructure*

NACTO (2017) *Stormwater Street Design Guide*

Echols and Pennypacker (2016) *Artful Rainwater Design*

Michael Wright (2015) *Rainwater Park*

Bruce Ferguson (1998) Introduction to Stormwater

Strom, et al (2017) Site Engineering for Landscape Architects

NACTO (2013) *Urban Street Design Guide*

Dover and Massengale (2014) Street Design-The Secret of Great Cities and Towns

# Online Resources

Studio resources, including NPU-G data and GIS files will be housed on the Course Folder. Managing data and project files will be a studio priority so that files are easily identified for later Conservancy and GT work on the NPU-G Master Plan and associated projects.

National BMP Database --- <http://www.bmpdatabase.org/>

Greater New Orleans Water Plan --- <https://livingwithwater.com/>

EPA Green Infrastructure – Case Studies,Podcasts,etc. --- <https://www.epa.gov/green-infrastructure>

# COURSE POLICIES

**Attendance**

Attendance at all class meetings is mandatory and crucial to successful completion of this course. If you do not present your work or participate in class your course grade will be affected. Attendance will be taken at the beginning of each class period and punctual arrival is required. Late arrivals or departures from class will be counted as absences; more than two unexcused absences or three total absences will be grounds for reduction of your course grade by one full letter grade. Absences will be excused only for medical or family emergencies documented in writing. Don’t jeopardize your overall performance and course grade by skipping class. You are not allowed to work on assignments for other courses during class meeting times for this course.

Your grade for this course will be determined based upon the quality of the work you produce, your improvement over the course of the semester, completion of required course assignments, quality of class participation, and attendance, attitude and ethical conduct.

# Grading

There are five requirements for course grading.

* Attendance and working in studio is required.
* 10% - Case Study Research and Presentations
* 30% - Alternative Design Studies
* 40% - Final Project
* 20% - Participation and Engagement.

Evaluation of a student’s performance in each course is the responsibility of the instructor for that course. If the grade is disputed, a student may appeal to the instructor for a review. If, after the review, the student still believes that a grade has been assigned unfairly, the student may submit a written request for a grade appeal to the School Chair. The petition must clearly state the reasons for the appeal. A committee of faculty and students will convene to review the work and make a decision as to whether the grade will stand or be changed. Petitions must be settled and a final grade submitted to the registrar no later than three weeks after the end of the term in which the course was completed. The School Chair will inform the student of the committee’s decision regarding the grade appeal, and their decision is final.

A student may receive a grade of incomplete (I) by requesting permission from the instructor prior to the date of the final examination or presentation. Permission will be granted only under extraordinary circumstances and usually for medical reasons. Incompletes must be fulfilled to the satisfaction of the instructor no later than six weeks after the end of term.

# Academic Integrity and Conduct

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. All Georgia Tech students should familiarize themselves with and abide by the Georgia Tech Honor Code <http://www.catalog.gatech.edu/rules/18/>.

Student work that presents the ideas or words of others as the student’s own adversely impacts the whole school and may lead to immediate dismissal. Academic dishonesty, including cheating, plagiarism, commissioning academic work by others, or performing academic work on behalf of another student, is strictly prohibited. All persons in the classroom are expected to behave with courtesy towards others and in a way that does not interfere with the regular conduct of the class. Cell phones are to be turned off when students enter the classroom and should remain off for the duration of class: <http://www.catalog.gatech.edu/rules/19/>

# Special Needs

Any student with a disability, that may require accommodation, should contact Office of Disability Services at 404-894-2563 or visit <http://disabilityservices.gatech.edu> to make an appointment to discuss his or her special needs and obtain an accommodations letter. He or she should also schedule an appointment to speak with the course instructor.

# Emergencies

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

# Ownership

Physical copies of student work submitted to the school to satisfy course requirements—including, but not limited to digital files, papers, drawings, and models—become the property of the school. It is assumed as no obligation to safeguard such materials and may, at its discretion, retain them, return them to the student, or discard them.

# Archiving

In some courses, selected students may be required to submit physical examples of their work or digital examples (on a clearly labeled CD), no later than one week after the end of term, to their instructors or administration for archiving. By enrolling, each student grants a license to reproduce and display his or her work. This is a chance for students to have their work shown online and potentially featured in forthcoming publications.

# 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 new spray painting booth is now in operation in the College of Design shop, on the ground floor of the East Architecture Building.

Shop Use: All students using shop facilities must first have completed an orientation. Safety first, always! Noise should be kept to a minimum. Music may be listened to only through headphones, including evenings and weekends.

Studio Housekeeping: Students should feel free to organize their space creatively and expressively, but with respect to others around them. Try to prevent clutter from becoming a nuisance, distraction, or a hazard. The cleaning staff makes every effort to determine what is and is not trash, but their job can be made easier if you keep drawings and models off of the floor.

# Class Schedule

Working Schedule

F 8/25 Project Briefing – Georgia Conservancy

Lecture – Ten Lessons for Designing Cities

M 8/27 Hydrology 101 – Debo Lecture and Seminar

Subdivision 101 - Dagenhart Seminar

Assignment 1: Subdivision Exercise

W 8/29 Hydrology 102 – Debo Lecture and Seminar

Work Sessions/Pin-Up

F 8/31 No class

M 9/03 No class – Labor Day Holiday

W 9/05 Subdivision Review/Pin Up – Subdivision Exercise

F 9/07 Assignment 2: NPU-G Urban Design Analytical Framework

M 9/10 Stormwater and Green Infrastructure – Sherwood Design Engineers

W 9/12 In-studio review – subdivision on three public housing sites

Th9/13 NPU-G Executive Committee Meeting (6.30 – Location TBA)

F 9/14 Studio Work Session/Project Crits

M 9/17 Studio Work Session/Project Crits

W9/19 Studio Work Session/Project Crits

F 9/21 Studio Work Session/Project Crits

S-S 9/21-22 NPU-G Site Visits/Documentation

M9/24 Studio Work Session/Project Crits

W9/26 Studio Work Session/Project Crits

F 9/28 Studio Work Session/Project Crits

M10/1 Studio Review - Urban Design Framework and Six Sites

W10/3 Assignment 2 – Master Plan Teams

F 10/5 No Studio – Fall Break

M10/8 Assignment 3 – Green Infrastructure Proposals

W10/10 Studio Work Session/Project Crits

Th10/11 NPU-G Executive Committee Meeting (6.30 – Location TBA)

F 10/12 Studio Review – Master Plan Team Reports

M10/15 Studio Work Session/Project Crits

W10/17 Richard Out of Town – Work Session – Sherwood Design Engineers

F 10/19 Richard Out of Town – Work Session – Site Design/Topography (Marco at 1.30)

M10/22 Studio Work Session – Master Plan and Publication

T10/23 Ecological Inventory-Pet Cemetery Site/Proctor Creek w/Biology Class

W10/24 Studio Work Session – Six Projects

Th10.25 Studio Presentation – Biology Class Session

F 10/26 Studio Work Session – Presentation Crits

M10/29 Penultimate Design Reviews

W10/31 Penultimate Design Reviews

F 11/2 Studio Work Session

M11/5 Penultimate Design Reviews

W11/7 Studio Work Session/Presentation Crits

TH11/8 NPU-G Executive Committee Meeting (6.30 – Location TBA)

F 11/9 Studio Work Session – Final Project Presentations

M11/12 Studio Work Session - Final Project Presentations

W11/14 Studio Work Session - Final Project Presentations

F 11/16 Studio Work Session - Final Project Presentations

Sat 11/17 SoA Studio Final Review

Post-Review Seminars – Re-Cap and Research Conclusions

Final NPU-G Presentations - TBA