SITE AND ENVIRONMENTAL SYSTEMS PLANNING
CULTURE, NATURE, and [RESILIENT] URBANISM

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SCHEDULE: Tuesday and Thursday 2 pm -7 pm | Rm 10-485

COURSE DESCRIPTION

Site Planning is the process of analyzing and understanding the cultural, natural, and morphological characteristics of a place and translating this comprehensive profile into meaningful design and development proposals. It is an inherently iterative process that involves shifting between regional, city, district, and localized scales in order to appropriately respond to the various environmental, economic, political, and social forces at play.

In recent years we have witnessed rapid environmental changes and an increasing frequency and severity of natural disasters impacting densely populated areas, as evident by Super Storm Sandy in the coastal northeast. At the same time, many US cities have also experienced a renewed interest in urban living, signaling a trend away from the profligate suburban model which dominated most of the second half of the 20th century and resulted in 75% percent of contemporary development, to a greater cosmopolitanism. “Archaic zoning ordinances are being thoroughly overhauled to permit higher density, mixed-use development, especially near new transit stations. New flats and town-houses are attracting young professionals, empty nesters, single-parent families, and elders, people who historically have had limited housing choices in suburban areas are projected to comprise 85% of new US households population in the next quarter century.”

Considering the significant cultural shift to preferences for urban living together with the ever-increasing natural and environmental challenges of 21st century, designers and planners will be required to envision bold new strategies for resilient urban and suburban retrofit.

The subject of this studio is to explore strategies for the resilient retrofit of the Nassau County communities of the Massapequas on South Shore Long Island in the aftermath of Super Storm Sandy. We will focus on the area directly southeast of Levittown as a prototype for rethinking the existing organizational patterns of a densely developed suburban community that will continue to experience the destructive impacts of nature, into a community that is more economically, socially and environmentally resilient. Building on extensive area studies, including the ongoing New York Rising area plan for the Massapequas coordinated by New York State with Arup and Sasaki Associates, the studio will develop urban design proposals that purposefully negotiate between the need for visionary and large-scale solutions, and the more pragmatic demands related to local stakeholder concerns. Proposals will require students to

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contemplate the viability of a homogenous morphology, the relationship of development to water, and the unmet potential that the Long Island Rail Road presents by a less than one hour commute to Penn Station.

The goal of the course is for students to gain an understanding of and experience in applying the methods and strategies for housing and economic development, physical and cultural infrastructures, and flood responsive landscapes. Cultural and natural systems will be analyzed and interwoven in an effort to creatively explore new forms of urbanity that increase resiliency in suburban coastal communities. Within a research and analysis framework, students will assemble and apply an urban design and resiliency toolkit that responds to the impacts of Super Storm Sandy, anticipates future storm events, and aims to achieve long-term economic and social sustainability by more flexibly responding to the diverse demands of the region as a whole.

COURSE STRUCTURE
The course will be organized in two phases:

**Phase I: Resiliency Research | 5 Studies**

For the first five-weeks, students will conduct resiliency research and analysis, illustrating the circumstances leading up to Super Storm Sandy, assessing post-Sandy conditions, and identifying opportunities for resilient retrofit. The objective of the first phase is to create a comprehensive analytical profile for the Massapequas at three scales: the mega-region (New York City and Long Island), the town (Massapequa communities) and the district (centers, edges and intra-community connections).

Students will work in pairs and will focus on one theme per week:

1. Mapping Massapequa(s)
2. Staking Claim
3. Visualizing Vulnerabilities
4. Identifying Opportunities
5. Building Case Studies

**Phase II: Urban Design Proposals**

Continuing to work in pairs and drawing from the Phase One analysis, students will develop physical district scale design proposals. They will work within one of three contexts (centers, edges or intra-community connections) and explore design approaches to resilient retrofit by taking one of three theoretical urban design attitudes:

- **ReNew-ed Urbanism**
- **Landscape Urbanism**
- **Tactical Urbanism**

All proposals must: (1) respond to short-term community needs, and (2) provide a long-term resiliency vision. Emphasis will be on planning and design thinking that negotiates between regional strategies and local interventions that respond to community needs.

The work of the studio will be collaboratively composed into a publication by the end of the semester.

**COURSE OBJECTIVES**
The course objectives consist of mastering several concepts in order to:

- Learn a process for land evaluation
- Understand spatial and temporal relationships between individual site factors and local and regional contexts
- Identify basic relationships between natural and cultural processes and how they influence site planning decisions
- Learn and apply a variety of methods for “reading” sites through research and analysis
- Learn important technical skills needed in the site planning process
- Evaluate and critique alternative site development proposals
- Practice techniques commonly utilized by planning and design professionals
- Develop team and interdisciplinary skills
CRITERIA FOR EVALUATION

10% Class Involvement (comprised of attendance and discussions)*
10% Sketchbook
30% Phase I: Resiliency Research and Analysis | 5 Studies
50% Phase II: Urban Design Proposals

*Attendance is mandatory for classes. Any known absence must be arranged with the instructors or teaching assistant in advance and work is expected to be turned in on time or per alternate arrangements.

COMPUTER GRAPHICS

This course will cover the fundamentals of programs that are commonly used in the industry. Since teaching computer graphics is not the main objective of the course, students are expected to invest their personal time to continuously improve their skills. Below is a list of programs that will be used during the semester:

- Adobe Illustrator, InDesign and Photoshop
- ArcMap GIS
- Autocad
- Sketchup *
- Rhino (subject to coordination with DUSP Viz Tutorials)

*Note that the stellar class site contains some free online tutorials for these applications. Many of these programs are provided for free or at a discount by the institution and its partners. Please see the CRON website (http://crn.mit.edu/p.lasso?t=8:5:0) for additional information.

MATERIALS

Readings and other auxiliary resources will be distributed in class. They will be updated weekly and can be downloaded from the class website: http://stellar.mit.edu/S/course/11/sp14/11.304J/
## SITE AND ENVIRONMENTAL SYSTEMS PLANNING

### Schedule

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<th>Study</th>
<th>WK</th>
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<th>Thurs</th>
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<td>Introduction to the Course</td>
<td>Desk Crits</td>
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<td>Desk Crits</td>
<td>Pin-up of Study 1</td>
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<td>Pin-up of Study 2 and Studio Publication Charrette</td>
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<td>Pin-up of Study 3</td>
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<td>Desk Crits</td>
<td>Pin-up of Study 4 and Indesign Tutorial</td>
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<td>Desk Crits</td>
<td>Review of Phase I (5 Studies)</td>
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<td>Potential Trip to Long Island</td>
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### Urban Design Proposals

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<td>18-Mar</td>
<td>Urban Design Proposals</td>
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<td>Landscape Workshop: Constructing Contour Models</td>
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<td>Pin-up of 3 Concepts</td>
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<td>22-Apr</td>
<td>Patriots Day--No Classes</td>
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<td>8-May</td>
<td>Final Review</td>
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RESOURCES

SITE


HISTORICAL CONTEXT

Chap. 13: The New Suburban Expansion and the American Dream (pp. 240-261)

Chap. 14: Reserving Homes and Promoting Change (pp. 262-281)


Essay 14-2: Mahler, Sarah, “American Dreaming: Immigrant Life on the Margins” (pp. 433-438)

THEORETICAL APPROACHES

*Krieger, Alex, “Where Does Urban Design Happen?”*


Corner, James, “Terra Fluxus”

Waldheim, Charles, “Landscape as Urbanism”


MAPPING AND DATA
Fry, Ben. *Visualizing Data: Exploring and Explaining Data with the Processing Environment*


DISASTER PLANNING


DESIGN
*On the Water: Palisade Bay (HC)*. By Guy Nordenson, Catherine Seavitt, and Adam Yarinsk