ARCH 3450: Modeling and Design Communication
2011 Summer Session One | Northeastern University | School of Architecture
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Course Overview
This course will expand students' representation and visual communication abilities by introducing a variety of graphic techniques that emphasize visual analysis and narrative. Course content will draw examples from the fields of architecture, graphic design and information design in order to equip students with representational techniques that can enrich their analytical thinking and communication skills.

Over the course of six weeks, the instructors will introduce principles of visual analysis and graphic excellence through lectures and reading assignments. Students will draw on these techniques to tackle one graphic representation exercise per week. The content for the exercises will focus on the Rose Kennedy Greenway in Downtown Boston and the process of the transformation of Boston’s downtown infrastructure over the past century.

The techniques covered in this course build on traditional architectural representation methods such as plan, section, elevation, axonometric and perspective; and explore advanced methods for representation. It is expected that students have a strong facility with these drawing types and understanding of their deployment. Students are required to have a strong working knowledge of Adobe Illustrator, InDesign, Photoshop and at least one 3-D modeling and rendering software (i.e. Sketchup, Rhino, ArchiCAD, Kerkythea, V-Ray, etc.). The focus of this course is on the principles of graphic representation and design communication. Course content will emphasize the theory and design methodologies of representation, not software tutorials.

Class time will be devoted to lectures, work sessions and pin-ups.

Evaluation

Attendance
Class will meet on Tuesdays and Thursdays from 8am to 11:30am. Class attendance and completion of all assignments are mandatory. 4 unexcused absences will constitute an automatic failure, 3 will result in a full letter grade penalty for the course, and 2 may result in a partial grade deduction. Class sessions should be used for coursework; unproductive use of class time will result in a recorded absence.

Grading
In accordance with Northeastern School of Architecture grading policy, grades will be distributed according to the scale found online:
http://www.architecture.neu.edu/student_resources/grading_policy/lecture_course/

Assignment grade breakdown is as follows:
15% Exercise 1
15% Exercise 2
15% Exercise 3
15% Exercise 4
15% Exercise 5
15% Final Project (revisions and synthesis of Exercises 1-5)
10% Readings, effort, attendance and class participation
Narrative Outline of Classes

Note: Lectures will generally be given at the end of class on Thursdays for the following week’s exercise.

0. Course Introduction and Site

Lecture: Course Introduction and Sketchbook techniques.

Site Assignment: Sketches, Documentation and Experiential Map

Each student is required to visit and walk the length of the Greenway in preparation for the exercises throughout the semester. During the visit, take photographs, and create at least 10 pages of high quality sketches in your sketchbooks documenting the area. Sketches should include a range of details including plans, sections, elevations, textures, views, etc. Explore at least three scales of relationships through drawing: from the urban, to the block, to the intimate human scale.

Format for 11x17: Using the digital tools at your disposal, create an experiential map of a pathway through the Greenway. This should represent your personal subjective experience; however it is important that this experience be communicable to others and not overly hermetic. Include the various events, experiences, and types of urban spaces related to your walk in the park. Photography may be integrated via digital collage into the map.

Reading:
Worpole, The Bankside Urban Forest Proposal (50-53)

May 10 (Tue): Site Visit
May 12 (Thu): Pin-up Site Sketches, Documentation, and (1) 11x17 map

1. Representation and Mapping Basics: Base Map

Lecture: Urban Overview and Best Practices for typography, color, lineweights, legibility and relationships between text and image.

Lecture: Subjective/Objective Mapping.

Exercise 1:
Students will implement the techniques and concepts introduced in the lecture as well as the readings to create a dynamic base map: an axonometric or annotated aerial photo of the Rose Kennedy Greenway and its context. The drawing must be to scale and include the entire length of the Greenway. Include a north arrow and graphic scale.

Drawing should be in 11x17 format. Pay careful attention to line weight and quality, labeling, color, legibility, narrative, and typeface (selection, spacing and color). Write a 1-page statement describing your approach and the techniques you used to achieve your goals.

Reading Assignments:
Lupton, Thinking with Type (13-37, 80-85)
Tufte, Color and Information, in Envisioning Information (81-95)

May 17 (Tue): Desk Crits
May 19 (Thu): Pin-up Exercise 1
2. Data Maps

**Lecture**: Diagrams that use space and environment as the primary organizing principle.

**Exercise 2**: Students will use one of the techniques introduced in the lecture to create an informational map of the area in and around the Greenway. Define the specific data filters to work with, for example: traffic flows, light and shadows, environmental conditions, programmatic shifts, infrastructure, etc. Discuss these filters with your instructor for clarity of intent. The diagram type can be a plan, axon or hybrid.

Drawing should be in 11x17 format. Pay careful attention to line weight and quality, labeling, color, legibility, narrative, and typeface (selection, spacing and color). Write a 1-page statement describing your approach and the techniques you used to achieve your goals.

**Reading Assignments**:  

May 24 (Tue): Desk Crits  
May 26 (Thu): Pin-up Exercise 2

3. Perspective and Narrative

**Lecture**: Survey of Sectional and Perspectival Representation Techniques (with an emphasis on narrative and meaning).

**Exercise 3**: Students will use the combination of section and perspective techniques introduced in the lecture to create a perspective illustration describing the relationship between human activity/use and the spatial character of the Greenway. Students must identify a specific theme, story or characteristic associated with the space and clearly articulate it in the illustration (generic architectural perspectives are not acceptable).

Drawing should be in 11x17 format. Pay careful attention to line weight and quality, labeling, color, legibility, narrative, and typeface (selection, spacing and color). Write a 1-page statement describing your approach and the techniques you used to achieve your goals.

**Reading Assignments**:  
Allen, *Practice: Architecture, Technique and Representation* (1-17)  
Lewis, Tsurmaki, Lewis, *Opportunistic Architecture* (6, 168-176)

May 31 (Tue): Desk Crits  
June 02 (Thu): Pin-up Exercise 3
4. Time Series: Space, Sequence and Experience

**Lecture:** Diagrams that integrate time and space to describe spatial sequence and human experience.

**Exercise 4:**
Students will use one of the techniques introduced in the lecture to create a diagram or storyboard describing the experiential sequence through the Greenway. The diagram type can be a storyboard, hybrid diagram-storyboard or 30-second animation/film.

Drawing should be in 11x17 format. Pay careful attention to line weight and quality, labeling, color, legibility, narrative, and typeface (selection, spacing and color). Write a 1-page statement describing your approach and the techniques you used to achieve your goals.

**Reading Assignments:**
Bosselman, *Representation of Places: Reality and Realism in City Design* (49-61)
Sarkis, *Le Corbusier's "Rule of Movement" at the Carpenter Center* (114-125)

June 07 (Tue): Desk Crits
June 09 (Thu): Pin-up Exercise 4

5. Time Series: Change and Evolution

**Lecture:** Diagrams that use time as the primary organizing principle to describe changing spaces, buildings and environmental conditions.

**Exercise 5:**
This will be group work. Students will use one of the techniques introduced in the lecture to create diagram(s) describing the development history and potential Future of the Central Artery, Big Dig and Greenway. Themes that should be explored include the evolution of the topography, urban morphology, infrastructural changes, etc. The diagram type can be based on an exploded axonometric or series of plans (small multiples) interactive website, or animation (30-60 seconds).

Drawing should be in 11x17 format. Pay careful attention to line weight and quality, labeling, color, legibility, narrative, and typeface (selection, spacing and color). Write a 1-page statement describing your approach and the techniques you used to achieve your goals.

**Readings:**
Tufte, Narrative of Space and Time, in *Envisioning Information* (97-119)
Czerniak, in *Assemblage No 34*, “Challenging the Pictorial: recent Landscape Practice” (110-120)
Allen, *Practice: Architecture, Technique and Representation* (31-45)

June 14 (Tue): Desk Crits
June 16 (Thu): Pin-up Exercise 5

6. Final Project

Revise all of the previous exercises as separate drawings based on criticism; re-submit in 11x17 format. As a separate approach, also synthesize the exercises into one large format presentation that tells a coherent narrative about your site. Assign hierarchies to the information from the previous exercises.

June 21 (Tue): Desk Crits
June 23 (Thu): Final Review
**Course Policies and Procedures**

**Sketchbook**
Students are required to make sketches, and take visual notes during in-class lectures. Note-taking on the computer is not permitted.

**Texts**
Required: *Thinking With Type* by Ellen Lupton (available in NU Bookstore)
http://www.papress.com/thinkingwithtype/
http://www.thinkingwithtype.com/

There are two texts that are highly recommended for this course and that will serve as reference books as you continue in the architecture program:

*The Visual Display of Quantitative Information* by Edward Tufte  
*Envisioning Information* by Edward Tufte

These are available at most local bookstores or online book sellers such as amazon.com.

**Resources**
The student is responsible for completing each assignment in a timely manner and is also responsible for the output of the work and the costs involved. The instructors will rely on e-mail as a form of communication with the class. Important information about class events, assignment hand-ins, and general queries will be handled in this manner. As such, the student is required to check their e-mail accounts at least once a day for such information.

In addition to course readings, it is an essential part of this course that students become familiar with several on-line sources for information on both computer-aided design and architecture. Obviously, the internet provides many directories and resources that can both inform and answer questions in times of need. It also a source of incredible misinformation and a select few sites have been vetted and are listed below for your use.

**In-class Work Sessions**
Instant Messaging (IM) during class time will not be tolerated, nor will viewing any kind of media that falls outside the content of the class. This time spent in class is intensive and should be spent on class assignments. If the instructor observes any IM sessions, or the like, in class, the student will initially be warned, any further reprimand will result in a grade deduction for that particular assignment. In order to facilitate this, each session will be instructed to disable their wireless connection to the NUWave system 15 minutes into class, or after an introductory lecture.

**Software**
If students do not already have them, they are responsible for purchasing the Adobe Creative Suite and a 3D modeling program of their choice.

**Digital Storage**
Any information that you create on the computer is susceptible to erasure. It is therefore in the students best interest to invest in at least two methods of backup. Northeastern's MyFiles offers 2 GB for this use. In addition, the purchase of a USB flash drive for the storage of digital files, and transfer to the printers is recommended. Image files can be large, so the more storage space on the drive, the better. Pantone offer monogramming on the drive for easy identification.
It is also advisable to keep a backup copy of your files on a CD or DVD. Loss of information relating to a project due to lack of backup will not be considered an acceptable excuse.

**Printing**
For each assignment, you will be required to submit both paper and digital files. This course relies on a number of output options for final hand-in, but also as an ongoing requirement during the assignments. The student is responsible for the printing of your work and the costs involved. The following are the available options for printing:

Inkjet Printers: Small inkjet printers are a good option for day-to-day prints. Sharing the cost of a printer with fellow classmates can be a cost-effective solution to output.

School of Architecture: There are two 11 x 17 color laser in the Ruggles Studio. You may use them yourselves on a first come, first serve basis.

Off-Campus Printing: There are multiple off-campus printing services that will plot PDF files, such as Copy Cop, Gnomon Copy, Kinko’s and BFS Printers. Many times these chain-service centers are open 24-hours a day, however in most cases they require a 24-hour period to process the print and are extremely expensive.

**File Naming**
You will be required to submit files along with prints for each assignment. These files should be named as follows: assignment number-lastname.filetype (for example: 01-yourname.pdf). Files named incorrectly will not be accepted.

**Academic Honesty**
Northeastern University is committed to the principles of intellectual honesty and integrity. All members of the Northeastern community are expected to maintain complete honesty in all academic work, presenting only that which is their own work in tests and assignments. If you have any questions regarding proper attribution of the work of others, contact your professor prior to submitting work for evaluation.

**Flickr Upload: How to submit your work**
You are required to submit digital files along with prints for each assignment. These files should be named as follows: assignment number-lastname.filetype (for example: 01-yourname.jpg).

Digital files must be uploaded to your flickr account and submitted to this course's flickr group.

**Files that are emailed to the instructors will not be accepted.**
Click [here](http://www.flickr.com) to setup a free flickr account.
**Additional Resources**

Maps, data and digital models of the City of Boston:

The Boston Atlas
http://www.mapjunction.com/bra/

Digital Models
http://www.bostonredevelopmentauthority.org/BRA_3D_Models/Index.html

Pictograms:
AIGA Symbol Signs
http://www.aiga.org/content.cfm/symbol-signs

National Park Service Map Symbols
http://www.nps.gov/hfc/cartography/map-symbols.htm

Color Resources:
Kuler
http://kuler.adobe.com/

COLOURlovers
http://www.colourlovers.com/

Color Brewer
http://www.personal.psu.edu/cab38/ColorBrewer/ColorBrewer_intro.html

Other References:
Ellen Lupton-Thinking With Type
http://www.papress.com/other/thinkingwithtype/index.htm

The Work of Edward Tufte
http://www.edwardtufte.com/tufte/