Industrialized Housing Delivery Ecologies: Modular
Associate Professor Ivan Rupnik, PhD

The Focus
This studio will focus on the potential role of the architect as an innovator in the modular housing industry. In spite of the continued industrialization of building over the last century, architectural design practice and its concomitant pedagogy has either retained a preindustrial view of building as a custom, one-off mode of production, or has proposed methods of fabrication which have little connection with the contemporary construction industry. Through a better understanding of the modular housing industry, and how the architect can be an integrator of this industry into current modes of housing delivery, this studio will seek to dispel persistent myths of the “factory-built home.”

Professional Partners
Drawing on the knowledge of a leading manufacturer, Simplex Homes, as well as two architects with extensive experience with this novel housing delivery system, Joseph Tanney, AIA, founding partner of Res 4 Arch, and Gordon Stott, founder of Connect Homes, this studio will examine the limits and potentials of the modular housing industry, clarifying the role of the architect, as integrator and innovator. These partners will provide a unique, insider perspective on the modular housing industry. Through experience with dozens of projects fabricated in facilities throughout the United States over the last decade, Tanney has a deep knowledge of the industry that is reflected in his unique design methodology for his “Modern Modular.” His personal experience, his connections with these fabricators, his firm’s extensive archive of modular projects, and his continued correspondence with end users will provide crucial source material for this research. Stott has chosen to control more of the fabrication process by developing a patented alternative to the standard modules currently used in the industry, and by leveraging the unique industrial ecologies of Los Angeles and the shipping container industry.

Fall Semester
Students will identify (1), the current and potential roles for the architect in industrialized housing delivery, (2), the current distribution of the modular industry in North America by mapping fabrication facilities, (3), the respective markets, the infrastructure and resources that support industrialized production, and (4), the relationships with the modular housing industry and the architectural profession. Students will also interview industrialized housing manufacturers, analyze their project archives, tour their fabrication and construction sites, and critically reconstruct and reassess the process with which they have developed their professional practice in relation to the modular industry. Through this research and with the assistance of the non-faculty practitioners, a smaller group of manufacturing facilities will be selected for a more in-depth study.

Spring Semester
During the Spring 2017 semester, this core group of students will utilize their research to develop design projects that project the current state of the modular industry into new typologies, such as multi-unit housing and new contexts, including Europe and Africa.
Master of Architecture Graduate Research + Design Studios
Fall 2016 - Spring 2017

Makerspaces: Design in the Age of Ubiquitous Maker Facilities
Teaching Professor Michael Smith

“It gives you a sense that we are at the dawn of something big [...] analogous to where we were with the Internet 25-30 years ago. In the same way that we were at that time reorganizing how we could use data and information, we are now at a point where we are going to be able to reorganize how we think about making things.”

- President Barack Obama declaring a ‘National Day of Making’

The Focus
The focus this studio will be speculation on the potential for new architectural paradigms shaped by our understanding and critique of makerspaces. A new world of mass-produced products, aided by extraordinary developments in digital technology, has enabled individuals with no formal design training to create and distribute items that are both customizable and unique. The cultural reorganization about how we make things has been termed the Maker Movement.

What does the Maker Movement’s rapid expansion mean for the future of design and design training? Based on novel research content, this studio will unpack the phenomenon of the Maker Movement; generating new knowledge while speculating on the impact the movement may have for new architectural paradigms.

Fall Semester
The fall semester will be devoted to an in-depth design research process to create a conceptual foundation for the year’s work. To aid in the research process, the studio will immerse itself in Boston’s new Autodesk Building Innovation Learning and Design Space (BUILD). Here, students will be exposed to fundamental technologies in the Maker Movement: CNC milling, 3D printing, and laser cutting. We will also visit and document several other prominent makerspaces in the Northeast, attend the October 2016 World Maker Faire in NYC, and invite guest speakers from the industry to motivate and challenge students’ working proposals. This studio will establish individual and detailed research agendas through weekly readings, critical writing, and advanced visual representations of collected and critiqued data.

Spring Semester
The spring semester will be devoted entirely to the design manifestation of students’ intellectual project. This might formalize in the proposal for the design of a new makerspace, the redesign of an existing makerspace, innovation in design education, or original conceptions of makerspaces’ organization, social impact and cultural relevance. Our main focus will be speculation on the potential for new architectural paradigms shaped by our understanding and critique of makerspaces.
Master of Architecture Graduate Research + Design Studios
Fall 2016 - Spring 2017

District Halls: Catalysts for Reviving Neighborhood Centers
Associate Professor Tim Love

The Focus
This studio will generate a programmatic and architectural toolkit for underperforming “Main Streets” in Boston. The toolkit will include a new kind of mixed-use public building tied to other consolidated community amenities, such as post office branches, farmers’ markets, Hubway stations, bus stops, and playgrounds. In addition, the studio will research co-working spaces, maker spaces, and fitness centers for potential program ideas and business models.

The Background
Boston is comprised of diverse neighborhoods defined by relatively consistent housing stock, generally agreed-upon borders, and one or more “Main Streets.” These commercial corridors are a part of the mental map of each neighborhood and provide essential neighborhood services, including banks, convenience stores, a Dunkin Donuts and/or Starbucks (depending on the neighborhood), and take out restaurants. Some also include a post office, branch library, and other public and civic functions. These streets vary in health, from lively Centre Street in Jamaica Plain and Harvard Street in Allston to less successful commercial streets in Mattapan, Dorchester, and Roxbury.

Deep Dive Analysis
The studio will start with the identification and analysis of Boston’s main streets with an emphasis on their programmatic make-up (retail, public/civic institutions, and social services), physical characteristics, and connections to transit. The class will do field research that will include intercept surveys and video documentaries as well as meet with retail experts to understand the market and potential strategies. After fully understanding the interrelationship between the components of a main street, the class will develop a main street “scorecard” that will be shared with nonprofit leaders and city officials. At the same time, the class will look at precedent for potential program components as well as historical examples of facilities with similar civic and social aspirations.

Deliverables
The result of the main street analysis and precedent study will be a research book that points in the direction of a new kind of 21st Century neighborhood center. The fall research studio will be carefully structured so that the analysis can provide the relevant background maps, data, and conceptual arguments to fuel individual comprehensive design proposals in the spring.
Master of Architecture Graduate Research + Design Studios
Fall 2016 - Spring 2017

Master of Architecture Directed Independent Research + Design Projects Guidelines
Associate Professor Peter Wiederspahn

Design Research
M.Arch I, II and III students who will be entering the culminating year of the Master of Architecture [M.Arch] program may submit proposals to conduct an individual, 2-semester directed research + design studio project for ARCH 7130 + ARCH 7140. There will be a competitive selection process by the School of Architecture faculty that will produce a 2-semester design studio section of not less than 10 and not more than 12 students to be directed by a design studio instructor.

Design research combines the rigor of an analytical process from hypothesis to design synthesis with a creative process of intuitive, iterative and non-linear design innovation and invention. The ultimate goal of any academic research is to generate new knowledge in the discipline. The goal of the M.Arch Independent Research + Design Studio project is to generate new architectural paradigms based on novel research content.

Studio Structure
The M.Arch Independent Research + Design Studio will be similar in structure to the other ARCH 7130 + ARCH 7140 studio options in that the first semester will be devoted to an in-depth design research process to create the conceptual foundation of your year’s work, and the second semester will be devoted to the design manifestation of your intellectual project.

Submissions
The M.Arch Independent Research + Design Studio project proposals must include the following items:

1. Student’s name
2. Project title
3. Project image
4. Project thesis abstract [100 words max]
5. Overall project description [500 words max]
6. List of overall project goals [200 words max]
7. List of overall project pedagogical goals [200 words max]
8. Fall semester design research content description [200 words max]
9. Fall semester design research methodology description [200 words max]
10. Bibliography [list of at least 6 book and article titles, author, journal title if applicable, date of publication, publisher]

Eligibility and Deadlines
Eligible students include M.Arch I, II and III students who have officially committed to enter the culminating M.ARCH year. Proposals must be in a PDF format, and are due by 5pm on April 1 of the academic year prior to the culminating M.Arch year. The faculty will announce the 10 to 12 projects that have been selected for the M.Arch Independent Research + Design Studio on April 20.