

# ARCHITECTURE (ARCH)

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## ARCH 500

### Global Modernism

During the last one hundred years a number of cultural, economic, and social changes have moved architectural discourse and practice into a global network. This survey course focuses on the rise of new educational, financial, geo-political, professional, and technological scenarios that transformed architecture and urbanism from the end of World War One to the present. Canonical buildings and sites are discussed within the context of global modernism.

**Lecture: 3 Lab: 0 Credits: 3**

## ARCH 501

### Contemporary Architecture

This course investigates the state of contemporary architecture as represented by significant practices, buildings, theories, and criticisms. Themes to be considered include globalization, the role of digital design media, the ethics and aesthetics of sustainability, contemporary urbanism, new approaches to materials and structure, and recent interests in ornament and pattern-making. Current conditions will be related historically to postwar reactions to modernism and contextually to the social and technological shifts of recent decades. With a focus on primary readings and building documentation, the course places an emphasis on the great complexity of social, political, intellectual, and technological forces affecting design. Critical reading and writing skills will be emphasized.

**Prerequisite(s):** ARCH 500 with min. grade of C

**Lecture: 3 Lab: 0 Credits: 3**

## ARCH 502

### Advanced Topics in History and Theory I

Intended to build on the knowledge and abilities gained in the foundational architectural history and theory courses. This seminar focuses on advanced topics in history, theory, and criticism. Students select from varying and diverse topics such as urbanism, sustainability, design methodology, aesthetics, ethics and law, history of technology, and architecture in relation to other arts. Seminar may also offer intense focus on particular architects, periods, regions, or movements. Critical reading and writing skills will be emphasized. In addition, the advanced seminar will teach research skills, will expect the students to formulate and pursue original research topics, and will expect oral presentations of these projects. These abilities will be evaluated through in-class presentations and research papers.

**Lecture: 3 Lab: 0 Credits: 3**

## ARCH 503

### Advanced Topics in History and Theory II

Intended to build on the knowledge and abilities gained in the foundational architectural history and theory courses. This seminar focuses on advanced topics in history, theory, and criticism. Students select from varying and diverse topics such as urbanism, sustainability, design methodology, aesthetics, ethics and law, history of technology, and architecture in relation to other arts. Seminar may also offer intense focus on particular architects, periods, regions, or movements. Critical reading and writing skills will be emphasized. In addition, the advanced seminar will teach research skills, will expect the students to formulate and pursue original research topics, and will expect oral presentations of these projects. These abilities will be evaluated through in-class presentations and research papers.

**Lecture: 3 Lab: 0 Credits: 3**

## ARCH 505

### Urban Ecology

Students will develop a sensitivity to the environment in which architecture is created. Emphasis will be placed on an in-depth exposure to the integration of natural features of site, sustainable components of both natural and man-made systems, and the synergy of ecological design.

**Prerequisite(s):** ARCH 506 with min. grade of C and ARCH 542 with min. grade of C and ARCH 541 with min. grade of C and ARCH 507 with min. grade of C

**Lecture: 3 Lab: 0 Credits: 3**

## ARCH 506

### Design Communications I: Units and Order

A comparative study of physical and digital media from the immediacy of the hand to the logical rigor of algorithmic design. Organizational systems and mapping strategies explored as craft is developed across a broad toolkit. Instruction in object-oriented thinking begins an introduction to computer science.

**Lecture: 1 Lab: 2 Credits: 3**

## ARCH 507

### Design Communications II: Systems and Assemblages

The full design communication process, from contextual and programmatic analysis to the digital fabrication of a system of parts, will be introduced through a series of related studies. Computationally associative design methodologies will be utilized and continue the computer science introduction.

**Prerequisite(s):** ARCH 506 with min. grade of C

**Lecture: 1 Lab: 2 Credits: 3**

## ARCH 508

### Design Communications III

Introduction to geospatial mapping, data modeling, and data visualization processes for research, analytics, and generative design. Basic data structures, algorithms, and design patterns advance students ability to construct digital tools and communicate complexity.

**Prerequisite(s):** ARCH 506 with min. grade of C

**Lecture: 1 Lab: 2 Credits: 3**

**ARCH 509****Topics in Advanced Technology**

This research seminar examines advances in the technologies that affect the practice of architecture. The course examines leading technologies, processes, and applications, and their role in building design and production. The course will navigate the broad and varied materials related to advanced technologies in architecture by focusing on specific applications for specific projects. Students may select between varying and diverse topics offered by the faculty that may include building envelopes, architectural materials, building and environmental systems, advanced structural design, energy and sustainability, architectural acoustics and lighting, fabrication, and computer-aided design technologies.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 513****Environment and Building Systems I**

Selection and design of building support systems: heating, ventilating, air conditioning, water supply, sanitary and storm drainage, power distribution, lighting, communications, and vertical transportation. Systems are analyzed for their effect on building form, construction cost, and operating efficiency.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 514****Environment and Building Systems II**

Selection and design of building support systems: heating, ventilating, air conditioning, water supply, sanitary and storm drainage, power distribution, lighting, communications, and vertical transportation. Systems are analyzed for their effect on building form, construction cost, and operating efficiency.

**Prerequisite(s):** ARCH 513 with min. grade of C

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 520****Introduction to Urbanism**

An immersion in the history, discourse, and culture of cities in the modern era with an emphasis on Chicago and a focus on the needs and influences surrounding urban growth, development, and culture. Readings, lectures, case studies, film screenings, field trips, and discussions will provide a basic set of conceptual and theoretical resources for understanding the origins and development of cities. This course will develop a context for understanding the role of design in shaping the urban environment.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 541****Architecture Studio I: Elements**

The design studio focuses on the tools, techniques, methods, and methodologies of architectural design. The studio investigates the articulation of space, tectonic assembly, and human behavior as critical foundations of the making of the built environment. The studio focuses on developing core drawing, making, thinking, and communication skills via a series of discrete projects that aggregate into a comprehensive body of work. Analytical investigation of the techniques and methods of architectural design and representation are interwoven with an analytical investigation of site, place, inhabitation, and elemental spatial archetypes. The studio is largely comprised of two primary projects (Composite City and Inhabited Archetypes), with specific internal phases and deliverables, structured to operate as a complementary whole. Composite City comprises a series of studies in drawing, modeling and making that dissect the layers, components and phenomena of the built environment, via questions of narrative, memory, space, tectonics, systems and compositions. Inhabited Archetypes comprises a series of spatial explorations that employ the preceding analyses as sites of operation. Four archetypes (bridge, tower, wall, stair) prompt fundamental questions of architectural space (tectonics and inhabitation) and design processes. Working iteratively and comparatively, each archetype will be a medium to investigate issues of structure, skin, thickness, thinness, material, assembly, inhabitation and narrative. The semester culminates with the process of assembling student portfolios.

**Lecture: 0 Lab: 12 Credits: 6**

**ARCH 542****Architecture Studio II: Architecture in the City**

The second semester of the Master of Architecture focuses on the development of the fundamental aspects of form, space, structure, and materiality explored through the design of a small neighborhood library, which is an essential building-block of the city. The design-based investigation focuses on the study of spatial organization, public space, user experiences and basic tectonic principles, as well as examining the arrangement of and relations between the parts and elements of the urban environment. Through a series of assignments, students are guided step by step through the design process. The first part of the semester focuses on understanding the project's context through the careful investigation of current issues, historical and contemporary precedents, and an in-depth analysis and documentation of a particular site within a specific neighborhood in Chicago. This process is followed by forecasting, conceptual framing, and schematic explorations, and culminates with the strategic development and conceptual detailing of a building and its environs. Design projects are developed individually with the support of team research. A strong emphasis is placed on craft, making, the communication of ideas, and documentation of process. The semester culminates by assembling student portfolios of design work.

**Prerequisite(s):** ARCH 541 with min. grade of C

**Lecture: 0 Lab: 12 Credits: 6**

**ARCH 543****Architecture Studio III: Living in the City**

The design studio focuses on the design and structural engineering of high-volume residential buildings, or "housing." The design of housing in cities such as Chicago is a story of bold experimentation and innovation, but also contradictions and controversy. Chicago has been at the forefront of developing new types of public and private housing and design strategies to improve and maintain public health since the city's founding in the mid 19th century. Students are exposed to a variety of housing and hybrid buildings, and undertake research projects in select cities around the world to compare and contrast a variety of issues such as: density, dwelling unit types, mixed use programming, materiality, development models, cultural norms, and relationships between functionality and luxury. The studio is structured around three primary assignments beginning with research and drawing assignments of housing types in Chicago, followed by analyses of dense, urban housing projects in global cities, to the final design project. The studio's principle concern is giving form, shape, and character to collectively inhabited high-rise buildings, and to the streets and public spaces that surround them. Several lectures, presentations and field trips throughout the semester highlight discernable and meaningful connections between people and places, movement and morphology, natural resources and the artificial fabric of the city. A particular focus is on place-making, environmental stewardship, social equity, and economic vitality of urban neighborhoods. The studio operates as a laboratory in which to explore new possibilities for urban living in Chicago, specifically within a selected neighborhood and project site.

**Prerequisite(s):** ARCH 542 with min. grade of C

**Lecture: 0 Lab: 12 Credits: 6**

**ARCH 544****Architecture Studio IV: Working in the City**

The design studio focuses on the design of urban industrial architecture. Industrial buildings house large number of workers operating complex, high-tech machinery and equipment. Industrial buildings have gradually become a vital part of the architecture of the 21st century. Thanks to the constant advancement of non-polluting micro-technologies, industrial buildings are emerging in the center of service-oriented cities around the globe. The first part of the semester focuses on understanding the typology of industrial buildings through the careful investigation of current workplace issues, historical and contemporary precedents, and an in-depth analysis and documentation of a particular site within a specific neighborhood in the city of Chicago. The second part of the studio focuses on aesthetic qualities of industrial architecture, and design issues related to: building facades and layered skins; proportioning and division of large volumes of enclosed space; harmony of structural and internal spatial elements; orderly placement of people, machinery and equipment; and, systematic arrangement of logistical operations to and from the project site. Emphasis is placed on the environmental sustainability of the building design approach and execution. Special attention is given to material/spatial efficiency, mechanical system selection and envelope design. Students are encouraged to evaluate and provide proof-of-concept data for decisions pertaining to energy use and efficiency, recycling and the reuse of natural resources.

**Prerequisite(s):** ARCH 543 with min. grade of C

**Lecture: 0 Lab: 12 Credits: 6**

**ARCH 545****Architecture Studio V: Advanced**

Advanced Studios engage both IIT architecture faculty and a select group of visiting studio professors noted for their outstanding professional experience in contemporary practice. The focus of each studio is strong design experimentation that is implemented in highly resolved, complex architectural design projects. Studios work on sites within Chicago, explore urban areas around the globe, and/or focus on hypothetical or technological challenges that shape the built environment. Students design structural and material systems that recognize issues of ecology as well as the broader, integrated concerns of climate, energy and natural resource use, and sustainability. Uniting the diverse strands of urban place making, economic diversity, social equity and environmental stewardship, Advanced Studios promote the design of places that reflect the values of their inhabitants, and create a lasting sense of community with meaningful identity. The studios are formed in thematic clusters that complement each other or serve as dialectical opposites. Each studio explores a variety of techniques from parametric design, digital fabrication, model making, and advanced geospatial software to cultural and theoretical explorations. Students will be able to select from a variety of studio topics. The vertical studio integrates advanced BArch, MArch, MS, and PHD students. Open only to Architecture majors.

**Prerequisite(s):** ARCH 544 with min. grade of C

**Lecture: 0 Lab: 12 Credits: 6**

**ARCH 546****Architecture Studio VI: Advanced**

The aim of the design studio is to develop formal solutions which address the complexities of modern metropolis and advance disciplinary knowledge at large. The Advanced Studio program provides the intellectual climate as well as material infrastructure to explore the larger forces that influence the growth of cities. In the contemporary world, developing alternative models of design are necessary to make a transformative impact on the built environment. Design work in Advanced Studios at IIT directly engages real-life challenges and design-based solutions. As they seek to synthesize and impart principles and knowledge, to advance aesthetic and analytical skills, and to creatively expand upon given cultural norms, the Advanced Studios offer students the means to leverage their intuitions and insights to find better ways to enhance the built environment. The studios are formed in thematic clusters that complement each other or serve as dialectical opposites. Each studio explores a variety of techniques from parametric design, digital fabrication, model making, and advanced geospatial software to cultural and theoretical explorations. The vertical studio integrates advanced BArch, MArch, MS, and PHD students. Open only to Architecture majors.

**Prerequisite(s):** ARCH 545 with min. grade of C

**Lecture: 0 Lab: 12 Credits: 6**

**ARCH 551****Design of Energy-Efficient Buildings I**

Design criteria for achieving human performance goals in energy-efficient buildings, criteria for the exterior/interior environment, and criteria for architectural, mechanical, electrical and building system components. Building upon the fall course, various energy-conserving strategies shall be evaluated for achieving cost effective, energy-efficient design of a specific building type.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 552**

**Design of Energy-Efficient Buildings II**

Design criteria for achieving human performance goals in energy-efficient buildings, criteria for the exterior/interior environment, and criteria for architectural, mechanical, electrical and building system components. Building upon the fall course, various energy-conserving strategies shall be evaluated for achieving cost effective, energy-efficient design of a specific building type.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 553**

**High-Rise Building Technology I**

The course consists of presentations by specialists in the various technologies of high rise buildings including planning, financing, code reinforcement, materials, architecture, engineering, project management, construction, building management services, safety, and maintenance.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 554**

**High-Rise Building Technology II**

The course consists of presentations by specialists in the various technologies of high rise buildings including planning, financing, code reinforcement, materials, architecture, engineering, project management, construction, building management services, safety, and maintenance.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 560**

**Integrated Building Delivery Practice/BIM**

Architecture has always been a complex interdisciplinary business, where the management of allied professions and industry affiliates is critical to the success of any endeavor of significant scale. The introduction of BIM (Building Information Modeling) is an advance in project delivery tools which should be viewed as a multi-dimensional expansion of the mechanisms of management and accommodation of an ever-broadening range of participants in the organization of a project, allowing the development of a new delivery protocol, IBPD (Integrated Building Project Delivery). BIM is currently recognized as consolidating the basis for a range of functions including drawing, modeling, document management, clash detection, interdisciplinary coordination, estimating, scheduling, constructability review, production modularization, fabrication protocols, and for the analysis of myriad physical and proscriptive demands such as energy consumption, daylighting, code compliance, egress, circulation, and operation scenarios. The breadth of information embedded in a BIM model will require the emergence of facilitating professionals to an extent previously unknown in the practice and the industry. This course explores the state of the profession and the anticipated ramifications.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 561**

**Entrepreneurship and Innovation in Architecture**

The course teaches future architects the practical aspects of entrepreneurial small business management, to develop a comprehensive opportunity assessment and to develop the skills necessary to improve the odds of success. The course will consider strategies to leverage limited resources for maximum effect. The course will also cover small organization and group behavior, performance, leadership, and motivation in small business settings and will focus on the owner/manager as the principal success factor in the context of a small organization. Emphasis is placed on the circumstances and opportunities of the professional practice of architecture: practice as profession, process, organization, business, and evolving models of practice are covered. The course also provides a series of concepts, frameworks, and heuristics that enable the entrepreneur to anticipate and deal with the challenges that accompany growth of an existing business. Cases, exercises, lectures, and speakers are used to focus on choosing opportunities, allocating resources, motivating employees, and maintaining control while not stifling innovation. A key component of the course is how to sustain entrepreneurial thinking in mid-sized ventures as they continue to grow.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 562**

**Planning Law and Land Policy**

Since the introduction of basic zoning laws to the numbers and complexity of ordinances attached to any land parcel have proliferated to include those addressing land use, development, density, environmental concerns both on and off site, aesthetic mandates, energy use, quality of life concerns, and infrastructure development, the growing understanding that comprehensive and integrated systems must be managed across property lines to effect sustainable planning and communities will accelerate the number of prescriptive and policy ordinances enforced at the development of a parcel. Many agencies have further created extra-legal linkages between approvals for land development and the provision of social and ideological benefits to the community. The impact on the profession of architecture of the panoply of planning options and governmental goals is the result that the navigation of the system of mandated design determinates is one of the initial and potentially most creative acts in the process of project delivery. Project designers must understand the ramifications and trade-offs inherent in the system, especially in any attempt to achieve the best use of any parcel of land and position the most appropriate built environment.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 563****Introduction to Real Estate Finance Fundamentals**

The Art of the Deal, with the emphasis on Art, is a term best positioning the financial structuring behind any project. The ability of the project team leader in integrated practice to understand and appreciate the motivations and opportunities inherent in the initiation of the project will be essential in guiding team decisions and maintaining a leadership position. The understanding of the financial underpinnings of a project is of paramount importance to those intending to actually engage the process of initiating and effecting a construction activity. The sources, costs, and sequence of funding, budgeting, cash flow, incentives options, and tax ramifications regarding a project are to be addressed as component knowledge to an understanding of integrated project management.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 564****Comprehensive Opportunity Assessment and Entrepreneurship Development Project/Practicum**

Two options are available to the student for the acquisition and assimilation of the breadth of knowledge required to bring project ideas to fruition. The Comprehensive Development Project is a capstone effort which will demonstrate project concept, planning resolution, land acquisition strategies, estimating, scheduling, financial pro-forma, and value capture intents. The practicum would entail employment at a vetted office engaged in the actual process of project assembly. A position requiring a minimum of 20 hours per week, prior review and approval of the work plan, and submittal of documentation of the work undertaken would be required for this scenario. The ultimate objective is to provide a roadmap of the interaction between the architect-entrepreneur, market opportunities, and integrated building delivery practices which facilitate the development of student skills necessary to compete in a rapidly changing socio-economic environment. This course is designed to help students learn and use tools and frameworks to create, implement, and update a strategic plan to shape the future and guide an entrepreneurial organization on its path to success.

This course will entail collaboration with real world organizations including city agencies, community development corporations, IIT Department of Community Affairs, or private developers.

**Lecture: 6 Lab: 0 Credits: 6**

**ARCH 565****Construction and Project Management**

The organization of deliverables from the multiple participants in a project plan, including estimating, quality control, value engineering, scheduling of work, conflict resolution, pay schedules, and project close-out and commissioning are essential to managing a building project. Many of these areas of endeavor are those most directly impacted by the developments addressed in Integrated Building Delivery Practice. This course will solidify the underpinnings and will amplify, where needed, the requisite understanding in these areas of the practice. The development of managerial skills requisite to the practice of this coordination and the basis of developing inter-professional relationships will be stressed throughout the incorporation of the technical methodologies.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 566****Entrepreneurial Design: Sector Studies/Case Studies**

This course will be advanced as an independent study format.

Each student will work independently to research a project option, or building type, and document the particular attributes of that case study which require specialized address. Case studies might be a particular business niche, such as land sub-divisions, condo conversions, change of use conversions, or build-to-suit options. The studies might pursue particular building types, social initiatives, historic restoration strategies, or even unique construction typologies.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 568****Architectural Practice**

Lectures and practical problems dealing with specifications, specification writing, administration of construction, contracts, building law, and professional practice.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 569****Good Design and Good Business**

From our very own experience, architects with ambitious design agendas have a tendency to focus on design at the expense of paying attention to and designing their businesses. Awareness of a more integrated and balanced approach is essential for young architects as they navigate a rapidly changing world and will help them develop tools and skills to implement, at varying scales, their ideas of a better metropolis. Specifically, the seminar will touch upon such topics as decision making, communication and presentation skills, multidisciplinary collaboration, persuasion and negotiation, and professional advocacy. Pedagogically, the seminar will consist of lectures, case studies, readings, and practice assignments.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 570****Talking TALL I**

Talking TALL I will fully examine the physical, environmental, and social sustainability implications of tall buildings at human, architectural, and urban scales in order to offer students extensive and in-depth knowledge and resources to investigate tall buildings and future cities. The aspects of TALL buildings covered in this course include their design principles, technologies, appropriateness to context, energy consumption, life-cycle considerations, natural ventilation, vertical greenery, facades, new typologies, and more. The aspects of TALL cities covered include an analysis of vertical urbanism vs. suburban sprawl, transportation and infrastructure implications, quality of life for residents in tall urban environments, etc., – all ultimately with a view to a discourse on what should constitute a holistic vision of "sustainable vertical urbanism."

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 571****Talking TALL II**

Talking TALL II will fully examine the physical, environmental, and social sustainability implications of tall buildings at human, architectural, and urban scales in order to offer students extensive and in-depth knowledge and resources to investigate tall buildings and future cities. The aspects of TALL buildings covered in this course include their design principles, technologies, appropriateness to context, energy consumption, life-cycle considerations, natural ventilation, vertical greenery, facades, new typologies, and more. The aspects of TALL cities covered include an analysis of vertical urbanism vs. suburban sprawl, transportation and infrastructure implications, quality of life for residents in tall urban environments, etc., – all ultimately with a view to a discourse on what should constitute a holistic vision of "sustainable vertical urbanism." While Talking TALL I focuses mostly at the urban scale, Talking TALL II focuses more on the detailed building/technological scale.

**Prerequisite(s):** ARCH 570

**Lecture:** 3 **Lab:** 0 **Credits:** 3

**ARCH 572****Tall Building Technologies I**

This course aims to provide students with an understanding of the technologies that enable tall buildings and dense future cities, especially cutting-edge current and emerging technologies. The technologies examined will embrace both the building and urban (infrastructure) scales. Sub-topics include; Building Automation Control Systems; Building Maintenance; Construction; Energy Conservation and Generation, Environmental Engineering; Environmental Protection; Façade Engineering & Systems; Fire & Life Safety Engineering; Geo-technical / Foundations; MEP Engineering; Project and Property Management; Security; Seismic Engineering; Structural Engineering; Transportation; Urban Infrastructure; Vertical Transportation; Wind Engineering.

**Lecture:** 3 **Lab:** 0 **Credits:** 3

**ARCH 573****Tall Building Technologies II**

This course aims to provide students with an understanding of the technologies that enable tall buildings and dense future cities, especially cutting-edge current and emerging technologies. The course continues the investigation initiated in ARCH 572: Tall Building Technologies I. The technologies examined will embrace both the building and urban (infrastructure) scales. Sub-topics include; Building Automation Control Systems; Building Maintenance; Construction; Energy Conservation and Generation, Environmental Engineering; Environmental Protection; Façade Engineering & Systems; Fire & Life Safety Engineering; Geo-technical / Foundations; MEP Engineering; Project Management; Property Management; Security; Seismic Engineering; Structural Engineering; Transportation; Urban Infrastructure; Vertical Transportation; Wind Engineering.

**Prerequisite(s):** ARCH 572 with min. grade of C

**Lecture:** 3 **Lab:** 0 **Credits:** 3

**ARCH 590****Specialized Research**

The Master of Science program seeks to be synthetic and interdisciplinary in its approach. Specialized research is designed to demonstrate an intellectual objective for an in-depth study that will contribute to the practice of architecture. The seminar is focused on the general development of the research problem, its structure, and objectives. Specialized research leads toward the final acceptance of the Masters Project that may take the form of a written document of publishable quality, or an exhibition and accompanying catalog. (Credit: Variable)

**Credit:** Variable

**ARCH 591****Research and Thesis M.S.**

Marking the transition between the academic and professional worlds, the thesis work is an opportunity for each student to define an individual position with regard to a specific aspect of architectural practice. It is intended that the thesis project investigates architectural and urban designs as formal and theoretical elaborations of the design-based research as well as the collective outcome of socio-political forces analyzed during thesis research.

**Credit:** Variable

**ARCH 592****Master Project**

The Masters Project is the synthesis of architectural study into an independent project. The Project most commonly embraces either the design of a tall building, or in-depth research about a specific aspect of tall buildings or cities. Students work one-on-one with their supervisor on the project and outputs might include traditional forms such as a design project or written thesis, but also non-traditional forms such as a website, video or exhibition. The area of focus for the Masters project is often an extension of a previous study undertaken through other classes.

**Credit:** Variable

**ARCH 595****Research in Progress Forum**

Research in Progress Forum presents students with opportunities (lectures and reading discussions) to engage with other researchers in the fields of architectural history/theory and technologies of the built environment. Students will be required to produce weekly writing assignments based on publications provided ahead of time by guest speakers. Must be taken four times by PhD students to fulfill course credit requirements.

**Lecture:** 1 **Lab:** 0 **Credits:** 1

**ARCH 597****Special Problems**

**Credit:** Variable

**ARCH 600****Continuance of Residence**

**Lecture:** 0 **Lab:** 1 **Credits:** 1

**ARCH 601****Research Methodologies**

This course provides a foundation for advanced students in the diversity of research paradigms in architecture. The first component is an introduction to philosophy of knowledge with an emphasis on architecture. The second component entails a critical review and evaluation of diverse research methodologies in current architectural research. It is intended to provide substantial information on advanced research methodologies. In this course students will write a series of papers that critically review the course readings and discussions.

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 602****Crafting a Dissertation**

This course provides a context in which doctoral students can formulate their dissertation proposals. Through reading and discussion of model research projects and methodological studies, students will examine the challenges and potentials of locating a dissertation topic, shaping a hypothesis, selecting methods and interpretive frameworks, conducting research, and articulating a compelling argument. The course addresses both pragmatic and intellectual aspects of research. A primary goal is the writing of a draft dissertation proposal as the basis for the Ph.D. comprehensive exam. The course will follow a seminar format requiring significant reading, writing, and class participation.

**Prerequisite(s):** ARCH 601 with min. grade of C

**Lecture: 3 Lab: 0 Credits: 3**

**ARCH 691****Doctoral Research**

**Credit:** Variable

**ARCH 801****Introduction to Architecture: Graduate Architectural Studio****Preparatory**

The emphasis of the course is on the fluid integration of manual and digital modes of representation into a cohesive process – a skill set essential for navigating the architectural studio. Concepts and techniques covered will be the foundational skills of the architect; the various modes of freehand drawing, imaging, descriptive and analytic orthographic projection, and architectural model-making.

**Lecture: 0 Lab: 0 Credits: 0**

**ARCH 999****Architecture Elective(s)**

**Credit:** Variable