Architecture (M.ARCH.)

About The Program:

The Master of Architecture (M.Arch.) program is a first professional degree that prepares students for the practice of architecture through a rigorous course of study that engages students with urgent urban, architectural, and environmental issues. The program is structured to enable students to learn theories and methodologies of architectural design as well as to understand the social, economic, political, and technological forces that shape the built environment.

The Architecture Department offers three tracks for the M.Arch.: a 1-year, 2-year, or 3-year program depending on a student's educational background upon entry to the degree

- The 1-year track is a +1 accelerated undergraduate-graduate program that enables qualified and eligible students to complete the 60-credit M.Arch. degree within a year after graduation with the Bachelor of Science in Architecture pre-professional degree.
- The 2-year track is a 60-credit degree program for students who earn Temple University's Bachelor of Science in Architecture (B.S.Arch.) degree and for students from other four-year pre-professional degree programs with equivalent course content, nationally and internationally.
- The 3-year track provides a curriculum of up to 90 credits for students with a degree in subjects outside of architecture or without a pre-professional degree in architecture.

Career Options: The Master of Architecture is an accredited professional degree program that prepares students for a career as a professional architect. Because this is an urban program located centrally in Philadelphia, engagement with the local professional community is a primary characteristic of the program. During their time in the program, students are provided with many opportunities to engage with members of the profession through design critiques and mentorship initiatives.

Prerequisites for Admission: Pre-professional degree in architecture or equivalent

Affiliation(s): In the United States, most state architecture registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The M.Arch. degree is accredited by the National Architectural Accrediting Board (NAAB) and, as such, meets the educational requirements for architectural registration. All students in the Architecture Department are eligible to enroll in the Architectural Experience Program (AXP), a key step toward licensure in most states within the United States, offered by the National Council of Architectural Registration Boards (NCARB).

Requirements of Programs:

- **Total Credit Hours**: 60
- **Culminating Events**:
  Design Studio Project:
  In the Intensive Design Track, students are required to take up to 18 credits of design studio and 6 credits of representation courses. Placement is assessed at the time of application and is based on the student's portfolio and transcript.

In the Professional Track, students are required to complete four design studios or three design studios and a thesis.

Design Thesis:
Students can undertake an independent design thesis. This option is a two-term, two-course sequence: <u>Directed Research</u> in the Fall, and <u>Arch Design Thesis</u> in the Spring. The result is a pre-design position paper and design project analysis, culminating in a design thesis project presentation and written/graphic documentation of the work.

Required Courses (Professional Track)

Year 1:

Fall

Str Des For Architects 1 - Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in steel and wood of simple buildings. Flexural theory including elastic and plastic design is taught. Students will be familiarized with current building design codes as they relate to the structural design of building elements.

Env Control Systems 1 – This course discusses the thermal and environmental processes that affect buildings and develops techniques for designers to respond to and manipulate thermal environments in ways that are integral with other building systems. Mechanical, electrical, and plumbing systems, heating, ventilation, and air-conditioning (HVAC) equipment, vertical transportation, communication, security, and fire protection systems and introduced. These are discussed against a backdrop of the principles of sustainability and environmental responsibility.

Adv Arch Des Studio 1 – Design studio to familiarize students with current urban design strategies and their historical precedents. Students will engage in generative analysis of urban systems, economies, structures, infrastructures, spaces and / or cultures, involving observation and data collection, visualization, program development and its spatio / temporal resolution and visualization. The studio may involve collaboration with aligned fields or disciplines e.g. landscape architecture, media studies, geography and urban studies, community and regional planning and / or outside agencies or groups. Peer critique and evaluation are utilized as learning techniques.

Arch Research Seminar 3 – Graduate level seminar to familiarize and engage students in contemporary research in an area of architectural technology, its history, networks, strategies and techniques. The topic of the seminar varies in accordance with faculty expertise and research focus. This might include, though not be limited to materials research, energy research, structural research, fabrication, computational technologies, etc. The course will examine the history of the field, develop methods and skills for research and analysis and techniques for data visualization and research presentation. The course takes a seminar format and requires active participation in class discussions. The course is required to be taken once, but may be taken again for elective credit provided that the topic covered is different each time.

Str Des for Architects 2 – Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in concrete and masonry of simple buildings. Students will be familiarized with current building design codes as they relate to the structural design of building elements.

Elect Arch Des Studio – Advanced architectural design studio. The topic of the studio varies in accordance with faculty expertise and research focus. This might include, but not be limited to an area of architectural, spatial, social, cultural or political practice, an interdisciplinary intersection such as architecture + biology / geology / war / the media / gender or business; research into materials, energy, structure, scripting, fabrication or other computational technologies. The course develops observational techniques and data collection, management and visualization appropriate to the topic of the studio. It requires spatio / temporal / material development, resolution and representation of an architectural design strategy at appropriate scales. Collaboration with aligned fields or disciplines may be undertaken if it is appropriate to the topic of the studio. Peer critique and evaluation are utilized as learning techniques and the capacity for independent work is developed. The course must be taken once, but may be taken up to three times for required credits as long as the topic covered is substantially different each time.

Arch Research Seminar 2 – Graduate level seminar to familiarize and engage students in an area of contemporary architectural research, its history, networks, strategies, techniques. The topic of the seminar varies in accordance with faculty expertise and research focus. This might include, though not be limited to, questions about research as architectural practice, about architectural design as research, about architectural history, about architecture as spatial or political practice, or engage in any one of the interdisciplinary intersections currently re-energizing architecture - architecture + biology / war / media studies / post-colonial studies / gender studies / business etc. The course will develop methods and skills for architectural research and analysis and techniques for data visualization and research presentation. The course takes a seminar format and requires active participation in class discussions. The course is required to be taken once, but may be taken again for elective credit provided that the topic covered is different each time.

Year 2:

Fall

Comp Arch Design Studio – Comprehensive design studio: the integration of structural and environmental systems, programming, tectonics and detailing into architectural design and expression in holistic and environmentally sustainable ways; comprehensive representation of design; development of time management skills, peer critique and self evaluation; interaction with consultants.

Arch Research Seminar 1 – Graduate level research seminar to familiarize and engage students in an area of contemporary urban research, its history, networks, strategies and techniques. It will develop methods and skills for the research and analysis of urban systems, economies, structures, infrastructures, spaces and / or cultures and techniques to visualize data and present research findings.

The topic of the seminar varies in accordance with faculty expertise and research focus and might include, but not be limited to, approaches to sustainable urban development, ludic urban design strategies, advocacy based urbanism, user generated cities, computational urbanism, etc. The course takes a seminar format and requires active participation in class discussions. The course is required to be taken once in conjunction with ARCH 8011, but may be taken again for elective credit provided that the topic covered is different each time.

Env Control Systems 2 – This course covers visual and audio environmental stimuli and architectural design responses to them. In addition, it discusses and introduces techniques for measuring the design of building systems for improved environmental performance, in terms of the efficiency of systems, environmental impact and capital and operational costs.

Directed Research (OR ARCH Elective) – The development of a self motivated architectural design inquiry under the guidance of a faculty co-coordinator. This includes design research, the development of a design program, site investigation, analytical and speculative design investigations and / or experimentation with advanced visualization techniques. The course is seminar based and engages students in critical dialogue with their own and other students' work. It prepares students for undertaking an architectural design thesis the following semester.

Spring

Elect Arch Des Studio – Advanced architectural design studio. The topic of the studio varies in accordance with faculty expertise and research focus. This might include, but not be limited to an area of architectural, spatial, social, cultural or political practice, an interdisciplinary intersection such as architecture + biology / geology / war / the media / gender or business; research into materials, energy, structure, scripting, fabrication or other computational technologies. The course develops observational techniques and data collection, management and visualization appropriate to the topic of the studio. It requires spatio / temporal / material development, resolution and representation of an architectural design strategy at appropriate scales. Collaboration with aligned fields or disciplines may be undertaken if it is appropriate to the topic of the studio. Peer critique and evaluation are utilized as learning techniques and the capacity for independent work is developed. The course must be taken once, but may be taken up to three times for required credits as long as the topic covered is substantially different each time.

Professional Practice – The course is required for internship in the architectural profession. It exposes students to the history, development and current status of the architectural profession and professional education and develops understandings of the trends and dynamics of contemporary architectural practice. It discusses what is required to properly serve clients and the common good; how to pursue, win, negotiate and prepare agreements and contracts; how to organize, manage, design, control costs, produce and administer contracts for the construction of architectural projects and how to organize, build and maintain architectural firms.

ARCH Elective

Free Elective

Required Courses (Intensive Design Track)

Graduate Representation Intensive 1 – This course focuses on the development of visual literacy, graphic techniques, and 3D formal exploration. Through projects supported by research, graphically-based exercises, and formal investigations, students will be exposed to the process of representation in architecture. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Graduate Representation Intensive 2 – This course focuses on the development of visual literacy, graphical techniques, and 3D formal exploration. Through projects supported by research, graphically-based exercises, and formal investigations, students will be exposed to the process of representation in architecture. Methods of 2D and 3D analog and digital representation will be addressed. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Graduate Design Foundation Intensive – Students in this course will develop rigorous design thinking through making and the integration of material, craft, tectonic and visual practice. Development of the design crit plus methods of communicating design objectives. Scale: artifact, body and spatial envelope. Development of individual portfolio of design and graphic work as required for the M Arch degree.

Graduate Design Studio 1 – The house as essential site of architecture. Consideration of relationships between program, culture, society and form making at a domestic scale; consideration of structure, space, shelter and place making; methods of construction, tectonics and detailing as design concerns; introduction to precedent study as research technique. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Graduate Design Studio 2 – Studio with environmental sustainability focus - energy and resource use, hydrology, sustainable materials, infrastructure and building methods, recycling, environmental performance and quality; emphasis on systems and details (very large and very small); development of techniques for environmental analysis (observation, data analysis etc.); development of ecological and environmentally responsive design proposals; program development; introduction to design collaboration. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Materials and Methods of Construction – Introduction to construction materials, fundamentals of building construction, methods of assembling building systems in an integrated manner, and costing. Introduces specific regulatory issues dealing with zoning regulations, building codes, and barrier-free access requirements within the context of contemporary building techniques. Methods of construction in wood, masonry, concrete, and steel are described in detail and issues of enclosure, roofing, insulation, and finishes are presented. The course carries technical drawing requirements. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Structural Analysis for Architects – This course covers loadings determination and evaluation, resolution and equilibrium of force systems, truss analysis, centroids, moments of inertia, shear and

bending moment diagrams, basic beam, column, and system design. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Architectural History 1 – Ancient through Renaissance – Traces the history of Western architecture from the ancient world to the high renaissance and mannerism of the late 16th century. The evolution of architectural thought, various formal languages (styles) and theoretical concepts are studied through the examination of selected buildings within their specific political, social, economic, and cultural milieu. Emphasis on the analysis of the ancient temple and the Christian church. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Architectural History 2 – Renaissance through 20th Century – Traces the history of Western architecture from the 17th century through the 20th century. The evolution of architectural thought, various languages (styles) and theoretical concepts studied through the examination of selected buildings within their specific political, social, economic, and cultural milieu. Analysis of the significant buildings of the baroque and rococo, the neo-classic and the romantic, modernist, and post-modernism periods. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Movements in Modern Architecture – History and theories of the architecture and urbanism of the modern period, from the beginning of the 19th century until the 1960's. Key ideas, texts and iconic buildings from the USA, Europe and other sites of the modernist diaspora are discussed. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Seminar in Architectural Theory – Theories of architecture and urbanism during the modern and contemporary periods; participation in critical theoretical discussions and the development of a research paper in response to critical feedback. The course serves to lay the ground for the theoretical development of thesis ideas. Development of individual portfolio of design work, a requirement for graduate students in architecture.

Courses:

Click HERE for more information on the courses below.

- Graduate Representation Intensive 1
- Graduate Representation Intensive 2
- Facilities for Health Workshop 1
- Facilities for Health Workshop 2
- Facilities for the Arts Workshop 1
- Facilities for the Arts Workshop 2
- Facilities Workshop 1
- Facilities Workshop 2
- Project Planning and Programming
- Health Facilities Practice and Management
- Graduate Design Foundation Intensive
- Form and Function in Health and Environments
- Current Topics in Health Facilities Planning and Design
- Current Topics in Healthy Communities and Design
- Current Topics in Resilience and Design
- Current Topics in Energy and Performance
- Current Topics in Fabrication and Making
- Current Topics in Visualization
- Current Topics in Materials and Design
- Architectural History 1: Ancient through Renaissance
- Architectural History 2: Renaissance through 20th Century
- Materials and Methods of Construction
- Graduate Design Studio 1
- Graduate Design Studio 2
- Structural Analysis for Architects
- Str Des for Architects 1
- Str Des for Architects 2
- Movements in Modern Architecture
- Env Control Systems 1
- Seminar in Architectural Theory
- Spec Top Sem in Practice
- Adv Arch Des Studio 1
- Elect Arch Des Studio
- Comp Arch Design Studio
- Architectural Design for Health
- Urban Ecologies and Design
- Advanced Technologies and Design
- Professional Practice
- Spec Top Case St in Arch
- Arch Research Seminar 1
- Arch Research Seminar 2
- Arch Research Seminar 3
- Architecture Research Seminar 4 - Urban Innovations: Technology, Environment and Health in Society
- Graduate Field Work Report
- Arch Des St Tokyo (G)
- Arch Des Studio Rome (G)
- Seminar: Analysis Urb Str (G)
- Urban Seminar Tokyo (G)
- Env Control Systems 2.
- Independent Study in Architecture
- Special Topics in Communication
- Architecture Internship
- Special Topics in History or Culture
- Special Topics in Technology
- Special Topics in Site and Context
- Independent Research
- Directed Research
- Arch Design Thesis