

College of Architecture

S.R. Crown Hall
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Rob Jones, B.Arch

**Director, Doctor of Philosophy (Ph.D.)
in Architecture Program:**

Mahjoub Elnimeiri, Ph.D.

**Director of Thesis and Master of Architecture
Post-Professional Degree Program (Program 1):**

David Sharpe

Director of Master of Architecture

Professional Degree Program (Program 2 and 3):
TBD

Mission

The College of Architecture's graduate degree programs emphasize investigations in architectural design and technology, while expanding the significance of such investigations through rigorous, critical thought. The College draws strength from its Mies van der Rohe heritage, its key position in the legacy of Modernism, its location in Chicago, and its connections to progressive practitioners and emerging global architectural practices. Our students, faculty and alumni are intellectually serious, professional and international.

Architectural education at IIT offers unique combinations, intertwining design and technology to produce

advanced architecture. Our commitment includes the needs of our South Side Chicago neighborhood, our city and its inhabitants. Our perspective is inclusive of architecture's allied disciplines and committed to the highest quality in our students' professional preparation. Our mission relies on certain guiding values: design excellence, technical expertise, advanced professional practice, and respect for the architect in society today as an ethical, thoughtful and informed producer not only of buildings, but also of all visual and physical environments. The College of Architecture is a force for quality built environments and society's advancement through a humane use of technology, materials, space and form.

Curriculum

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accreditation Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes two types of degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a six-year, three-year or two-year term of accreditation, depending on its degree of conformance with established educational standards.

Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

In the professional degree, the Master of Architecture (Program 3 or Program 2), our tenets operate throughout the architectural studio curriculum from the beginning to

the most advanced stages of architectural production. At every level of studio instruction, the architecture faculty emphasizes the unique integration of building technology studies and design. Supplementary core coursework gives a basis in visual studies, structures, building systems, professional practices, planning and architectural history theory. Related elective courses and a diverse lecture series center on specific topics, such as advanced construction technology, sustainable design, urbanism, computer applications, and architectural concepts of the 20th and 21st centuries and their intersection with modern culture.

The post-professional degree program, also named a Master of Architecture (Program 1), emphasizes extended research in architectural topics, allowing students who already possess the Bachelor of Architecture degree to develop further their special expertise. Thesis projects done at IIT have made major theoretical contributions to contemporary architecture and global practice, while other projects have directly enriched the architectural legacy of Chicago.

Curriculum continued

Our Doctor of Philosophy (Ph.D.) in Architecture program, requiring at least three years of study beyond the M.Arch., advances knowledge through highly specific architectural research and doctoral dissertations. Recent areas of study include high-rise and long-span buildings, energy-conscious design, emerging urbanisms, housing and advanced computer applications.

The College of Architecture at IIT has much to offer in providing students a rich and challenging academic atmosphere, while preparing them to meet their professional responsibilities. Situated in Mies van der Rohe's masterpiece, S.R. Crown Hall, amid the seminal campus of 20th-century architecture, graduate study offers a powerful connection every day to the best values in archi-

ture and to some of the most diverse and interesting students anywhere. From the perspective of the emergent 21st century, the history of 20th-century American architecture is visible in Chicago and its surrounding suburbs. With many significant buildings by Frank Lloyd Wright, Daniel H. Burnham and other internationally significant architects, the city takes great pride in this heritage, which offers incomparable opportunities for study. Chicago also offers numerous avenues to gain valuable professional experience during the summer months in leading architectural firms. The College of Architecture has a long, established tradition of retaining practicing architects and engineers from these firms to participate actively in the graduate programs as faculty, consultants and staff members.

Degrees Offered

Master of Architecture (Professional Degree)
(M. Arch. Program 3)

Master of Architecture (Professional Degree
with Advanced Standing) (M. Arch. Program 2)

Master of Architecture (Post-Professional Degree)
(M. Arch. Program 1)

Master of Landscape Architecture
(Professional Degree M.L.A.)

Doctor of Philosophy in Architecture (Ph.D.)

Research Facilities

The College of Architecture's research materials are housed primarily on the lower level of S.R. Crown Hall with satellite and additional collections available in 3410 S. State and the Metals and Machinery Building. The Graham Resource Center (GRC) is a branch of the Galvin Library that serves the College of Architecture and houses 11,000 books, 52 journals, 40,000 images, maps, on-line electronic resources and architecture-related special collections. The GRC maintains the College of Architecture Archives and assists with administration of the College's Dark Room and a growing Materials collection. The GRC is found on the lower level of S.R. Crown Hall and can be reached via telephone at 312.567.3256, on the web at www.gl.iit.edu/grc, or via e-mail at architecturelibrary@iit.edu.

The Materials Lab is a 4200 square foot facility that includes a complete set of tools and machinery for working with wood, metal and plastic. It includes assembly space and a paint spray booth. Additionally, the College of Architecture has a Universal Laser Cutter, a Bridgeport CNC Mill, and a CNC Router Table for 3D digital modeling projects.

The Multimedia Lab has 34 PCs for use in conjunctions with studio projects and related advanced computer design courses. All computers have advanced AutoCAD, graphics and 3D Modeling applications, as well as standard productivity software. In 2001, Crown Hall was equipped with a wireless network for unlimited access throughout the studios to the Internet. Providing hard-wire access to the internet, individual network ports have been installed at every design studio drawing table, permitting students to work with digital technology alongside their drafting projects. Recent equipment acquisitions include 33 new PCs in the Crown Hall computer lab, a new and fully equipped computer lab for 30 students in the 3410 building, a large format 42-inch scanner, and supporting color laser printers.

With recent increases in enrollment, the College of Architecture has expanded its research, studio, and administrative facilities to two additional buildings adjacent to Crown Hall, 3410 South State St. and the minerals and Metals Building.

Research Areas

Faculty and doctoral candidates conduct research on a wide range of important topics related to the practice of architecture and the construction of significant buildings at all scales. Thesis students investigate projects involving the design, planning and structure of high-rise buildings; the research, planning and design of large-scale projects such as stadiums, airports, convention centers, institutional buildings and commercial facilities; technological applications such as new materials, composites, prefabricated

applications, systems of building enclosure, and other methods of construction; emerging urbanisms, including global practices of architecture and new urban cultures; the influence of climate and environment upon building form, sustainable design and energy efficiency; computer applications such as 3-D modeling, multimedia and graphic image presentations, concepts of animation, and 3-D modeling techniques and approaches; and housing, including high-density, low-density and affordable housing.

College of Architecture

Faculty

Peter Beltemacchi, Associate Professor and Associate Dean. B.S., M.S., Illinois Institute of Technology. Urban design and city and regional planning.

Charles Braucher, Instructor. B.F.A., School of the Art Institute of Chicago; B. Arch., Illinois Institute of Technology. Freehand drawing and architectural design.

Thomas Brock, Assistant Professor. B.Arch. University of Cincinnati; M. Arch., University of Pennsylvania. Architectural design, construction technologies and digital media.

Tim Brown, Studio Associate Professor. B.S.Arch., Clemson University; M.Arch., University of Illinois, Chicago. Architectural design and theory.

Susan Conger-Austin, Assistant Professor. B.A., Stanford University; M.Arch., Princeton University. Architectural design and theory.

Blake Davis, Instructor. B.A., M.A. City and Regional Planning, Illinois Institute of Technology. Sustainable design and building systems, rural planning.

Dirk Denison, Assistant Professor. B.Arch., M.B.A., Illinois Institute of Technology; M.Arch., Harvard University. Architectural design and community design.

John Durbrow, Assistant Professor. B.Arch., B.A. Fine Arts, Rice University. Architectural design, materials and technologies, planning, furniture design.

Mahjoub Elnimeiri, Professor and Director of Ph.D. in Architecture Program. B.S., University of Khartoum; M.S., University of London, Imperial College; Ph.D., Northwestern University. Structural engineering, architectural design theory.

Martin Felsen, Studio Associate Professor. B.Arch., Virginia Polytechnic Institute; M.S., Columbia University. Architectural design and digital technologies.

Frank Flury, Assistant Professor. M.Arch. Diplom, University of Karlsruhe. Architectural design, design and build.

Thomas Gentry, Assistant Professor. B.Arch., University of Arizona; M.Arch., Illinois Institute of Technology. Design and theory, design build, housing, environmental sustainability, building systems.

Isabela Gould, Instructor. B.Arch., Ion Mincu Institute of Architecture; M.S.Arch, University of Cincinnati. Architectural design and theory.

Gerald Horn, Studio Professor. Architectural design, mixed-use development, design analysis.

David Hovey, Associate Professor. B.Arch., M.S.Arch., Illinois Institute of Technology. Architectural design, medium- and high-density housing, design analysis, real estate development.

Chris Karidis, Studio Professor. B.Arch., Illinois Institute of Technology. Architectural design and building technology.

Thomas Kearns, Assistant Professor. B.Arch., Iowa State University. Architectural design and theory, digital technologies.

Randall Kober, Visiting Assistant Professor. B.A., University of Wisconsin, Madison; M.Arch., University of Illinois, Chicago. Architectural design, and theory.

Robert Krawczyk, Assistant Professor. B.Arch., University of Illinois, Chicago. Computer-aided design and advanced digital applications.

Ron Krueck, Studio Professor. B.Arch., Illinois Institute of Technology. Architectural design and theory.

Eva Kultermann, Assistant Professor. B.Arch., University of Arkansas; M.S., Oxford Brookes University. Design and theory, design build, sustainability.

Peter Land, Professor. Dipl. Arch., Architectural Association; M.Arch., Carnegie Institute of Technology; M.C.P., Yale University. Innovative structures, building technologies and materials. Low-energy design; high-density, low-rise housing; urbanism and planning.

Harry Francis Mallgrave, Assistant Professor. B.E.S., M.Arch., University of Detroit; Ph.D., University of Pennsylvania. History and theory of architecture.

Kathleen Nagle, Studio Associate Professor. B.A., Williams College; M.Arch., Harvard University. Architectural design.

Paul Pettigrew, Instructor. B.S.Arch., University of Illinois, Champaign-Urbana; M.Arch., Massachusetts Institute of Technology. Architectural design and theory.

Benjamin R. Riley, Assistant Professor. B. Arch., Illinois Institute of Technology. Architectural design, building technology, visual training.

Donna V. Robertson, Associate Professor and Dean. B.A., Stanford University; M.Arch., University of Virginia. Architectural design and practice. Preservation, case study methodology.

Faculty continued

Peter Roesch, Studio Associate Professor. Ingenieur für Hochbau, Staatsbauschule Coburg (Germany); M.S.Arch., Illinois Institute of Technology. Architectural design, medium- and high-density housing, and urban design.

John Ronan, Assistant Professor. B.S., University of Michigan; M.Arch., Harvard University Graduate School of Design. Architectural design and material investigation.

Mark Schendel, Visiting Assistant Professor. B.S., Florida State University; B.S.Arch., Florida A&M University; M.Arch., Harvard University Graduate School of Design. Architectural design and research.

George Schipporeit, Associate Professor. Building technology and systems, high-rise design, medium- and high-density housing.

David Sharpe, Associate Professor. B.S.Arch., Tuskegee Institute; B.Arch., M.S.Arch., Illinois Institute of Technology. High-rise buildings, long-span structures, urban design, and design analysis.

Arthur Takeuchi, Associate Professor. B.Arch., M.S.Arch., Illinois Institute of Technology. Architectural design, visual training, and building technology.

Catherine Wetzel, Assistant Professor. B.Arch., University of Cincinnati; M.Arch., University of Pennsylvania. Architectural design and practice.

College of Architecture

Admission Requirements for Master of Architecture

Completed application form
Cumulative Undergraduate GPA: minimum 3.0/4.0
Portfolio
Three letters of recommendation
Statement of intent
Official transcripts
GRE scores
TOEFL scores
Application Fee

Requirements for graduate admission vary according to what degrees applicants have previously completed. The Master of Architecture Professional Degree Program (Program 3) requires a bachelor's degree in any discipline. Advanced standing in the M.Arch. Professional Degree Program (Program 2) requires a Bachelor of Science in Architecture or in a closely related field (from a U.S. pre-professional program or an architecture professional degree from an international program). Admission to the M.Arch. Post-Professional Degree Program (Program 1) requires completion in high standing of a professional Bachelor of Architecture degree from a NAAB-accredited U.S. architecture program. All programs require a minimum undergraduate grade point average of 3.0 on a 4.0 scale.

Applicants must submit a portfolio of previous academic or professional work in a portable and professionally acceptable format (approximately 8.5 by 11 inches), three letters of recommendation from individuals able to appraise the applicant's achievement and potential,

a statement of intent describing academic or professional objectives, and GRE scores, which are less than five years old.

International applicants from non-English speaking countries are required to submit TOEFL scores of 550/213/80 (paper-based test score scale/computerized test score scale/internet-based) or above. Admitted international students with TOEFL scores between 550/213/80 and 600/250/100 will be required to take an English proficiency exam upon arrival at IIT; in addition, they may be required to take additional courses to develop their language skills. English language courses required for international students do not apply to program credit hours. Admitted international students must submit an affidavit of financial support confirming adequate funding for their entire term of study. An I-20 cannot be issued unless the financial affidavit is on file with the Office of Graduate Admission.

Although we encourage early submission, completed applications and all supporting documents must be received no later than January 15. Candidates will be accepted only for the fall semester.

For the graduate programs to achieve their objectives, it is necessary to restrict the number of students admitted. Admission to the graduate programs is limited by College requirements. All applicants are considered on a competitive basis, with every effort being made to select outstanding candidates.

Master of Architecture – Professional Degree (Program 3)

The three-year Master of Architecture professional degree program (Program 3) serves those students seeking a consummate professional education. The degree is accredited by the National Architectural Accreditation Board (NAAB) and is a necessary component for licensure in the profession of architecture. The curriculum addresses principles of design concepts, materials, construction, sys-

tems, planning, history and visual judgment, principles that remain fundamental for the development of the creative process. The required core coursework offers foundation knowledge, skills and vocabulary, while upper-level study seeks to instill a broader understanding of architecture by combining theoretical exploration with practical considerations.

Curriculum and Admission Requirements

For holders of a B.A. or B.S. degree who satisfy the prerequisites for admission, the course of study will be three years (six semesters) in length. To be admitted without conditions to the professional degree program, an applicant is required to possess the following: 1) an understanding of basic systems and analytical procedures, including mechanics, heat transfer, light and sound, as demonstrated through the successful completion of a college-level physics course equivalent to IIT's PHYS 211 and PHYS 212; 2) an understanding of basic mathematical principles and analytical procedures, including algebra, geometry and trigonometry, as demonstrated through successful completion of college-level

mathematics equivalent to IIT's MATH 119 and MATH 122; 3) a basic ability to produce freehand drawings of architectural forms and spaces, as demonstrated by the successful completion of one college-level drawing course or by portfolio submissions; and 4) an equivalent of 20 credit hours of liberal arts and humanities courses.

Candidates admitted with deficiencies in any of these prerequisites must fulfill them before matriculation. These prerequisite courses do not apply to program credit hours. Applicants must have a college grade point average of 3.0/4.0.

M.Arch. Program 3 Curriculum**First year**

Fall Semester		Credit Hours	Spring Semester		Credit Hours
ARCH 425	Digital Architectural Media I	3	ARCH 485	Structural Design I	3
ARCH 541	Studio I: Materials & Applications	6	ARCH 542	Studio II: Architecture I	6
ARCH 500	History of Architectural Ideas I	3	ARCH 443	Ecology, Sustainability, Site	3
ARCH 567	Architectural Drawing and Model Making	3	ARCH 501	History of Architectural Ideas II	3
ARCH 431	Visual Training I	2	ARCH 432	Visual Training II	2
Total		17	Total		17

Second year

Fall Semester		Credit Hours	Spring Semester		Credit Hours
ARCH 543	Studio III: Architecture II	6	*ARCH 544	Studio IV: Architecture III	6
ARCH 486	Structural Design II	3	ARCH 503	Advanced Topics in History and Theory II	3
ARCH 502	Advanced Topics in History and Theory I	3	ARCH 404	Building Systems II	3
ARCH 403	Building Systems I	3	ARCH 427	Digital Architectural Media II	3
ARCH 426	Computer-Aided Design in Practice	3	Elective	Architecture related	3
Total		18	Total		18

Third year

Fall Semester		Credit Hours	Spring Semester		Credit Hours
ARCH 545	Studio V: Advanced Architectural Design	6	**ARCH 546	Studio VI: Comprehensive Building Design II	6
CRP 519	City Planning I: Housing and Housing Types	3	CRP 520	City Planning II: Neighborhood and Community Planning	3
ARCH 423	Programming and Technical Writing	3	ARCH 413	Architectural Practice	3
ARCH 509	Topics in Advanced Architecture Technologies	3	Elective	Architecture related	3
Elective	Architecture related	3	Total		15
Total		18	Degree Total		103

A total of 103 credit hours will be required for graduation as established by each student's individual program of study. Some students, with undergraduate degrees in architecture, may be admitted to the program with advanced standing.

There is a wide variety of electives available not only in the College of Architecture, but also in Armour College, Institute of Design, and the Stuart School of Business. If the student has previously taken courses that duplicate curriculum requirements, appropriate electives may be substituted. English language courses required for international students do not apply to program credit hours.

A thesis is not an option for students in this program. Due to the compressed time allowed for comprehensive professional studies, students cannot undertake the extended research required for thesis work. It is only the exceptionally prepared student who might be able to petition successfully to conduct a master's thesis at IIT within the M.Arch. Program 3.

* Advanced Studio Option (Comprehensive Building Design)—ARCH 544

** Advanced Studio Option—ARCH 546

College of Architecture

Master of Architecture – Professional Degree with Advanced Standing (Program 2)

Candidates who hold a B.A. or B.S. in Architecture (a pre-professional degree from an NAAB-recognized school) in a four-plus-two program, and who have completed the equivalent of the first year's technology, history and studio courses, may qualify for up to one year of advanced standing in the professional degree program. Admission to Program 2 may allow the candidate to complete the Master of Architecture degree in as few as two years (four semesters), depending on prior preparation. Candidates will be notified upon admission as to their exact program of study, depending on their prior preparation.

Candidates who hold **professional** degrees from international institutions not accredited by NAAB will be placed in the professional degree program and must complete two or three years of study depending on their previous studies, experience and accomplishments.

Students with advanced standing are required to take the thesis option in their second year of study. The thesis requirements are outlined in the Program 1 description.

M.Arch. Program 2 Sample Curriculum

First year

Fall Semester		Credit Hours	Spring Semester		Credit Hours
ARCH 543	Studio III: Architecture II	6	*ARCH 544	Studio IV: Architecture III	6
ARCH 403	Building Systems I	3	ARCH 404	Building Systems II	3
CRP 519	City Planning I: Housing & Housing Types	3	CRP 520	City Planning II: Neighborhood and Community Planning	3
ARCH 426	Computer-Aided Design in Practice	3	ARCH 503	Advanced Topics in History and Theory II	3
Total		15	Total		15

Second year

Fall Semester		Credit Hours	Spring Semester		Credit Hours
ARCH 591	Thesis	6	ARCH 591	Thesis	6
ARCH 423	Programming & Technical Writing	3	ARCH 413	Architectural Practice	3
ARCH 509	Topics in Advanced Architecture Technologies	3	Elective	Architecture related	3
Elective	Architecture related	3	Elective	Architecture related	3
Total		15	Total		15
Degree Total					60

A total of 60 credit minimum hours will be required for graduation as established by each student's individual program of study. There is a wide variety of electives available not only in the College of Architecture, but also in Armour College, Institute of Design, and Stuart School of Business. If the student has previously taken courses that duplicate curriculum requirements, electives may be substituted. However, the electives should be in the designated area. For example, if a student petitions successfully with the

program director or their adviser to have the building systems course waived, then the student must choose an appropriately similar elective course. English language courses required for international students do not apply to program credit hours.

* Advanced Studio Option (Comprehensive Building Design)—ARCH 544

Master of Architecture – Post-Professional Degree (Program 1)

The one-year program, two or three semesters in duration, typically lasts a full calendar year. The program is open to applicants holding accredited Bachelor of Architecture (B.Arch.) degrees as first professional degrees from NAAB-accredited institutions. Program 1 offers advanced architectural study that builds upon knowledge acquired from the Bachelor of Architecture degree; it combines courses and in-depth research concerning a specific area of concentration. The program pursues a high level of architectural research, analysis

and synthesis through thesis work in design, structures, systems, digital media and other topics. Areas of faculty excellence in the thesis program include: a) high-rise and long-span design; b) environmentally conscious design; c) advanced information systems; d) innovative design methodologies and architecture; e) advanced programming issues in housing, airport design, and other topics; and f) critical and theoretical assessments pertaining to construction and the built environment.

Admission and Curriculum Requirements

In addition to the standard requirements for graduate admission, a personal interview with the director of the degree program is highly recommended.

The program of study includes a minimum of 32 credit hours, of which at least eight are in ARCH 591 (Research and Thesis). Students entering the post-professional degree program should develop a detailed outline of their thesis project for approval by the director of thesis programs and their thesis adviser. The program of study for each student is developed individually with the thesis adviser. Study begins with investigation and analysis for

the thesis under the direction of the adviser. By the second semester, a thesis committee of three faculty members oversees the work being produced. Students are required to take advanced courses related to their specialized areas of interest.

The final semester of study concludes the entire thesis project in writing, analysis, programming and design. Thesis studies should offer the graduate a higher level of professionalism, significantly evolving one's career and the ability to make special contributions to the field.

M.Arch. Program 1 Curriculum

Fall Semester		Credit Hours	Spring Semester		Credit Hours
ARCH 590	Research and Analysis	6	ARCH 591	Research and Thesis	6
ARCH 588	Pre-Thesis Seminar	3	ARCH 589	Thesis Seminar	3
Elective	Architecture related	3	Elective	Architecture related	3
Elective	Architecture related	3	Elective	Architecture related	3
Total		15	Total		15
Summer or Fall		Credit Hours	Degree Total		32
ARCH 591	Research and Thesis	2			
Total		2			

Master of Landscape Architecture

The new three-year Master in Landscape Architecture is intended to educate generations of innovative landscape designers to benefit the profession and a “green” Chicago. The College has had an investment in landscape issues, and their influence on architectural education, ever since the charged partnership of Mies van der Rohe (architect) and Alfred Caldwell (landscape architect), who collaborated on the IIT Architecture curriculum and on Mies’ buildings. Key areas in the curriculum will be shared with the Master of Architecture program.

The underlying principle of the program is to equip students with knowledge of the tools, materials and resources of the field. This includes development of the environmental and visual judgment, taste, and the ability to respond to and interpret contemporary culture. The degree’s coursework centers in the design studios, framed to reintroduce the technique and art of landscape and gardens as serious forces for environmental and human progress. The subjects should have vision, be meaningful and inventive, and address the pressing contemporary problems of the human-made environment.

The program serves the needs of urban habitats, and use our city setting as a laboratory of critical inquiry; landscapes and gardens can offer an antidote to the stress-inducing character of modern urban life, and combat urban pollution, while serving as macro/micro climate modulators. The Prairie School tradition in landscape

architecture is a guiding precedent, with an emphasis on indigenous plant materials and plant configurations inherent to a given context. The history of landscape architecture is comprehensively addressed, along with the history of architecture. Particular attention addresses the History of Modern Thought in landscape architecture, looking at the Modern movement in landscape design.

Emphasis on landscape craft includes serious study of the materials and infrastructures that make design of the land possible. This extends beyond design and construction, into plant maintenance, water conservation and site management. Students will understand the processes behind landscapes, including ecology, botany, geology, structural engineering, physical forces, etc. Landscape technologies are studied in studios intertwining both design and construction, exploring the tools of landscape creation and the role of materials to generate forms. Most importantly, the Landscape program continues the College’s commitment to design excellence, defining the trajectory of Modernism for the 21st century.

To be admitted without conditions to the Master of Landscape Architecture program, an applicant is required to have prior coursework in the following: Freehand Drawing, Biology, Geology. Candidates will be notified upon admission as to their exact program of study, depending on their prior preparation.

Master of Landscape Architecture Program3 Curriculum**First Year**

Fall Semester	Credit Hours	Spring Semester	Credit Hours
ARCH 541 Studio I: Visual & Mat'l Training	6	LA 542 Studio II: Landscape Architecture I: Ecology	6
ARCH 500 History of Architectural Ideas I	3	ARCH 501 History of Architectural Ideas II	3
CRP 465 Ecological Basis of Planning	3	ARCH 485 Structures I: Concepts, Systems	3
LA 441 Plants and Plant Materials: Field Studies	3	ARCH 425 CAD I - Digital Media	3
TOTAL	15	TOTAL	15

Second Year

Fall Semester	Credit Hours	Spring Semester at CBG/Morton	Credit Hours
LA 543 Studio III: Landscape Architecture II: Landscape Biology & Materials Tech.	6	LA 544 Studio IV: Landscape Architecture III: Plants and Plant Materials: Advanced	6
ARCH 502 Advanced Topics in History and Theory I: Landscape Architecture	3	LA 444 Earthworks & Infrastructures	3
LA 443 Forests, Preserves, Parks & Urbanscapes	3	ARCH 503 Advanced Topics in History and Theory II Contemporary Practices	3
ARCH 426 CAD II - 3-D Modeling	3	LA Elective Landscape Related	3
TOTAL	15	TOTAL	15

Third Year

Fall Semester	Credit Hours	Spring Semester	Credit Hours
LA 545 Studio V: Comprehensive Landscape Design	6	LA 546 Studio VI: Spatial Investigations	6
ARCH 423 Programming & Technical Writing	3	CRP 520 City Planning II: Neighborhood & Community Planning	3
LA 445 Topics in Advanced Landscape Technologies and Horticulture	3	LA 414 Professional Practice	3
LA Elective Landscape Related	3	LA Elective Landscape Related	3
TOTAL	15	TOTAL	15

Degree Total **90 Credit Hours**

College of Architecture

Doctor of Philosophy in Architecture

The Doctor of Philosophy in Architecture (Ph.D.) program is for those advanced graduate students who plan to pursue careers in the academic and research fields and/or in the area of advanced professional practice within the domain of architecture. The rigor of study required for the Ph.D. degree extends the discipline of advanced research and design beyond the master degree and is oriented toward professional applications and academic advancement.

The program requires a comprehensive knowledge of architecture, a deep understanding of its accomplishments and developments, and critical inquiry that extends its frontiers.

The program combines course-work and research, culminating in a Ph. D. dissertation of extensive and independent, original investigation which could also lead to a design development. The research in some cases may be an extension of work done in the preparation of a Master of Architecture degree in the College of Architecture. Each student's program of study will include seminars, specialized and elective course-work, research and design as preparation for the dissertation.

Admission Requirements

An applicant to the doctoral program must hold a professional Master of Architecture degree (M. Arch.) from an NAAB accredited U.S. university or the equivalent. Candidates who have not completed the required professional M.Arch. degree may apply for the Master of Architecture program at IIT to fulfill that requirement, as a non-terminal program of studies preparatory for the doctoral program.

The applicant should meet all entrance requirements of IIT's Graduate College, plus a minimum cumulative grade point average of 3.5 on a 4.0 scale; a TOEFL score of at least 550; and at least three letters of recommendations, from immediate supervising professors plus additional list of references. The applicant should also submit a statement of purpose indicating a subject of study or research work and should provide a portfolio demonstrating the qualities of his or her accomplishments and expertise.

Degree Requirements

The program requires a minimum of 58 credit hours usually completed in three-and-a-half to four years beyond the MArch degree, which will include a minimum of 26 credit hours of course-work. The course-work will be comprised of seminars, specialty courses, and electives. The majority of the course-work will be selected from the curriculum within the College of Architecture, though students are encouraged to have their research find connections to other doctoral programs at the university.

Upon completion of the first academic year, the candidate will be required to pass a qualifying examination before he or she will officially be admitted to Ph.D. candidacy. At the end of the program, the candidate will take a final examination which will consist of an oral presentation and defense of the dissertation. Current areas of study include high-rise and long-span buildings, technology applications, energy conscious design, emerging urbanisms, housing and advanced computer applications. Work for the Ph.D. must be completed within six years after admission to doctoral candidacy.

Course Descriptions

Numbers in parentheses after course descriptions indicate weekly class/lecture hours and lab hours, and total credit hours for the course, respectively.

Architecture

ARCH 403, 404 Mechanical and Electrical Building Systems for Architects I, 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. ARCH 403 is prerequisite for ARCH 404. (3-0-3); (3-0-3)

ARCH 408 Freehand Drawing

A multi-purpose drawing course offering students a chance to develop on-site sketching skills and creative expression in drawing through a combination of sketching field trips and in-class drawing assignments. (0-3-3)

**ARCH 409
Advanced Freehand Drawing**
Advanced development of freehand drawing skills in various media; still life, human figure, the natural and built environment; studio and field settings. Prerequisites: Arch 408 or permission of the instructor. (1-4-3)

**ARCH 413
Architectural Practice**
Lectures and practical problems dealing with specifications, specification writing, administration of construction, contracts, building law and professional practice. (3-0-3)

**ARCH 414
Professional Practice:
Building Case Studies**
Case study analysis of buildings; including the design process, building detailing, construction methods, government regulation, owner satisfaction, and post-construction forensics. (3-0-3)

**ARCH 421, 422
Energy Conscious Design I, II**
The application of energy conservation methods and renewable energy sources, such as wind power and passive solar systems, will be examined in the development of building energy budgets for a variety of building types. ARCH 421 is a prerequisite for ARCH 422. (3-0-3); (3-0-3)

**ARCH 423
Architectural Programming**
Study of the principles of problem definition and problem solving related to the decision-making process of design. Review of skills of collecting, reviewing and presenting quantities of information, along with the relevant computer-aided methods and techniques. Applications include identifying a client's needs, considering project constraints, and developing a building program through resolution of problem requirements. (3-0-3)

**ARCH 424
Construction Management**
Survey of the techniques and procedures of construction management as it relates to architectural practice. The organization of the building team, the collaboration of this team in the design process, cost control, project scheduling, purchasing, accounting and field observation are described and documented. (3-0-3)

**ARCH 425
Digital Architectural Media I**
The class introduces concept development, design thinking and problem solving related to architectural representation and production technique (digital and analogue). The class will look critically at recent digital design developments, as well as introduce students to the history of each "type" of computer program; and the class will introduce students to the basic skills required to productively work with a variety of practice-based software programs. The class will also introduce 3-D "craft-based" thinking/working. Prerequisite: Graduate Standing. (1-2-3)

**ARCH 426
Computer-Aided Design in Practice**
This course reviews drafting, modeling and rendering computer hardware and software used in the practice of architectural design. Design and management issues are explored with the extensive use of PC CAD systems. Prerequisite: ARCH 425. (2-1-3)

**ARCH 427
Digital Architectural Media II**
A review of 3-D modeling concepts, computer-aided rendering concepts, and methods in the development of architectural design. Extensive use of PC CAD software is expected. Prerequisite: ARCH 125, ARCH 425, AutoCAD or consent of instructor. (3-0-3)

**ARCH 428
3-D Animation in CAD Presentations**
Review 3-D modeling concepts for animation, preparing camera movements, lighting conditions, special effects, and the digital editing of animation sequences. Extensive use of PC animation and editing software. Prerequisites: ARCH 427. (1-4-3)

**ARCH 429
Digital Form Generation**
Review programming in CAD systems; programming basics in AutoCAD, extensive creation of 2-D and 3-D objects, data interrogation, manipulation, and extraction, and 2-D and 3-D parametric- and rule-based design. Investigation of form creation, based on mathematical relationships and random generation. Prerequisite: ARCH 427. (1-3-3)

**ARCH 430
Networked Technologies**
Study of the relationship between the built environment and networked technologies. Students will learn principals of designing for networked digital space, ways of augmenting physical space through digital technologies, and how networks and web based communication have transformed the practice of architecture and our daily lives. Prerequisite: ARCH 427. (1-2-3)

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ARCH 431, 432

Visual Training I, II

The development of visual acuity through the analysis of fundamental elements of form. Aesthetic expression as experience. Exercises in the study of form, proportion and rhythm, texture and color, mass and space. Exercises in visual perception and aesthetic judgment. Isolation and analysis; interdependence and integration of sensuous qualities. Aesthetic unity under restrictive conditions. (0-2-3)

ARCH 441, 442

Landscape Architecture I, II

The natural landscape as a basis of landscape work. Ecozones and their relation to vital habitats, including plant materials, their selection and installation. The focus will be on housing with its associated planting, including various gardens both formal and informal. ARCH 441 is prerequisite for ARCH 442. (2-2-3); (2-2-3)

ARCH 443

Ecology, Sustainability, Site

The role of natural systems in meeting human needs; climate, geology, landforms, soils, vegetation and animal populations as the basis of agricultural and industrial technologies. Competing demands on natural systems and the necessity for integration and coherence. Ecological sustainability as a basis of architectural works. Site forming and reforming, soils and drainage, grading, orientation, microclimate development and plant materials will be emphasized. (3-0-3)

ARCH 454

Contemporary Chicago Architecture: Case Studies

Contemporary architecture and urban design projects in Chicago present an invaluable opportunity to learn about some of the most advanced applications in practice today. By examining significant projects currently under way, this course will investigate project execution, design concepts and the various forces affecting projects' definitions and results. Close scrutiny of all the components and personnel will give a better understanding of the complex synergies, advanced technologies, and adept project teams necessary for successful innovative architecture and urban planning. (3-0-3)

ARCH 456

Topics in Modernism

Historical and critical study of a significant cultural and intellectual shift that occurred in Modern architecture in Europe in the immediate post-World War II period. This seminar will discuss the relation of this new agenda within the development of Modern architecture from the ethically based Modernism of Ruskin and Morris in the 19th century to the creation of the "Modern Movement" in the inter-war years. Examination of the manner in which this theoretical position has been expressed in architectural practice since the 1950s. (3-0-3)

ARCH 467

Advanced Materials Workshop

This course involves students with the architectural craft of materials that can be applied to model and prototype construction. Included will be industrial tours and a product of the student's own choosing. (1-4-3)

ARCH 468

Drawing from Travel

A studio drawing course for the development of perceptual and technical skills critical to drawing in the field. Emphasis on the freehand travel sketch and its capacity to evoke both the physicality and character of a place. Production of a comprehensive drawn record of travels of a journal/sketchbook is required. Various media will be explored. Requisite: Semester Abroad Program. (0-6-3)

ARCH 469

Urban Design in Europe

This seminar course will explore current notions of urbanism as observed in the built environment of European cities. Projects and discussions will complement the design work undertaken in the architecture design studio. Assignments will focus on documentation and analysis of the systems, organizations, policies and rituals of habitation. Requisite: Semester Abroad Program. (3-0-3)

ARCH 470

Image City: Mediation of Space

This seminar surveys the interaction between media and the city from the 19th century to the present. A history of the technological innovations of the past 200 years as part of

the development of the contemporary city. No account of contemporary urban issues can be considered complete without taking into account the role played in our lives by the media. Accordingly, every space we encounter or create has to be considered "mediated." (3-0-3)

ARCH 473

Conflict & Time

This seminar employs comparative studies of other arts, in particular cinema, to illuminate architectural esthetics and the creative process. (3-0-3)

ARCH 474

Production/Design

This seminar examines aspects of design in motion pictures. The premise underlying the course is that the act of perception constitutes an act of design; we produce and design the world we perceive. This becomes particularly evident through analysis of the artificially constructed, illusory reality of films. (3-0-3)

ARCH 475

Spatial Stories

This course will examine the "spatial story" as it appears in diverse media: short fiction, films, everyday discourse, the media, architecture, etc. The coursework will consist of reading and writing assignments, as well as the viewing of films and other visual artifacts. The course has two goals to offer students: to improve their study and communication skills and to examine the social, cultural and historical aspects of spatial practices such as architecture. (3-0-3)

ARCH 485

Structures I: Concepts

Examination of the basic and vast range of structural concepts and solutions, in an illustrated and summary format. Examples include historic as well as contemporary structures. Statics and strength of materials, beam theory, shear and bending moment diagrams, deflection analysis. Overview of systems choices in architectural applications. History of strength of materials. (3-0-3)

ARCH 486**Structures II: Design of Wood and Steel**

Analysis, design and detailing of tectonic systems (steel and wood). Design of compression, tension, and flexural members. Design of timber beams and columns. Design of steel beams and columns. The behavior of structures under static and dynamic loads. Analysis, design and detailing of concrete and masonry systems. Theory of reinforced concrete applied to beams and slabs. Prerequisite: ARCH 485. (3-0-3)

ARCH 488**Long-Span and Special Structures**

Introduction of structural systems for long spans and special structures. The structural behavior will be discussed and the required strength and stiffness will be evaluated. Individual projects will be assigned to students to be presented at the end of the course. (3-0-3)

ARCH 489**Structural Systems for Tall Buildings and Long-Span Structures**

This course reviews the historical development of the interaction of the structure with architecture and explores future trends and directions. The suitability of different materials and systems will be studied, with emphasis placed on efficiency. (3-0-3)

ARCH 495**Technology as Design**

Since the development of cast iron as a viable construction material in the mid-1800s, there has been a path of architecture exploring open-ended possibilities of technology. Integrated within the culture, this determination to use the technology of one's time as the creative generator of a new evolving architecture is the thesis of this course. (3-0-3)

ARCH 500**History of Architectural Ideas: Vitruvius to 1900**

This first of a two-semester survey encompasses both the history and theory of architecture and landscape architecture. Readings from primary documents will supply the social and intellectual context for designed form. Lectures and visual documentation will focus on the historical embodiment of these ideas within the

panorama of changing styles, techniques, and attitudes. The objective of this course is to convey to the student the great complexity of cultural and intellectual forces affecting design and to hone critical reasoning with respect to the meaning of form.

ARCH 501**History of Architectural Ideas: 1900 to Present**

The ever-intensifying architectural discourse and accelerated pace of change of the twentieth century only expand the parameters of this second of a two-part survey of design ideas. The course, which will complement work in the design studio, begins with the consolidation of modern architecture and avant-gardism but advances to high modernism and its counter-critiques in the 1950s, post-modernism, and issues of urbanism, digital technology, globalism, ecology, and sustainability.

ARCH 502**Advanced Topics in History and Theory I**

One of two required courses, this seminar will focus on important theoretical topics relevant to professional practice and architectural production. In consultation with faculty, students may integrate this course with their thesis or a special area of interest. Students will be able to choose from a range of topics, which might include global architectural trends of the 21st century, urbanism, sustainable design theory, or post-modern theory.

ARCH 503**Advanced Topics in History and Theory II**

The second of two required courses, this seminar will focus on important theoretical topics relevant to professional practice and architectural production. In consultation with faculty, students may integrate this course with their thesis or a special area of interest. Students will be able to choose from a range of topics, which might include global architectural trends of the 21st century, urbanism, sustainable design theory, or postmodern theory.

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. (3-0-3)

ARCH 541**Studio I: Materials and Applications**

Introduction to building materials through studio exercises exploring the physical properties and characteristics of wood, metal, masonry and concrete, with emphasis on their use and assembly. Initial abstract exercises sequentially introduce the basic architecture vocabulary, materials and principles, through analysis of historic precedents and materials research. Introduction of a basic building system utilizing a "kit of parts" for investigation of load, span, enclosure and minimal program. (0-12-6)

ARCH 542**Studio II: Architecture I**

The study and application of wood and masonry construction systems and their architectural expression. Studio exercises focus on the design and construction of small-scale structures. Study of major elements of a building from the roofing to design, the work will emphasize fundamental architectural issues: natural light, building orientation and protection from the elements. Further investigation of the manufacture, construction, assembly and historical development of wood and masonry as building materials. Prerequisite: ARCH 541. (0-12-6)

ARCH 543**Studio III: Architecture II**

The development of architectural principles through the study and application of steel utilizing simple skeleton construction systems. Studio exercises focus on the design and construction of a small-scale steel structure, investigating material properties and architectural

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expression. Study investigates a coherent structural system and the computational definition of its members and their aesthetic consequences. The characteristics of steel, its manufacture, construction, assembly and historical development of its use will be covered. Prerequisite: ARCH 542. (0-12-6)

ARCH 544 **Studio IV: Architecture III**

The development of architectural principle through the study and application of various concrete structural systems. Studio exercises focus on the design and construction of a medium-scale concrete structure. The properties of concrete, its characteristics, physical composition, manufacture, formwork design and construction, and historical development of its use as a building material will be covered. Prerequisite: ARCH 543. (0-12-6)

ARCH 545 **Studio V: Comprehensive Building Design I**

The development of a moderate-scale building with special emphasis on the formulation and articulation of space. Studio exercises focus on development of spatial mass and scale, structure as an architectural factor, proportion as a means of architectural expression, lighting, program, display and the expressive value of materials. As a comprehensive building projects of a smaller scale, studio work covers a complete and expressive presentation of the project's intentions and its spatial and materials qualities. Prerequisite: ARCH 544. (0-12-6)

ARCH 546 **Studio VI: Comprehensive Building Design II**

The development of an architectural project with an emphasis on comprehensive building design: advanced site development, spatial relationships between interior and exterior landscape, zoning and code analysis, programming, and fully integrated building systems. Study focuses on environmental concerns in building design. Studio work includes a comprehensive set of architectural documents, articulated model(s), and architectural details representative of the building's concepts. Prerequisite: ARCH 545. (0-12-6)

ARCH 551, 552 **Design of Energy-Efficient Buildings I, 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. (3-0-3); (3-0-3)

ARCH 553, 554 **High Rise Building Technology I, II**

The course consists of presentations by specialists in the various technologies of high-rise building, including planning, financing, code reinforcement, materials, architecture, engineering, project management, construction, building management services, safety and maintenance. (3-0-3)

ARCH 567 **Architectural Drawing and Model Making**

Development of drafting and modeling skills. Coordination of hand and eye for qualities of lines, aggregates of lines, textures. Freehand exercises in geometric, axonometric and perspective drawing. Development of skills in model making in wood, metal and plastic. Development of critical evaluation of quality and craftsmanship of work. (0-3-1)

ARCH 588 **Thesis Preparation Seminar**

Seminars are conducted on thesis development and preparation with emphasis placed on language, the written form, thesis manual requirements, drawing and model presentation, and the oral presentation for jury examination. (3-0-3)

ARCH 589 **Pre-Thesis Seminar**

An introduction to the architecture faculty through a discussion of current issues and future directions of the profession. These concerns are then related to the specific student's interest and the specialized experience of the faculty. By the end of the semester, a Thesis Advisory Committee, with a thesis chairman and two additional faculty members,

is assigned to each thesis student. Together, they identify the thesis project, program, its scope and objective and, most important, budget time for each phase. (3-0-3)

ARCH 590 **Specialized Research and Thesis Development**

Each thesis project must demonstrate an intellectual objective and an in-depth study that will contribute to the practice of architecture. The formulated problem should combine a theoretical search with the practical considerations of the profession. Research methods are identified that will provide the resources and information necessary for the design process. Post-occupancy building evaluations of similar problems are used to analyze technical assumptions, functional response, and social reaction. (Credits: Variable)

ARCH 591, 592 **Research and Thesis**

A thesis project is developed in depth by the student under the direction of the adviser and an advisory committee of other architecture faculty and/or professional members. Specialized research and design within a wide range of architectural problems include site selection, consideration of architectural context and environmental impacts, development of user function and space programs, and architectural planning and design. Aesthetic and visual aspects and the intellectual foundations of the problem are carefully considered, as well as the technical aspects in the selection and integration of structural and environmental systems. After final acceptance of the presentation materials by the advisory committee, the text, reductions of the drawings, and model photographs are bound together in a hard-cover volume, which is deposited in the GRC and the university's library.

ARCH 601 **Doctoral Methodology Pro-Seminar**

This course provides a foundation for doctoral students to the diversity of research paradigms in architecture. The first component is an introduction to the philosophy of knowledge with an emphasis on architecture. The second component entails a critical review and evaluation of diverse

research methodologies in current doctoral architectural research, with substantial information on research methodologies not covered in undergraduate and graduate education. Students will write a series of papers that critically review the course readings and discussions. (3-0-3)

ARCH 651**Advanced Topics in Integrated Building Engineering Design**

This class will address advanced energy-conservation techniques in the building delivery process. Exceptional building energy performance requires more than simple dependence on the efficient performance of individual building components, such as mechanical equipment or window systems. In order to cost effectively reduce operating costs, increase comfort, boost indoor air quality, and reduce environmental pollutant emission, a synergistic effect between all building systems must be accounted for in the design process. (3-0-3)

City and Regional Planning**CRP 425, 426****History and Architecture of Cities I, II**

Selected topics in the history and development of human settlements. Examination of the forces affecting city development in history. These courses are taught as seminars and meet for one three-hour period per week. (3-0-3); (3-0-3)

CRP 465**The Ecological Basis of Planning**

The role of natural systems in meeting human needs. Climate, geology, landforms, soils, vegetation and animal populations as the bases of agricultural and industrial technologies. Competing demands on air, water and land. Limiting factors. (3-0-3)

CRP 519**Principles of City Planning I**

This course explores the problems of housing from the scale of the single dwelling to larger residential buildings. Examination of the internal functions of a housing unit, the relationship of one unit to another, and of the overall structure and development of settlement units. (3-0-3)

CRP 520**Principles of City Planning II/ Urban Design**

This course explores principles of urban design. Applications will make analyses of urban issues such as the integration of urban elements into an organic whole, the town center, the interrelationship of built forms to open spaces and the varying components of the urban fiber. Prerequisite: CRP 519. (3-0-3)

CRP 521**Advanced Planning I, II**

Advanced work in city and regional planning. Analysis. Structure. Clarification of principle and idea in planning. Varied problems. Prerequisite: CRP 519, CRP 520, or consent of instructor. (Credit: Variable)

CRP 531**Advanced Housing**

Advanced work. The dwelling and groups of dwellings as a planning and architectural problem. Variations. Site. Clarification of principle in working out specific solutions. Prerequisites: CRP 519, CRP 520 or consent of instructor. (3-0-3)

CRP 532**Community Development**

Advanced work. Consideration of entire community and its elements. Density. Spatial development. Varied problems to clarify principles. Prerequisites: CRP 519, CRP 520 or consent of instructor. (3-0-3) Master of Landscape Architecture

Master of Landscape Architecture**LA 414****Professional Practice**

An introduction to landscape architecture as a profession. Topics addressed include areas of practice, project management, office operations, career development, governmental regulations, licensure, and professional ethics.

LA 441**Plants and Plant Materials: field studies**

Study of the identification, uses, and basic horticulture of the basic woody plants commonly available in the Midwest, as applied in designed landscapes. Criteria for appropriate selection of trees, shrubs, vines, and

ground covers for a given site; non-native species and herbaceous perennials will be introduced. Provides a working knowledge of the woody plants used as a primary element in design applications.

LA 443**Forests, Preserves, Parks and Urbanscapes**

The growing need for these public site types in America in the 1800s gave rise to the landscape architecture profession. More necessary now than ever, the planning and design approach to these sites is undergoing major change. In this course students will investigate the historical and contemporary environmental and cultural relationships of the American landscape. Themes include landscape use and ecological change, regional and national landscapes, the roles of the National Park Service, state and county park and forest systems, and municipal green spaces. Case studies and analyses of specific sites.

LA 444**Earthworks and Infrastructures**

Land grading, drainage, pedestrian and vehicular circulation systems, and the landscape tools and techniques used in site engineering. Study focuses on grading for the purpose of infrastructure design by analyzing differences in landform, topography, climate, and soil structure, and focuses on drainage characteristics as a primary element for understanding a site. Water flow, storm water issues, swales, and other water management practices, and utility planning. Case studies of larger scale projects with an emphasis on developing students' ability for designing elegant and functional three-dimensional land forms.

LA 445**Topics in Advanced Landscape Technologies & Horticulture**

Topics vary: Advanced Landscape Construction, Green Roofs, Brown Field Reclamation, Soils, Wetlands, Native Plant Intensive, Ecological Design, Landscape Management without Chemicals, Site Analysis, and other special subjects

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LA 542

Studio II: Landscape Architecture I: Ecology

Introduction to ecosystems and how human interaction affects them. Emphasis on the Midwestern prairie and forest biome's wildlife, vegetation, climate, water, and aquatic ecosystems. Effects of human land use patterns on the land and on plant communities, and how they can be altered. Techniques and terms used by environmentalists and instruction in conducting a baseline ecosystem study.

LA 543

Studio III: Landscape Architecture II: Biology & Materials Technology

Basic biological principals of plant growth and horticultural production methods for plants used in landscape design. Study of the interdependence between technology and biological systems in landscape architecture. Topics include an introduction to botanical nomenclature as used in the industry and experience with construction materials (concrete, masonry, wood, and metals), their properties, and applications. Studio semester project combines plantings and constructed elements. Field trips.

LA 544

Studio IV: Landscape Architecture III: Plants & Plant Materials: Advanced

Continuing investigation of native woody species as a major element in the landscape and traditional plant configurations such as bosques and allees in the built environment. Further study of native perennials and appropriate non-natives. Segment on use of annual and tropical plants within a design; container plantings as accents. Criteria for development of a planting design and plant list, as well as plant selection, and technical aspects including hardiness zones, and soil requirements.

LA 545

Studio V: Comprehensive Landscape Design

Integration of large-scale site, programming, planting design, ecology of site, and other design elements and problems into a cohesive design solution. Practical application of the relationship among sites, drawings, and the making of landscape architectural projects. The semester is sequenced: site analysis; programming decisions; site modeling; development of design; representation and defense of design graphically (plan and elevation views), model, and materials and planting list. design of environments which are responsive to human need and expressive of physiographic conditions.

LA 546

Studio VI: Spatial Investigations

A primary motive for landscape architects is spatial configuration. In this studio students explore both three-dimensional space and digital and hand-drawn representations of space. Exercises include explorations of how seeing, visualizing, and drawing interrelate, and how form, light/shadow, volume and space—basic elements of composition—affect the built environment. An introduction to the methods and use of GIS (Geographic Information System) introduces students to the opportunities this tool provides for land planners and designers.

Undergraduate Course Prerequisites

The courses described below and at right are undergraduate courses, some or all of which are prerequisites to graduate study in the College of Architecture. For the class entering the program in Fall 2006, applicants to the College's degree programs must demonstrate proficiency in the undergraduate-level courses or their equivalents listed in the "Admission Requirements" and individual program descriptions sections.

For applicants to the College's degree programs seeking admission for Fall 2007 and after, please note that changes to admission and prerequisite requirements are likely. Please visit the College of Architecture Web site or call the Assistant Dean for Graduate Academic Affairs for up-to-date information.

MATH 119

Geometry for Architects

Basic analytic geometry in two and three dimensions; trigonometry. Equations of lines, circles and conic sections; resolution of triangles; polar coordinates. Equations of planes, lines, quadratic surfaces. Applications. (3-0-3)

MATH 122

Introduction to Mathematics II

Basic concept of calculus of a single variable; limits, derivatives, integrals, applications. (3-0-3)

PHYS 211, 212

Basics Physics I, II

Intended to give students in the liberal arts, architecture and design an understanding of the basic principles of physics and an appreciation of how physics influences contemporary society. Prerequisites: Math 122. (3-0-3); (3-0-3)