ARCHITECTURE (ARCH)

ARCH Class Schedule (https://courses.illinois.edu/schedule/DEFAULT/DEFAULT/ARCH)

Courses

ARCH 101 Introduction to Architecture credit: 3 Hours.
An introduction to architecture, architectural education and the profession with emphasis on issues that influence architecture and the people and processes involved.

ARCH 164 Architecture as a 2nd Language credit: 3 Hours.
Unique to architects is the combination of thinking tools in a conceptual toolbox, a resource to which they have access at any time and in all situations. These tools can be thought of as a second language. Architecture as a Second Language is a hands-on, experiential online course in which students are immersed in challenging activities similar to those architects face. The course helps develop new perspectives, capabilities, and insights that can be applied to any calling or discipline.

ARCH 199 Undergraduate Open Seminar credit: 1 to 5 Hours.
May be repeated.

ARCH 210 Intro to the Hist of Arch credit: 3 Hours.
Visual and cultural analysis of selected buildings, urban spaces, and cities, from ancient Greece to modern times; emphasizes the architectural traditions of Western Civilization, especially as they affect the built environment of America and the Middle West. Prerequisite: Sophomore standing or consent of instructor.

ARCH 222 Islamic Gardens & Architecture credit: 3 Hours.
Same as LA 222. See LA 222. This course satisfies the General Education Criteria for: UIUC: HistPhilosoph Perspect UIUC: Non-Western Cultures

ARCH 231 Anatomy of Buildings credit: 4 Hours.
Introduction to building technology, materials and methods emphasizing integration of design and technology. Introduces buildings as a network of systems including space, structure and environmental controls operating within a larger context of environment and social function. Skills developed include analysis of building form and function, understanding of design/technology interrelationships, and communication of ideas through drawing. Prerequisite: Concurrent enrollment in ARCH 271 or ARCH 471.

ARCH 233 Construction of Buildings credit: 4 Hours.
Second course in building science and technology with emphases on the process of project execution from the initiation of design to the completion of construction of commercial, institutional, and other heavy construction building types. Includes comprehensive study of the construction of buildings and their systems, materials and methods, and their implications on building sustainability and design decision-making. CAD and BIM systems are used to develop construction documents for a case study building. Prerequisite: ARCH 231 or consent of instructor.

ARCH 271 Graphics for Architects credit: 4 Hours.
Introduction to architectural graphic communication skills that architects use to visualize, analyze, and record creative thoughts: 1) freehand sketching; 2) architectural delineation; and 3) digital applications. Prerequisite: ARCH 101 and concurrent enrollment in ARCH 231.

ARCH 272 Strategies of Arch Design credit: 4 Hours.
Integration of formal principles with functional fundamentals of architectural design; functional vocabulary, principles, and concepts of architectural design; introduction to precedent study and analysis; skills development in sketching, drafting, rendering, layout, and modeling; and creative problem-solving in 2- and 3-dimensional exercises. Prerequisite: ARCH 271 and concurrent enrollment in ARCH 233.

ARCH 300 Ind Studies in Urban Design credit: 3 Hours.
The individual study of selected topics involving the history, design, and function of significant European cities. Prerequisite: One year of history of architecture or Art History; consent of instructor.

ARCH 314 History of World Landscapes credit: 3 Hours.
Same as LA 314. See LA 314. This course satisfies the General Education Criteria for:
UIUC: Advanced Composition
UIUC: HistPhilosoph Perspect
UIUC: Western Common Cult

ARCH 341 Environment Tech HVAC credit: 4 Hours.
Study of the control of thermal environment, mechanical and related building sub-systems, and their integration into the overall building design. The specific topics include: thermal comfort and behavioral implications; fundamentals of thermal behavior of buildings; the principles of heat and moisture in buildings; indoor air quality and "Sick Building Syndrome"; energy and sustainability implications of building design; and mechanical systems including HVAC and plumbing systems. Prerequisite: ARCH 233.

ARCH 342 Environment Tech Ltg & Acoust credit: 4 Hours.
Study of the control of luminous and sonic environments, the supporting building systems, and their integration into the overall building design. Specific topics include: lighting fundamentals; light sources; effects of lighting on comfort and performance; lighting calculations and design; energy economy and sustainability; acoustic fundamentals; room acoustics; noise control; and basic electrical and sound systems. Prerequisite: ARCH 233.

ARCH 351 Statics & Dynamics credit: 4 Hours.
Study of equilibrium of rigid bodies in two and three dimensions; trusses; shear and bending moments in beams; arches and frames; cables; friction; introduction to dynamics; architectural applications. Prerequisite: MATH 220 or MATH 221, and MATH 231 or PHYS 101.

ARCH 352 Mech of Mat & Design Appl credit: 4 Hours.
Study of stresses, strains, and deformations in axially loaded members; direct shear and bearing stresses; torsion; beam stresses and deflections; stresses under combined loading; column buckling; design of structural members; introduction to statically indeterminate structures; architectural applications. Prerequisite: ARCH 351.

ARCH 372 Arch Design and the Landscape credit: 5 Hours.
Building design in a landscape setting; creation of place; schematic building design and site planning issues, universal design and accessibility; principles of energy efficient building design; human-environment relationship issues; and architectural design and presentation methods; required field trips. Prerequisite: ARCH 272.

ARCH 374 Arch Design and the City credit: 5 Hours.
Building design in the community setting; creation of place; introductory urban design and site planning issues, including universal design and accessibility; human-built environment relationship issues; architectural design and presentation methods; required field trips. Prerequisite: ARCH 373.

Information listed in this catalog is current as of 04/2016
ARCH 399  Study in Versailles, France  credit: 0 to 18 Hours.
Study in the University of Illinois Architectural Program at Versailles, France. Approved for S/U grading only. Prerequisite: Concurrent registration in the Versailles, France Study Abroad Program.

ARCH 400  Senior Honors in Architecture  credit: 1 to 4 Hours.
For candidates for honors in Architecture. Independent guided study and research in a selected area of architecture. 1 to 4 undergraduate hours. No graduate credit. May be repeated to a maximum of 6 hours with consent of Director of School. Prerequisite: Senior standing in architecture, a University grade-point average of 3.0 or, in special cases, consent of Director of School.

ARCH 401  Independent Study  credit: 0 to 4 Hours.
Independent guided study and investigation in a selected area of architecture. 0 to 4 undergraduate hours. 0 to 4 graduate hours. Approved for both letter and S/U grading. May be repeated. Prerequisite: Junior standing in architecture, written proposal approved by a sponsoring faculty member and the approval of the Director of the School.

ARCH 402  Intro to Hist of Arch Theory  credit: 3 Hours.
Architectural theory, criticism, and historiography from antiquity to the present. Based on close readings of texts from antiquity to the present day. 3 undergraduate hours. 3 graduate hours. Prerequisite: Sophomore standing.

ARCH 403  Spec Topics in Arch History  credit: 3 Hours.
Special topics in Architectural History courses. Topics and subject matter to be published in course listings. 3 undergraduate hours. 3 graduate hours. May be repeated in separate terms to a maximum of 6 hours. Prerequisite: ARCH 210 and sophomore standing.

ARCH 407  Rome: The Eternal City  credit: 3 Hours.
Considers the architecture and urbanism of the city of Rome across time. Special focus will be placed on critical strategies for understanding urban sites. 3 undergraduate hours. 3 graduate hours. Prerequisite: Sophomore standing.

ARCH 409  Special Topics in Spanish Arch  credit: 3 Hours.
Explores aspects of the architecture and urban design of Spain from antiquity until the present. 3 undergraduate hours. 3 graduate hours. May be repeated to a maximum of 6 hours. Prerequisite: ARCH 210.

ARCH 410  Ancient Egyptian & Greek Arch  credit: 3 Hours.
Architecture and urban form in Egypt and the Greek world through the Hellenistic period. Same as CLCV 410. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210, ARTH 111 or CLCV 131.

ARCH 411  Ancient Roman Architecture  credit: 3 Hours.
Architecture and urban form in the ancient Roman world from the Etruscans through the Late Antiquity. Connections between Roman Late Antique, Early Christian, and Byzantine Architecture will be considered. Same as CLCV 411. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210; ARTH 111, CLCV 131, or CLCV 132.

ARCH 412  Medieval Architecture  credit: 3 Hours.
Explores aspects of the architecture and urban design of medieval Europe from late antiquity to the late Middle Ages (approximately 300-1400). Same as MDVL 412. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210 or ARTH 111.

ARCH 413  Renaissance Architecture  credit: 3 Hours.
Developments in architecture, urban design, and garden art in Italy and northern Europe in the fifteenth through the sixteenth centuries. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210, ARTH 112, or consent of instructor.

ARCH 414  Baroque & Rococo Arch  credit: 3 Hours.
Developments in architecture, urban design, and garden art in Italy, France, Germany, and England in the seventeenth and eighteenth centuries. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210, ARTH 112, or consent of instructor.

ARCH 415  Neoclass & Nineteen Cent Arch  credit: 3 Hours.
Evolution of Continental and British architecture and urban planning from 1750 to World War I; includes some reference to American architecture of the same period. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210 or ARTH 112, or consent of instructor.

ARCH 416  Modern American Architecture  credit: 3 Hours.
Development of American architecture and urban planning from the seventeenth century to the present. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210, ARTH 112, or consent of instructor.

ARCH 417  Twentieth-Century Architecture  credit: 3 Hours.
Developments in Western architecture and urban design from 1900 to the present; examines the rise of modernism in Europe and after World War II; includes work in the United States, India, Japan, and Australia. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 210 or ARTH 112, or consent of instructor.

ARCH 418  Hist of the Urban Environment  credit: 3 Hours.
Examines the evolution of town planning and urban design in Western civilization from prehistory to the present; studies cultural and technical advancements affecting the form of the urban environment. 3 undergraduate hours. 3 graduate hours.

ARCH 419  Historic Building Preservation  credit: 3 Hours.
Introduces historic preservation: legal, financial, and administrative assistance, graphic examination of restored buildings and sites, and application of conservation technology. 3 undergraduate hours. 3 graduate hours.

ARCH 423  Soc/Beh Factors for Design  credit: 3 Hours.
Research-oriented introduction to existing social and behavioral knowledge, methods, and tools for relating man to his physical and social environment, with implications for theories and a philosophy of architectural design. 3 undergraduate hours. 3 graduate hours. Prerequisite: Consent of instructor.

ARCH 424  Gender & Race in Contemp Arch  credit: 3 Hours.
Analyzes how the built environment reflects social attitudes towards gender and race. Identifies the work of women and people of color in architecture and related disciplines as consumers, critics, and creators of the environment. Provides links with valuable professional networks in Chicago and elsewhere. Same as GWS 424. 3 undergraduate hours. 3 graduate hours. Prerequisite: Consent of instructor.

ARCH 441  Heat and Moisture in Buildings  credit: 3 Hours.
Provides information and skills necessary for the designer to deliver dry, durable and healthful buildings. First half covers theory, including heat transfer, psychrometrics, steady-state diffusion and conduction analysis, and transient analysis. Second half covers building applications: roofs, walls, windows, foundations, and mechanical systems. 3 undergraduate hours. 3 graduate hours. Prerequisite: ARCH 341 or equivalent.

ARCH 451  Theory & Design Steel & Timber  credit: 4 Hours.
Analysis and design of steel and timber structures for buildings. Steel columns, beams, trusses, connections, roof and floor framing systems; timber beams, columns, roof and floor framing systems. 4 undergraduate hours. 4 graduate hours. Prerequisite: ARCH 352.
ARCH 452  Theory of Reinforced Concrete  credit: 4 Hours.
Concrete materials; behavior of reinforced concrete construction; behavior and design of structural elements, one-way slabs, beams, and girders; columns; ACI code requirements; and introduction to continuity in reinforced concrete structures. Course Information: 4 undergraduate hours. 4 graduate hours. Prerequisite: ARCH 352.

ARCH 460  International Architecture  credit: 4 Hours.
Interdisciplinary opportunity to focus on, study, and record the design and planning of cities and rural settlements in other cultures. Through directed study and participation in the intellectual environment of a foreign university, students analyze unfamiliar settings, developing insights to enrich their professional development. 4 undergraduate hours. 4 graduate hours. May be repeated in separate terms to a maximum of 8 hours. Prerequisite: Junior standing or higher in the School of Architecture, Department of Landscape Architecture, or the Department of Urban and Regional Planning.

ARCH 461  Critical Travel Documentation  credit: 4 Hours.
Modern and historic city forms and rural practices are analyzed while experiencing the realities of daily life traveling in another culture. Journals include drawings and writings that record buildings, environs, and landscapes. 4 undergraduate hours. 4 graduate hours. May be repeated in separate terms to a maximum of 8 hours. Prerequisite: Junior standing or higher in the School of Architecture, the Department of Landscape Architecture, or the Department of Urban and Regional Planning.

ARCH 468  Overseas Architectural Studies  credit: 3 Hours.
This course is designed to enrich the professional development of students in a study abroad location. Students participate in thematic workshops, seminars, lectures and field trips focused on understanding and analyzing architectural and urbanistic landmarks and settings on site through both directed and independent assignments. 3 undergraduate hours. No graduate credit. May be repeated in separate terms up to 6 hours. Prerequisite: Senior standing in the School of Architecture.

ARCH 471  Fundamentals of Arch Design  credit: 6 Hours.
Basic architectural design methods, fundamentals, principles and concepts including creative problem solving in two- and three-dimensions. 6 undergraduate hours. 6 graduate hours. Prerequisite: Limited graduate standing in Architecture and concurrent enrollment in ARCH 231.

ARCH 472  Arch Des in Landscape & Cities  credit: 6 Hours.
Intermediate architectural design methods, fundamentals, principles and concepts focusing on buildings in landscape and urban contexts. 6 undergraduate hours. 6 graduate hours. Prerequisite: ARCH 471 and concurrent enrollment in ARCH 233.

ARCH 475  Arch Design & Development  credit: 6 Hours.
Schematic design and development of a small-scale public building emphasizing the integration of the basic elements of building; materials, details, structure, technology, program, life safety, and universal design. 6 undergraduate hours. 6 graduate hours. Prerequisite: ARCH 374 or ARCH 472.

ARCH 476  Arch Design & Exploration  credit: 6 Hours.
Exploration of boundaries of architecture and the built environment. Focused exploration into specific design topics, such as issue-oriented building problems, urban design theory, intermediate building design and site planning theory, human-environment relationship theory, interdisciplinary design, and architectural design and presentation methods. 4 undergraduate hours. 4 graduate hours. Prerequisite: ARCH 475.

ARCH 490  Special Topics in Contemporary Architecture  credit: 1 TO 4 Hours.
Selected topics in and applications of contemporary architecture; see Class Schedule or department office for current topics. 1 to 4 undergraduate hours. 1 to 4 graduate hours. May be repeated in separate terms up to 12 undergraduate hours or 8 graduate hours, if topics vary. Prerequisite: Consent of instructor. For majors only.

ARCH 491  Arch Professional Internship  credit: 0 Hours.
Full-time or part-time professionally supervised field experience in design intended to introduce students to the practice of architecture in a commercial firm or agency of government. Students work in the school-approved firm or agency of their choice. Written work reports and reflective experiential learning reports are required. 0 undergraduate hours. 0 graduate hours. Approved for S/U grading only. May be repeated in separate terms a maximum of 3 times. Prerequisite: Graduate standing or upper-level undergraduate standing, or consent of instructor. For students enrolled in the BSAS and M.Arch. programs of study only.

ARCH 498  Directed Research in Arch  credit: 1 to 4 Hours.
Participation in on-going research projects which may include energy management, environmental perception, facilities development, building science, and other topics. 1 to 4 undergraduate hours. 1 to 4 graduate hours. May be repeated to a maximum of 8 hours. Prerequisite: Approval of written proposal by instructor and Director of School.

ARCH 499  Off-Campus Study  credit: 0 to 12 Hours.
Provides opportunity for approved off-campus study. Detailed proposal for study off campus must be submitted for approval to the appropriate committee in the School prior to such study. Final determination of credit and its application toward the degree is made after a review of the student's off-campus work by the above committee and the Director of School. 0 to 12 undergraduate hours. 0 to 12 graduate hours. Approved for both letter and S/U grading. Prerequisite: Senior or graduate standing in architecture and approval of program prior to registration.

ARCH 501  Architectural Practice  credit: 3 Hours.
Role of the architect in the building enterprise, professional ethics, and the conduct of professional practice; legal aspects of architectural practice and building construction; introduction of business management, marketing, operational procedures, financial planning, and cost control of architectural practices; and the administration of construction contracts. Prerequisite: Graduate standing or consent of instructor.

ARCH 502  Structural Planning  credit: 4 Hours.
General problems in the selection and design of structural systems for buildings; methods of analysis; site explorations, soils, and foundations; bracing; and special systems. Prerequisite: ARCH 451 and ARCH 452.

ARCH 510  History of World Landscapes  credit: 4 Hours.
Same as LA 513. See LA 513.

ARCH 511  Seminar in Ancient Arch  credit: 3 Hours.
Seminar on topics in ancient architecture. Prerequisite: ARCH 410, or equivalent as determined by the instructor.

ARCH 512  Seminar in Medieval Arch  credit: 3 Hours.
Seminar on topics in medieval architecture. Same as MDVL 512. May be repeated to a maximum of 12 hours in the same or subsequent terms. Prerequisite: ARCH 411, ARCH 412, or equivalent as determined by the instructor.

ARCH 513  Seminar in Ren & Baroque Arch  credit: 3 Hours.
Seminar on topics in European architecture from the fifteenth through the eighteenth centuries. Prerequisite: ARCH 413 and ARCH 414, or equivalent as determined by the instructor.
ARCH 516  Architecture Seminar 1800-2000  credit: 3 Hours.  
Seminars on topics in European and American architecture from 1800
to 2000. May be repeated in separate terms to a maximum of 12 hours.
Prerequisite: ARCH 415, ARCH 416, or ARCH 417.

ARCH 518  Recording Historic Buildings  credit: 3 Hours.  
Examines techniques for recording historic buildings and sites:
measuring, photographing, and drawing to Historic American Building
Survey standards; taking field notes and investigating public records to
document reports. Prerequisite: ARCH 419 and demonstrated ability in
architectural graphics; or consent of instructor.

ARCH 519  Conserving Building Materials  credit: 3 or 4 Hours.  
Examination, analysis, and pathologies of building materials and
techniques for treatment and repair of historic buildings. Emphasis is
on conservation of traditional masonry, concrete, and metals. Field trips
and lab work. To receive 4 hours credit, students must participate in lab.
Prerequisite: ARCH 419.

ARCH 530  Management in Architecture  credit: 3 Hours.  
Study of management and business administration topics relevant
to the architecture profession. The application of: marketing, ethics,
accounting, organizational behavior, quantitative analysis, finance,
operations, economics, and strategic planning to the field of architecture.
Management and economic issues that influence and motivate
commercial, industrial, institutional, and individual clients are addressed.
Prerequisite: Graduate standing in Architecture.

ARCH 534  Building Economics  credit: 3 Hours.  
Study of factors affecting cost of building including: the building market,
construction cost, estimates and cost control, time value of money and
building life-cycle cost, measuring the worth of investments, depreciation
and tax consideration of cash-flows. Prerequisite: Graduate standing or
consent of instructor.

ARCH 538  Econ Issues in Arch Develop  credit: 4 or 6 Hours.  
Individual and team analysis of architectural development proposals
addressing relevant economic topics and trends. Proposals are analyzed
for development, construction, finance, operation, and sale costs.
Potential and projected rate of return on investment is established for
specific time periods. Economic and social forces impacting upon real
estate values are examined. Prerequisite: ARCH 501, ARCH 530, and
ARCH 534; or consent of instructor.

ARCH 544  Bldg Sys & Design Integration  credit: 3 or 4 Hours.  
Advanced course on building design for greater performance, including
the study of: the anatomical and functional variations of building
subsystems and their design implications; inter-system relationships and
synergistic integration of building subsystems into the overall building;
and the strategies for designing buildings of high functional performance
and greater overall value. Term paper is required for 4 hours credit.
Prerequisite: Graduate standing in Architecture or consent of instructor.

ARCH 545  Design & Constructability  credit: 3 or 4 Hours.  
Advanced course on building design for greater constructability,
including material alternatives and their architectural, performance, and
construction implications; the implications of the specifics of design
on the range of applicable construction methods, and therefore, on
construction productivity and economy; and the strategies for designing
buildings of high constructability and greater overall value. Term paper
is required for 4 hours credit. Prerequisite: ARCH 544 or consent of
instructor.

ARCH 546  Programming & Concept Studio  credit: 6 Hours.  
An advanced course on programming architectural projects and
developing design concepts to best meet the project goals and maximize
value creation. Investigation of relevant issues and appropriate methods
of programming and concept development are followed by programming
and design exercises. The specific contents include: theories and
methods of programming; general program requirements and exemplary
design responses for selected major building types; testing of the viability
of selected model programs through exploration of appropriate design
responses; further enhancement of the subject programs in light of such
explorations; and investigation and development of philosophically sound
and operationally efficient methods of programming and design. May not
be repeated for credit. Prerequisite: Graduate standing in architecture and
consent of instructor.

ARCH 547  Architectural Practice Studio  credit: 6 Hours.  
Comprehensive building design with emphasis on holistic design
integration for optimum performance and constructability with best
possible economy under the realistic temporal, technical, legal, and
budgetary limitations. The projects, typically real ones, are executed
through partial construction document phase through collaborative
design by project teams. (Day-long Friday field trips). Prerequisite:
ARCH 534, ARCH 545, and ARCH 546; or consent of instructor.

ARCH 548  Const Execution & Admin  credit: 4 Hours.  
Advanced course in construction with emphasis on acquiring knowledge
and developing skills for successful project execution in a real-time
project with numerous variables affecting the project outcome, including:
devising methods and strategies for effective project execution; making
decisions that can steer the project to the best possible direction; and
skillfully mediating disputes and conflicts that might arise. For this
purpose, on-going major construction projects are used as Learning
Laboratories. May be repeated to a maximum of 8 hours. (Summer
I credit: 1 graduate hour and Summer II credit: 2 graduate hours).
Prerequisite: ARCH 501 and ARCH 545; or consent of instructor.

ARCH 550  Reinforced Concrete Design  credit: 4 Hours.  
Selection, design, and comparison of reinforced concrete floor systems
for buildings; study and design of columns and footings; and prestressed
concrete. Prerequisite: ARCH 452.

ARCH 551  Structural Analysis  credit: 4 Hours.  
Advanced problems in the analysis of statically determinate structures;
general theories and methods of analysis of statically indeterminate
structures by geometric and energy methods; and introduction to theory
of plastic design. Prerequisite: ARCH 451 and ARCH 452.

ARCH 552  Soil Mech and Foundations  credit: 3 Hours.  
Soil properties and site exploration; stresses in soils; soil consolidation
and settlement; shear strength of soils; bearing capacity; design of
spread and combined footings; mats; pile foundations; lateral soil
pressure and retaining walls. Prerequisite: ARCH 452 and ARCH 551.

ARCH 553  Adv Reinforced Concrete Design  credit: 3 Hours.  
Critical review of the analysis, methods, and specifications involved in
the design and behavior of reinforced concrete structures for buildings,
including tall buildings, plates, and shells; computer applications.
Prerequisite: ARCH 551; credit or concurrent registration in ARCH 560
or consent of instructor.

ARCH 554  Adv Steel Design  credit: 3 Hours.  
Advanced topics in the design of steel structures; critical study of the
AISC specification; design of steel members and their connections;
composite structures; and the analysis and design of continuous
structures and tall buildings. Prerequisite: ARCH 560 or consent of
instructor.
ARCH 555  Prestressed Concrete Design  credit: 3 Hours.
Theory and design of prestressed concrete structures and suspension shell structures. Prerequisite: ARCH 553 or consent of instructor.

ARCH 556  Advanced Structural Planning  credit: 4 Hours.
Study of the loads, functional and spatial requirements, and construction problems in the selection and design of structural systems for buildings; cost estimates; and integration of mechanical and electrical equipment. Prerequisite: ARCH 552 and ARCH 553; credit or concurrent registration in ARCH 554 and ARCH 555, or consent of instructor.

ARCH 558  Structural Wood Design  credit: 3 Hours.
Analysis and design of wood structures for buildings; response of wood buildings to gravity and lateral loads; design of structural elements: beams, columns, beam-columns, members in tension, and trusses using NDS specifications; connections; plywood panels; diaphragms and shear walls. Prerequisite: ARCH 451 or equivalent.

ARCH 559  Structural Masonry Design  credit: 3 Hours.
Engineering properties of masonry materials; codes and standards for masonry structures; analysis and design of masonry structures including multistory buildings and arches. Prerequisite: ARCH 452 or equivalent.

ARCH 560  Advanced Structural Analysis  credit: 3 Hours.
Advanced theory and analysis of statically indeterminate structures, recognizing effects due to temperature, settlement, and fabrication errors; matrix methods focusing on computer analysis techniques; introduction to plastic analysis and design. Prerequisite: ARCH 551.

ARCH 563  Soc/Beh Research Designed Env  credit: 4 Hours.
Introduction to methods and techniques of systematically generating social and behavioral information relevant to the programming, design, and evaluation of physical environments. Same as LA 563. Prerequisite: Graduate standing in architecture, landscape architecture, or urban and regional planning.

ARCH 571  Design: Detail & Architectonics  credit: 6 Hours.
Design studio investigations of multiple techniques and methodologies addressing the design and fabrication of small-scale architectural constructions, explorations of specific sites and places, and interdisciplinary projects. Field trips may be required. May be repeated to a maximum of 12 hours. Prerequisite: Graduate standing in Architecture.

ARCH 572  Design: Behavior & Environment  credit: 6 Hours.
Design studio explorations responding to social, economic, political and behavioral dimensions of human existence and settlement. Projects investigate the experience of physical environments at the human scale and socially sustaining design strategies addressing diverse human needs. Field trips may be required. May be repeated to a maximum of 12 hours. Prerequisite: Graduate standing in Architecture.

ARCH 573  Design: Technology & Performance  credit: 6 Hours.
Design studio investigations of buildings and systems focusing on structure, enclosure, technology and performance. Integration of building materials, components and systems and their impact on the design, construction, and sustainability of buildings. Field trips may be required. May be repeated to a maximum of 12 hours. Prerequisite: Graduate standing in Architecture.

ARCH 574  Design: Arch/Urban&Preservation  credit: 6 Hours.
Design studio investigations of issues that impact urban habitats, buildings and people. Architecture and urban design, preservation, and adaptation of new and existing buildings, cities, districts, public realms and urban environments. Designing and preserving buildings and communities in a sustainable manner. Field trips may be required. May be repeated to a maximum of 12 hours. Prerequisite: Graduate standing in Architecture.

ARCH 576  Architectural Design Seminar  credit: 3 Hours.
Presentations and discussions relative to various areas of architectural and environmental design concerns. May be repeated to a maximum of 15 hours. Prerequisite: Consent of instructor.

ARCH 577  Theory of Architecture  credit: 3 Hours.
Review of principles of architectural design; factors in programming architectural requirements; design development; and evaluation and criticism. Prerequisite: Graduate standing in Architecture or consent of instructor.

ARCH 578  PhD Colloquium  credit: 1 Hour.
Provides graduate students insight on the responsibilities and expectations of academic faculty. Core responsibilities - research, teaching and service - required of faculty will be discussed, along with important resources and strategies to aid students in obtaining a faculty appointment and plotting a successful career path. Approved for S/U grading only. Must be repeated in separate terms to a maximum of 2 hours.

ARCH 579  Directed Research  credit: 0 to 8 Hours.
Nature and scope of projects to be determined by consultation between student and faculty advisor; open to architecture and landscape architecture majors as well as those from other disciplines who wish to engage in interdisciplinary work. Approved for both letter and S/U grading only. May be repeated in the same term up to 12 hours and separate terms up to 18 hours; MARCH students are limited to 12 hours. Prerequisite: Consent of instructor.

ARCH 590  Directed Research  credit: 2 to 4 Hours.
Individual investigation of the work of particular architects, of specific buildings, and of the architecture of periods or regions; comparative studies; and aesthetic problems. May be repeated in separate terms to a maximum of 12 hours. Prerequisite: Twelve hours of architectural history or consent of instructor.

ARCH 591  Spec Prob Arch Practice & Mgt  credit: 2 to 4 Hours.
Advanced graduate standing and consent of instructor.

ARCH 592  Spec Prob Building Sci & Tech  credit: 0 to 4 Hours.
In-depth investigation of emerging issues and specific areas of research interest beyond what is covered in graduate courses of regular offering in the area of architectural practice and management. Students, as individuals or in groups, are expected to propose a research plan and methods for a specific topic of research interest in consultation with the instructor, and execute it under the guidance of the instructor through consultation on a regular basis. May be repeated in same and subsequent terms as topics vary to a maximum of 12 hours. Prerequisite: Advanced graduate standing and consent of instructor.

ARCH 593  Spec Prob Arch Practice & Mgt  credit: 2 to 4 Hours.
In-depth investigation of emerging issues and specific areas of research interest beyond what is covered in graduate courses of regular offering in the area of building science technology. Students, as individuals or in groups, are expected to propose a research plan and methods for a specific topic of research interest in consultation with the instructor, and execute it under the guidance of the instructor through consultation on a regular basis. May be repeated to a maximum of 12 hours. (Summer credit: 1 to 2 graduate hours). Prerequisite: Advanced graduate standing and consent of instructor.

ARCH 594  Spec Prob Building Sci & Tech  credit: 2 to 4 Hours.
In-depth investigation of emerging issues and specific areas of research interest beyond what is covered in graduate courses of regular offering in the area of building science technology. Students, as individuals or in groups, are expected to propose a research plan and methods for a specific topic of research interest in consultation with the instructor, and execute it under the guidance of the instructor through consultation on a regular basis. May be repeated to a maximum of 12 hours. Prerequisite: Consent of instructor.

ARCH 595  Spec Prob Struct Theory & Des  credit: 2 to 4 Hours.
Individual or group investigation and study in architectural engineering application; research in economy and design in correlation with architectural, mechanical, and structural requirements. May be repeated to a maximum of 12 hours. Prerequisite: Consent of instructor.
ARCH 596  Spec Prob Housing Env  credit: 2 to 4 Hours.  
Individual investigation or research in housing environments involving 
special issues such as energy conscious design, human-environmental 
relations, aesthetic theory, government policy, and cultural patterns. 
May be repeated to a maximum of 12 hours. Prerequisite: Consent of 
instructor.

ARCH 597  Spec Prob Arch Design  credit: 2 to 4 Hours.  
Individual investigation of building types and systems, aesthetic theories, 
design thesis programming and other problems in architectural design. 
May be repeated to a maximum of 16 hours. Prerequisite: Consent of 
instructor.

ARCH 598  Specialized Architectural Practice  credit: 0 Hours.  
This course adds an academic dimension to professionally supervised 
field experiences in which problems in architectural design and 
technology are defined, researched, and solved. Advanced doctoral 
students are introduced to applied research processes in any of 
architecture’s sub-disciplines. Sites of applied research may include 
commercial firms, not-for-profit organizations, and government agencies. 
Students work in school-approved firms or agencies of their choice. 
Written accounts of work accomplished, documentation of research 
questions developed and pursued, and reflective experiential learning 
reports must be submitted for evaluation. Field experiences may be part 
time or full time. 0 graduate hours. No professional credit. Approved 
for S/U grading only. May be repeated for up to 11 months total of 
training. This course is intended to facilitate CPT in professionally 
focused environmental design research for students in the PhD program. 
Prerequisite: Required research methods course (ARCH 505/LA 505 or 
ARCH 563/LA 563 or equivalent) and approval of both PhD program chair 
and student's PhD adviser. For PhD students who have completed stage 
1 of coursework.

ARCH 599  Thesis Research  credit: 0 to 16 Hours.  
Approved for S/U grading only. May be repeated to a maximum of 
16 hours. Prerequisite: Consent of instructor and graduate program 
coordinator.