ARCH 440. Digital Design and Fabrication. 3 hours.
Lectures, 3D software modeling lab time, and lab time for fabricating these files into physical models and prototypes, delivers a survey knowledge of digital fabrication and production in contemporary architectural practice. Course Information: Prerequisite(s): ARCH 106; and approval of the department.

ARCH 443. Professional Practice I. 2 hours.
Legal and ethical considerations in architectural practice; operation and management guidelines. Overview of the history of the professional architectural practice. Course Information: Prerequisite(s): Completion of the second plateau or approval of the school.

ARCH 444. Professional Practice II. 2 hours.
Business and financial considerations in architectural practice; scope of services communications and marketing guidelines. Interrelationship with clients, consultants, collaborators and the manufacturing and construction industry. Course Information: Prerequisite(s): ARCH 443 and approval of the school.

ARCH 445. Advanced Topic Studio 1. 6 hours.
Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by faculty. Course Information: Extensive computer use required. Field trip required at a nominal fee. Field work required. Students will use city as a research laboratory with field work on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 360 and ARCH 365 and ARCH 366 and ARCH 372; and junior standing or above; and approval of the department. Students must have earned an average grade of C or better in ARCH 365 and ARCH 366. Students with a lower grade point average for the 365/366 studio sequence are required to take an eight-week summer studio in which they must earn at least a C in order to advance to the studio sequence for the following year. Class Schedule Information: To be properly registered, students must enroll in one Discussion/Recitation and one Lecture-Discussion.

ARCH 446. Advanced Topic Studio 2. 6 hours.
Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by faculty. Course Information: Extensive computer use required. Field trip required at a nominal fee. Field work required. Students will use city as a research laboratory with field work on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 465; and approval of the department. Students must have earned an average grade of C or better in ARCH 365 and ARCH 366. Students with a lower grade point average for the 365/366 studio sequence are required to take an eight-week summer studio in which they must earn at least a C in order to advance to the studio sequence for the following year. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture.

ARCH 470. Structures I: Statics. 3 hours.
Introduction to the analysis of structural elements. Introduction to fundamental structural planning criteria and relevant concepts of tension, compression and bending. Introduction to historical and contemporary structural precedents. Course Information: Prerequisite(s): MATH 180 and PHYS 105 and PHYS 106.

ARCH 471. Structures II: Strength of Materials. 3 hours.
Introduction to material properties; strength characteristics of building materials and material assemblies; stress and strain; rigidity and deformation; temperature effects; torsion effects; combined loading of elements and systems. Course Information: Prerequisite(s): ARCH 470 and approval of the school.

ARCH 486. Urban Ecologies and Infrastructures. 4 hours.
Introduction to dynamic relationship of ecology and infrastructure in the context of contemporary urban landscape. Built and natural environments as inseparable networks of a dynamic process. Course Information: Prerequisite(s): Graduate standing in the Master of Architecture program or, for students in the Bachelor of Arts in Architectural Studies program, consent of the instructor.

ARCH 494. Special Topics in Architecture. 2-4 hours.
Current problems. Course Information: May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): 12 hours of history of architecture and art and graduate study in the Master of Architecture program.

ARCH 499. Special Topics. 3 or 4 hours.
Special topics in theory, design, technology, or graphic skills and craft (manual or digital). Course Information: 3 undergraduate hours. 4 graduate hours. May be repeated up to 3 time(s). Prerequisite(s): Senior standing or above.

ARCH 500. Best Practices: Space. 3 hours.
Issues of planning and programming including context awareness and analysis; site and facilities master planning; workload analysis, existing facility capacity analysis and facilities programming. Course Information: Prerequisite(s): Approval of the department.

ARCH 501. Best Practices: Type. 3 hours.
An understanding of operations, activities and functions associated with health settings, including facilities planning and design, departmental planning and design, space planning and design, and equipment planning. Course Information: Prerequisite(s): Approval of the department.
Regulatory constraints on the design process are discussed: government and licensing agencies including review of building codes, zoning controls, Certificate-of-Need, licensing agencies, and other regulatory issues. Course Information: Prerequisite(s): Approval of the department.

ARCH 503. Best Practices: Institution. 3 hours.  
A basic understanding of health delivery organizations including funding mechanisms and economies. Topics in the supply and demand for health services, the role of insurance, public policy issues of cost and quality regulation. Course Information: Prerequisite(s): Approval of the department.

ARCH 504. Ethics in Health Design. 3 hours.  
An understanding of the ethical foundations of health design. Including multi-cultural definitions of health. Issues of sustainable design; universal design; health equity; global access to health; gender equality; and health as a human right. Course Information: Prerequisite(s): Approval of the department.

ARCH 505. Introduction to Evidence Based Design. 3 hours.  
Evidence based health design recognizes the need to be problem-oriented using, as needed, the theories and methods of related disciplines (e.g. psychology, sociology, anthropology, biology, ecology). Course Information: Prerequisite(s): Approval of the department.

Design of multiple or complex building types with emphasis on varying topics related to architectural design. Course Information: Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ARCH 511. Advanced Architectural Design II. 8 hours.  
Design of a comprehensive, single case study with emphasis on varying topics related to architectural design. Course Information: Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551; or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ARCH 512. Advanced Architectural Design I: Activist Practice. 8 hours.  
Design of multiple or complex building types with an emphasis on the theoretical, technical, political and economic considerations relating to community activism and identity politics. Course Information: Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ARCH 513. Advanced Architectural Design II: Activist Practice. 8 hours.  
Design of a comprehensive, single case study with emphasis on theory and site planning, interior space, building systems and materials relating to community activism and identity politics. Course Information: Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

Design of multiple, public buildings with an emphasis on the relationship of aesthetics and construction methods in the making of comprehensive architecture. Course Information: Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ARCH 515. Advanced Architectural Design II: Architectural Technologies. 8 hours.  
Design of a single, public building with an emphasis on the relationship of aesthetics and construction methods in the making of comprehensive architecture. Course Information: Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture.

ARCH 516. Advanced Architectural Design I: Digital Media. 8 hours.  
Design of multiple or complex building types with an emphasis on the theoretical, technical, societal and economic considerations relating to digital media. Course Information: Extensive computer use required. Prerequisite(s): ARCH 430 and ARCH 454 and ARCH 464 and ARCH 474; or approval of the school. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ARCH 517. Advanced Architectural Design II: Digital Media. 8 hours.  
Design of a comprehensive, single case study with emphasis on theory and site planning, interior space, building systems and materials relating to digital media. Course Information: Extensive computer use required. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ARCH 518. Advanced Architectural Design I: Landscape Urbanism. 8 hours.  
Design of urban landscapes and public spaces as informed by large scale infrastructures, natural environments and urban systems. Course Information: Prerequisite(s): ARCH 454 and ARCH 464 and ARCH 474 or approval of the school. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ARCH 519. Advanced Architectural Design II: Landscape Urbanism. 8 hours.  
Design of public building and/or space including surrounding urban landscape with emphasis on perceptual, phenomenal and temporal aspects of design. Course Information: Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551 or ARCH 554 or ARCH 596. Restricted to students in the final year of study in the Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.
ARCH 520. Topics in Architectural Theory and History. 4 hours.
Seminar on a current topic in the criticism, theory or history of architecture and urbanism. Course Information: May be repeated to a maximum of 12 hours.

ARCH 521. Contemporary Theories and Practices. 4 hours.
Discuss a diversity of critical and generative approaches to twentieth-century architecture and theory, and introduces current themes and debates in contemporary design practices and related disciplines.

ARCH 522. Topics in Architectural Technology. 4 hours.
Seminar on a current topic in technology, structures, or digital fabrication and new media. Course Information: May be repeated to a maximum of 12 hours.

ARCH 523. Gender and Space. 4 hours.
A gendered perspective in conceptualizing and critiquing the plan and design, representation, and form of the built and designed natural environment, the distribution of spatial and physical resources, and environmental experience. Course Information: Same as GWS 523. Credit is not given for ARCH 523 if the student has credit in ARCH 412 or GWS 412. Students in the Gender and Women's Studies Concentration should contact the School of Architecture to enroll in the course.

ARCH 524. Digital Fabrication and Visualization. 4 hours.
Seminar/lab that explores architecture through the design technology of its production. Through digital techniques of production, new forms of visual discrimination, prototyping, and communication are introduced. Course Information: Extensive computer use required.

ARCH 531. Architectural Theory and History I. 4 hours.
Discusses a diversity of critical and generative approaches to twentieth-century architecture and theory, with an emphasis on how architects invent and instrumentalize history.

ARCH 532. Architectural Theory and History II. 4 hours.
The emergence of the metropolis beginning in the mid-nineteenth century is examined through a survey of the forces that produced it, and the ideologies and practices that have attempted to organize, control, and simulate it.

ARCH 535. Quantitative Methods in Evidence-Based Design. 4 hours.
Basic experimental and survey design for health design research and associated methods for data analysis. The unit is intended to develop students' capabilities in a range of exploratory and hypothesis-testing data analytic techniques. Course Information: Prerequisite(s): Approval of the department.

ARCH 536. Critical Design Methodologies. 4 hours.
Introduction to current critical design methodologies in health design including integrated practice; building information modeling; GIS; and other advanced forms of visualization and imaging. Course Information: Prerequisite(s): Approval of the department.

ARCH 544. Professional Practices. 4 hours.
An introduction to the law and business of architecture, with an emphasis on alternative models for contemporary professional practice. Course Information: Prerequisite(s): Approval of the department.

ARCH 551. Architectural Design I. 6 hours.
Introduction to the architectural design discipline as an instigator of qualities and as a function of technique and geometry. Exercises address issues of scale, proportion, intricacy, and formal organizing systems through analog and digital media. Course Information: Previously listed as ARCH 451. Corequisite(s): ARCH 531 and ARCH 561.

ARCH 552. Architectural Design II. 6 hours.
Introduction to the architectural design discipline as an organizer of quantities and as a function of argument and scenario. Exercises confront issues of size, number, expediency, and activity through diagramming, modeling, and graphic techniques. Course Information: Previously listed as ARCH 452. Prerequisite(s): ARCH 551.

ARCH 553. Architectural Design III. 6 hours.
Addresses contemporary collective space through the development of a large, mixed-use complex on an urban site, and the communication with diverse audiences by synthesizing information and identity from multiple programs and publics. Course Information: Previously listed as ARCH 453. Prerequisite(s): Advanced standing in the second year of the 3-year Master of Architecture program, or completion of both ARCH 551 and ARCH 552 with a grade point average of B or better in this course sequence. Students with a lower grade point average for the 551/552 studio sequence are required to take an eight-week summer studio in which they must earn at least a B in order to advance to the studio sequence for the following year.

ARCH 554. Architectural Design IV. 6 hours.
Advanced seminar that focuses on technical development and documentation of the design project from ARCH 553. Course Information: Extensive computer use required. Prerequisite(s): Credit or concurrent registration in ARCH 553 and ARCH 563. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Laboratory.

ARCH 561. Architectural Technology I. 4 hours.
Introduction to building construction processes, terminology, conventions, standards, materials, principles of structural behavior, application of components and assemblies, and communication and specifications. Course Information: Previously listed as ARCH 461. Corequisite(s): ARCH 531 and ARCH 551. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture/Discussion.

ARCH 562. Architectural Technology II. 4 hours.
Focuses on the relationship between architecture and the environment, including the high performance, material specification, adaptive behavior, and assembly systems at their primary interface, the building's envelope. Course Information: Previously listed as ARCH 462. Prerequisite(s): ARCH 561. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture/Discussion.

ARCH 563. Architectural Technology III. 4 hours.
Focuses on the relationship between architecture and its occupant, through an analysis and integration of building and core systems: HVAC, electrical, plumbing, ADA and universal design, vertical transport, egress and life safety systems. Course Information: Previously listed as ARCH 463. Prerequisite(s): ARCH 562 or advanced standing in the second year of the three year Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture/Discussion.
ARCH 564. Architectural Technology IV. 4 hours.
An advanced seminar/lab in architectural technologies, structures, new materials, and fabrication techniques; students choose by lottery into one of several sections with diverse content. Course Information: Previously listed as ARCH 464. Prerequisite(s): ARCH 561 and credit or concurrent registration in ARCH 562 and ARCH 563; and credit or concurrent registration in ARCH 573 and ARCH 574. Students who are admitted advanced standing into the second year of the three year Master of Architecture program have the option to take ARCH 562 OR ARCH 573 concurrently with ARCH 564. Course Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture/Discussion.

ARCH 565. Topic Studio. 6 hours.
Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by permanent and distinguished visiting faculty. Course Information: Extensive computer use required. Field work; field trips required at a nominal fee. Prerequisite(s): Completion of both ARCH 553 and ARCH 554 with a grade point average of B or better in this course sequence. Students with a lower grade point average for the 553/554 studio sequence are required to take an eight-week summer studio in which they must earn at least a B in order to advance to the studio sequence for the following year.

ARCH 566. Research Seminar. 4 hours.
The first part of a year-long design-research project, the seminar establishes the information base to be developed into publishable form in the subsequent research studio. Course Information: Field work required.

ARCH 567. Research Studio. 6 hours.
Collaborative and individual design-research, in multiple genres, that addresses concerns at the edge of the contemporary discipline and results from a year-long course of study. Course Information: Extensive computer use required. Field work; field trips required at a nominal fee. Prerequisite(s): ARCH 566.

ARCH 568. Advanced Design. 6 hours.
Design of a complex project that extends the genetic and generic material of Chicago--its history of technical invention, landscape fabrication, infrastructural ingenuity, and lifestyle production--to a current disciplinary project. Course Information: Extensive computer use required. Field work; field trips required at a nominal fee.

Introduction to the analysis of elementary structures by quantitative and graphical means; introduction to historical and contemporary structural precedents. Course Information: Previously listed as ARCH 473. Prerequisite(s): ARCH 561.

ARCH 574. Architectural Structures II. 4 hours.
Introduction to the design of structural elements and systems in steel, concrete and wood including the application of computer-aided engineering software and approximate methods. Course Information: Previously listed as ARCH 474. Prerequisite(s): ARCH 561 or advanced standing into the second year of the three year Master of Architecture program.

ARCH 577. Health Design Preceptorship. 1-3 hours.
Preceptor-guided field experience in health intended to promote evidence based design problem solving skills, and application of critical knowledge and skills in architecture practice. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 7 hours. Field work required. Prerequisite(s): Approval of the department.

ARCH 579. Capstone Colloquium. 4 hours.
Intensive, advanced program of readings, documentation, presentations and discussion that structures and supports research activity related to individual capstone projects. Course Information: Satisfactory/Unsatisfactory grading only. Prerequisite(s): Approval of the department.

ARCH 585. Architectural Theory and History III. 4 hours.
Focuses on ten contemporary practices through close attention to the distinct design concepts, theoretical and formal argumentation, built production, critical reception, and legacies and genealogies that those practices have sponsored. Course Information: Previously listed as ARCH 485.

ARCH 586. Architectural Theory and History IV. 4 hours.
An advanced seminar in architectural and urban criticism, theory and history; students choose by lottery into one of several sections with diverse content.

ARCH 587. Pro-seminar I: Design Criticism. 4 hours.
Introduction to the methods and styles of design criticism, with specific attention to architectural, urban, landscape, and environmental design disciplines.

ARCH 588. Pro-seminar II: Publication and Graphic Argumentation. 4 hours.
Revisits the archive of publications on design to liberate strategies and tactics for use in the present day, as well as to encourage the invention of new forms of evidence through diagramming and projective graphics. Course Information: Prerequisite(s): ARCH 587.

ARCH 589. Writing Tutorial I. 4 hours.
Independent research and writing, pursued under the direction of a primary advisor. Course Information: Prerequisite(s): Consent of the instructor.

ARCH 590. Writing Tutorial II. 4 hours.
Independent research and writing, pursued under the direction of a primary advisor. Course Information: Prerequisite(s): ARCH 589; and consent of the instructor.

ARCH 591. Architectural Study Abroad. 0-17 hours.
Lectures, seminars, studio and independent travel/study abroad. Architectural design, planning, structures, history and technology. Course Information: May be repeated to a maximum of 34 hours. Previously listed as ARCH 491. Field work required. Prerequisite(s): Completion of at least one year of architectural graduate course work; 3.00 cumulative grade point average in architecture; and approval of the school.

ARCH 595. Thesis Seminar. 4 hours.
Thesis seminar is an intensive, advanced program of readings, documentation, presentations and discussion that structures and supports research activity related to individual thesis projects. Course Information: Satisfactory/Unsatisfactory grading only. Field work required. Prerequisite(s): Approval of the Department. Students who wish to take the ARCH 595/ARCH 598 thesis sequence must submit a proposal and have it approved by the program before being permitted to register.

ARCH 596. Independent Study for Graduate Students. 1-8 hours.
Individual study. Course Information: May be repeated to a maximum of 16 hours. Prerequisite(s): ARCH 491 or ARCH 510 or ARCH 512 or ARCH 514 or ARCH 516 or ARCH 518 or ARCH 551; or ARCH 554; and approval of the school. Restricted to students in the final year of study in the Master of Architecture program.
ARCH 597. Capstone Project. 0-8 hours.
Comprehensive project that explores the relationship of architecture to
health-care delivery, evidence-based health design, facilities planning,
multidisciplinary research methods, technological adaptive design, and
environmental innovation. Course Information: Satisfactory/Unsatisfactory
grading only. May be repeated to a maximum of 8 hours. Prerequisite(s):
ARCH 579; and approval of the department.

ARCH 598. Thesis Studio. 0-16 hours.
Individual research under faculty direction. Course Information:
Satisfactory/Unsatisfactory grading only. May be repeated to a maximum
of 8 hours. Prerequisite(s): ARCH 595; and approval of the department.