

ARCH - 1184 Design Fundamentals 1, 4.00 Credits

Prerequisite(s): COMP 1503 with D or better * and (MATH 1033 with D or better * or MATH 1034 with D or better * or MATH 1054 with D or better * or MATH 1063 with D or better *)

Level: Lower

Course Fee \$53.00

An introduction to fundamental design, architectural design drawing and applied drawing techniques. Students are introduced in lecture to design and drawing principles, techniques and conventions used to develop and communicate architectural ideas. Lab assignments emphasize the relationship between drawing and three-dimensional form and space, and include exercises in basic design and model-making. Topics include principles of design and architectural theory, observational sketching, depicting light, texture and depth, analytical drawing, orthographic and paraline projection systems, and professional standards for layout, lettering, use of line weights, and dimensioning of architectural drawings.

ARCH - 2014 Computer Visualization, 4.00 Credits

Level: Lower

Applied Learning-Practicum

This is an introductory course that examines the practical and theoretical issues of the computer as a tool for the production of architectural presentations. Technical skills in SketchUp, Revit and Photoshop are learned through tutorials and projects. Students learn to create and execute projects utilizing the computer as an architectural tool through the application of technical skills.

ARCH - 2394 Design Fundamentals 2, 4.00 Credits

Prerequisite(s): ARCH 1184 with C or better or CIAT 1184 with C or better

Level: Lower

Course Fee \$53.00

Introductory course designed to expose students to fundamental design skills, 3D problem solving, color theory, perspective drawing and rendering. The course examines specific issues such as format, figure/ground, rhythm, contrast, datum, value, space definition, color theory/rendering, one and two point perspective methods and basic model building.

ARCH - 2433 Urban Sketching and Journaling, 3.00 Credits

Level: Lower

Applied Learning-Intl/Dom Trvl

Urban sketching and Journaling is offered to students enrolled at Sant' Anna Institute as part of the study abroad program in Sorrento, Italy. The course is designed to augment the architecture students' experience of their semester abroad, but is also intended for students of the arts, and for any student wishing to develop drawing skills and observational acuity. Emphasis is placed on the fundamentals of drawing as an invaluable tool for seeing, learning, thinking, and communicating. Lectures are centered on the basics of line drawing, perspective, shade and shadow, observational sketching, and note-taking. Lab exercises will capitalize on the unique urban environments of Sorrento and southern Italy. Students are required to keep a running journal of their thoughts and experiences throughout the semester.

ARCH - 3003 Environmental Controls 1, 3.00 Credits

Prerequisite(s): MATH 1033 with C or better or MATH 1034 with C or better or MATH 1054 with C or better or MATH 1063 with C or better

Level: Lower

This course introduces the student to the fundamental principles of mechanical, electrical and plumbing (MEP) systems for small buildings. Students will explore passive design strategies and their effects on active MEP building systems. The course will emphasize holistic analyses of sites, buildings and small building systems with respect to geographic regions. Instruction will focus on impacts of the built environment on global resources. Tests, calculations and delineation of building systems will form the basis of instruction.

ARCH - 3014 Construction Technology 1, 4.00 Credits

Prerequisite(s): ARCH 2014 with D or better

Level: Lower

This course introduces students to the materials, methods and systems commonly used in residential construction. Students will study the inherent qualities of materials and develop an understanding of their use and integration within a residential structure. The process of construction and the resulting assemblies will be graphically explored using Building Information Modeling (BIM). Emphasis will be placed on the graphic standards used in the architectural industry and developing a basic understanding of construction documents. As the course progresses, each student will apply their understanding of residential construction technology, materials and the software environment by producing a series of architectural documents. As the semester progresses, these drawings, which start as schematic graphics addressing issues of design and organization, will develop into contract documents for construction.

ARCH - 3104 Design Studio 1, 4.00 Credits

Prerequisite(s): ARCH 2394 with C or better or CIAT 2394 with C or better

Level: Lower

Course Fee \$106.00

This is a course that presents students with a systematic approach to architectural design methods. Methods of graphic thinking are introduced as a means of exploring and evaluating issues related to the design process. Architectural form and style are investigated relative to human factors and environmental context. Verbal and graphic communication skills are also refined in the development of student design presentations.

ARCH - 4013 Municipal Codes & Regulations, 3.00 Credits

Prerequisite(s): ARCH 3014 with D or better or CIAT 3014 with D or better

Level: Lower

This course covers the municipal code review process and definition of model building and zoning codes. The course emphasizes use and occupancy, special use and occupancy, building heights and areas, types of construction, fire-resistive construction, interior finishes, fire-protection systems, means of egress, accessibility, interior environment, energy efficiency, exterior walls, roof assemblies, structural provisions, building materials and systems and existing structures as described in the Building Code of New York State.

ARCH - 4014 Construction Technology 2, 4.00 Credits

Prerequisite(s): ARCH 3014 with D or better

Level: Lower

This course builds on the construction topics begun in Construction Technology 1. The course is focused on construction techniques for commercial buildings. Topics covered include steel frame, reinforced concrete, pre-cast concrete and building envelope systems. Emphasis is placed on contemporary details and methods of construction. Student evaluations are based on Building Information Modeling (BIM) computer generated projects and periodic tests.

ARCH - 4304 Design Studio 2, 4.00 Credits

Prerequisite(s): ARCH 3104 with C or better or CIAT 3104 with C or better

Level: Lower

Course Fee \$106.00

The course concentrates on problem-solving methods for a variety of architectural project types and sizes. Students working individually and in teams explore and document their work through sketches, study models and preliminary working drawings. The students are encouraged to develop a professional approach to investigating, analyzing and solving architectural problems. This is the second studio course and will help students in preparing for more advanced and challenging studio course work in the curriculum.

ARCH - 4900 Directed Study, 1.00 TO 4.00 Credits

Level: Lower

A student may contract for one to four credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

ARCH - 5306 Design Studio 3, 6.00 Credits

Prerequisite(s): ARCH 4304 with C or better and ARCH 4013 with D or better and ARCH 4014 with D or better and CIVL 4103 with D or better

Level: Upper

Course Fee \$106.00

This studio is designed to develop the student's ability to apply and integrate architectural principles and methods to design of buildings and spaces. The exploration and study of architectural design and technology makes connections between theory and practice through the design of buildings and environments that explore the relationship between architecture, building systems, and human experience. Students will be expected to progress through the schematic design and design development phases of short-term and extended design projects.

ARCH - 5900 Directed Study, 1.00 TO 6.00 Credits

Level: Upper

A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

ARCH - 6102 Community-Economic Redevelopment, 2.00 Credits

Level: Upper

Liberal Arts and Science

This course is a multidisciplinary overview of redevelopment process. This course will be run as a seminar that will meet in a seminar and discussion format. Understanding of the course topics will equip students with the knowledge of community economic development and regeneration project development. It will impart valuable skills for staff and leadership in consulting firms, municipalities, agencies and non-profits that do community development and community regeneration.

ARCH - 6306 Design Studio 4, 6.00 Credits

Prerequisite(s): ARCH 5306 with C or better or CIAT 5306 with C or better

Level: Upper

Course Fee \$106.00

This studio course concentrates on developing the problem solving skills associated with the design of adaptive reuse and historic preservation building projects. Projects will involve the gathering of information about the historical evolution of the building, the documentation and analysis of the building's structural and material conditions, the understanding of the building's relationship to its wider physical and cultural environment and making appropriate design decisions in respect to new uses. Over the course of the semester, students will creatively synthesize their research, building and site with new program requirements into schematics and design development proposals. Sustainability, standards for documentation of as-built conditions, architectural styles, identifying architectural character, historic construction technology and materials will be addressed.

ARCH - 6406 Studio Sorrento, 6.00 Credits

Prerequisite(s): ARCH 5306 with C or better or CIAT 5306 with C or better

Level: Upper

Applied Learning-Intl/Dom Trvl

Studio Sorrento is intended solely for students enrolled in the Junior Year Study Abroad Program in Sorrento, Italy. The course will be structured around the experiences, field trips and other learning opportunities during the semester of study in Italy. Particular attention will focus on elements of traditional town design, sustainable building strategies, historic building analysis, and adaptive/sustainable re-use of historic structures. Student work for the semester will include: the development of a journal of site visits and analyses, photographic and metric documentation, reflective writing, and small design projects within the Sorrento environment.

ARCH - 7003 Environmental Controls 2, 3.00 Credits

Prerequisite(s): (ARCH 2123 with D or better or CIAT 2123 with D or better or ARCH 3003 with D or better) and (ARCH 3304 with D or better or CIAT 3304 with D or better or ARCH 4014 with D or better)

Level: Upper

This course reinforces advanced technical and design strategies to maximize sustainability in large building design, and their relationship to other building service systems. Emphasis will be placed on applications of photovoltaic, geothermal and wind systems in a sustainable environmental context. Qualitative and quantitative measures of building environments with a focus on efficient use of energy through integrated design practices will be employed. Other topics of discussion will include commercial building design practices related to MEP, acoustic, communication, vertical transportation, security, and fire protection systems. Case studies and projects will form the basis of instruction.

ARCH - 7306 Design Studio 5, 6.00 Credits

Prerequisite(s): ARCH 6306 with C or better or ARCH 6406 with C or better

Level: Upper

Course Fee \$159.00

This studio focuses on the design of buildings and places in an urban setting that require an intense concentration of support systems. The course exploration and study of architectural design, technology and planning principles is designed to bridge the gap between architectural theory and practice through the design of structures and places for human use and inspiration. Students will be expected to progress through the schematic design and design development phases of short-term and extended design projects. Conventional media and three-dimensional computer modeling will be used to define, analyze and present solutions to complex architectural problems. Assignments and in-class exercises related to design, theory, technology and criticism will also be used to reinforce topics discussed in class. Civic Engagement Intensive (CEI) sections exist.

ARCH - 8003 Professional Practice, 3.00 Credits

Prerequisite(s): ARCH 4014 with D or better

Level: Upper

The context within which buildings and spaces are created is rapidly evolving as is the way in which architecture and design is practiced. This advanced course is designed to provide the future practitioner with a comprehensive study of the business and practice of architecture and design. Emphasis will be placed on practical skills and usable information that will enhance the student's ability to function within the design professions and/or related disciplines.

ARCH - 8306 Design Studio 6, 6.00 Credits

Prerequisite(s): ARCH 7306 with C or better or CIAT 7306 with C or better

Level: Upper

Applied Learning-Creative Work, Course Fee \$159.00

This course is the capstone of the six semester sequence of architectural design studios. Building upon the thesis research completed during the previous semester, students will finalize a design program for their chosen thesis project. They will carry out a comprehensive design development study, present their design solution to a jury of faculty and visiting professionals, and defend the decision making process that gave rise to their design. The student is expected to show competence and care in their technological solutions and in the creation of a livable, efficient, and contextually appropriate structure.

ARCH - 8716 Design Studio 7-Thesis Defn, 6.00 Credits

Prerequisite(s): ARCH 8306 with C or better

Level: Upper

Course Fee \$159.00

This course will consist of lectures and associated projects intended to provide the student with a framework that will support and guide them through the beginning stage of their Bachelor of Architecture thesis project exploration. Emphasis will be placed on developing research and writing skills that will enhance the student's ability to define an acceptable thesis project, develop a program based on a given set of requirements, and select an appropriate project site. The student will complete the Schematic Design of the thesis project for review and approval by the department faculty.

ARCH - 8733 Modern Architectural Theory, 3.00 Credits

Prerequisite(s): FNAT 5303 with C or better and (ARCH 8306 with B or better or CIAT 8306 with B or better)

Level: Upper

This seminar introduces the student to theories and criticisms of contemporary architecture from the beginnings of the Bauhaus to the issues of contemporary practice. The course is designed to be interactive and will consist of discussion, writing assignments, in class exercises and presentations. Students, singularly and in groups of two, will have the responsibility of initiating weekly discussion of the assigned readings. In class discourse includes discussion and analysis of the central arguments and conclusions of the theoretical constructs presented in the piece. Students will prepare a term paper from selected readings analyzing the author's position and prepare a response that either supports or opposes the stance. A brief oral presentation will accompany the term paper to engage classmates and invited guests in critical commentary.

ARCH - 8753 Advanced Structural Concepts, 3.00 Credits

Prerequisite(s): CIVL 5213 with C or better

Level: Upper

This course addresses advanced architectural structures, exterior building envelopes and production technologies. It explores structural elements and expands to include more complex determinate, indeterminate, long-span, thin shells and tensile systems. Materials covered are: reinforced concrete, steel and contemporary composites. Material performance and detailing of the exterior envelope are emphasized.

ARCH - 8776 Design Studio 8-Thesis Develop, 6.00 Credits

Prerequisite(s): ARCH 8716 with C or better

Level: Upper

Applied Learning-Creative Work, Course Fee \$159.00

This course is the capstone of the eight semester sequence of architectural design studios. Building upon the thesis research completed during the previous semester in Design Studio 7 – Studio Definition, students will finalize a design program for their chosen thesis project. They will carry out a comprehensive design development study, present their design solution to a jury of faculty and visiting professionals, and defend the decision making process that gave rise to their design. The student is expected to show competence and care in their technological solutions and in the creation of a livable, efficient, and contextually appropriate structure.

ARCH - 8793 Professional Development, 3.00 Credits

Prerequisite(s): ARCH 8003 with C or better or CIAT 8003 with C or better

Level: Upper

This comprehensive course will enhance the student's exposure to the architect's professional role based on case studies of real-world experiences. It expands upon previously introduced architectural business practices such as marketing, responding to client requests for services, assembling project teams, working with the appropriate consultants, and delivering a project, all within financial constraints of both project and business management. The changing role of the architect in nontraditional practice types and project delivery methods will also be explored. Throughout the course, professional written, verbal and graphic communication skills will be emphasized in relation to their importance in the business setting.