Architecture (ARC)

ARC 3110 Architecture Studio-Site and Precedent 5:4:3 Fall
* Prerequisite(s): Acceptance to the B-Arch Program and University Advanced Standing.
Immerses students into the architecture studio culture and a design thinking environment. Emphasis is placed on the fundamental design skills with attention on site and precedent. Requires research of a site and program necessary to develop cultural, theoretical, environmental, and historical contexts. Follows a Project based approach with a final presentation to a professional jury.

ARC 3120 Architectural Graphic Communication 3:3:0 Fall
* Prerequisite(s): Acceptance to the B-Arch Program, EGDT 1720, and University Advanced Standing.
Enables the student to confidently communicate design ideas to others. Includes involvement in producing complex 3D models and renderings of various project types. Combines traditional drawing techniques and contemporary software to complete assignments and projects.

ARC 3130 Codes/Specifications/Contracts and Accessibility 3:3:0 Fall
* Prerequisite(s): EGDT 2100, EGDT 2610 both with a grade of C- or higher and University Advanced Standing.
Explores the modern building codes and how they affect building design and construction. Examines written specifications and the various jurisdictional requirements for architectural works. Provides students with in-depth information about the preparation and content necessary for a set of construction documents. Defines and explains the several types of construction contracts, bidding requirements, methods of specifying, substitutions, instructions, and warranties.

ARC 3210 Architecture Studio-Program and Client 5:4:3 Spring
* Prerequisite(s): ARC 3110 with a grade of C- or higher and University Advanced Standing.
Engages in the essential pre-design processes of a project type. Includes the assessment of client and user needs, space analysis, and examination of project site. Follows a project based approach with a final presentation to a professional jury.

ARC 3220 Computer Aided Fabrication in Architecture 3:3:0 Spring
* Prerequisite(s): ARC 3120 and University Advanced Standing.
Familiarizes students with numerous applications of computer-aided manufacturing in architectural design. Emphasizes both the subtractive and additive fabrication methods, various material assemblies, and advanced techniques in digital design software.

ARC 4110 Architecture Studio-Design with Consultants 5:4:3 Fall
* Prerequisite(s): ARC 3210 with a grade of C- or higher and University Advanced Standing.
Produces an architectural design as part of an interdisciplinary team. Integrates a complex architectural program and associated needs of a user. Utilizes collaboration between disciplines such as mechanical, civil, and electrical engineering. Follows a project-based approach with a final presentation to a professional jury.

ARC 4120 Environmental Controls I 3:3:0 Fall
* Prerequisite(s): CMGT 405G with a grade of C- or higher and University Advanced Standing.
Examines how climate, passive design strategies, and heat flow fundamentals affect contemporary building design. Investigates both traditional and alternative heating, ventilating, and air-conditioning systems. Analyzes design of water supply systems, building sanitation, sewer, and plumbing systems.

ARC 4130 Building Structure I 3:3:0 Fall
* Prerequisite(s): EGDT 2610 with a grade of C- or higher and University Advanced Standing.
Examines structural design and analysis of structural elements in wood, steel, masonry, and concrete. Explores environmental conditions including water, snow, wind, soil, and seismic loads. Analyzes multiple structural systems, building systems, diaphragms, and structural connections. Includes structural engineer and architect communications.

ARC 4210 Architecture Studio-Community Engagement 5:4:3 Spring
* Prerequisite(s): ARC 4110 with a grade of C- or higher and University Advanced Standing
Immerses students in the design of an architectural work to fulfill a community need. Encourages networking with community leaders and citizens. Employs project components such as client interviews, research methods, and interdisciplinary study. Explores a complex architectural program and associated needs of the community.

ARC 4220 Environmental Controls II 3:3:0 Spring
* Prerequisite(s): ARC 4120 with a grade of C- or higher and University Advanced Standing
Analyzes how the careful selection and design of architectural lighting systems, material selection, and acoustical analysis affects building space. Examines electrical systems integration, fire protection, computer network wiring, and emergency signal systems. Evaluates the inclusion of sustainable systems to save energy and reduce the carbon footprint in building construction.

ARC 4230 Building Structure II 3:3:0 Spring
* Prerequisite(s): ARC 4130 with a grade of C- or higher and University Advanced Standing
Studies the differences in design for structural elements. Explores environmental conditions including water, snow, wind, soil, and seismic loads. Analyzes multiple structural systems, building systems, diaphragms, and structural connections. Includes structural engineer and architect communications.

ARC 4510 Architecture Studio-Comprehensive Capstone I 5:4:3 Fall
* Prerequisite(s): ARC 4210 with a grade of C- or higher and University Advanced Standing
Corequisite(s): ARC 4520 and ARC 4530
Applies design skills through an architectural work which integrates critical and abstract thinking. Researches building systems, life safety considerations, building envelope, financial, cultural & environmental balance, and construction documentation skills.
ARC 4520
Architectural Theory
3:3:0 Fall
* Prerequisite(s): SURV 455G and University Advanced Standing
* Corequisite(s): ARC 4510 and ARC 4530

Surveys contemporary architectural thought and theory. Focuses on key figures, movements, and texts. Provides an overview of the principal theories that have informed or undermined architecture of the past four decades. Considers the changing role of theory with respect to practice. Supplies students with a set of questions, techniques, and tools for criticism and self-reflection.

ARC 4530
Cultural Considerations in Architecture
3:3:0 Fall
* Prerequisite(s): SURV 455G and University Advanced Standing
* Corequisite(s): ARC 4510 and ARC 4520

Examines the relationship between architecture, culture, history, economics, and humanity. Explores varying cultures and human behaviors and how they represent and manifest themselves in the built environment.

ARC 4610
Architecture Studio-Comprehensive Capstone II
5:4:3 Spring
* Prerequisite(s): ARC 4510 with a grade of C- or higher and University Advanced Standing

Applies design skills through an architectural work which integrates critical and abstract thinking. Researches building systems, life safety considerations, building envelope, financial, cultural and environmental balance, and construction documentation skills.