ARCHITECTURE (ARCH)

ARCH 107 Sustainability Basics and the Built Environment
Description: Introduction to the fundamentals, principles and current assessments relative to responsible, sustainable design as applied to the built environment.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
ACE: ACE 8 Civic/Ethics/Stewardship

ARCH 210 Architectural Design Studio: Representation
Prerequisites: Admitted to Professional Architecture Program
Notes: Letter grade only
Description: Introduction to architectural design through reflective and projective techniques. Divergent and convergent approaches focus on fundamental ways in which user(s), matter, and environment inform architecture.
Credit Hours: 5
Max credits per semester: 5
Max credits per degree: 5
Grading Option: Graded
Prerequisite for: ARCH 211; ARCH 310

ARCH 211 Architectural Design Studio: Ideation
Prerequisites: ARCH 210
Notes: Letter grade only
Description: Consideration of multiple parameters including structure, organization, and material acknowledging their potential to inform each other. Exercises will engage a student’s ability to effectively and persuasively communicate design positions with regards to appropriateness.
Credit Hours: 5
Max credits per semester: 5
Max credits per degree: 5
Grading Option: Graded

ARCH 222 BIM for Design - Introduction to BIM
Prerequisites: Admission to the Architecture Program
Notes: This course is a mini course, not a semester-long course.
Description: Introduction to Building Information Modeling (BIM) and its application for design. An overview of the capabilities of BIM for 3D modeling, information tracking, documentation, and collaboration.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Grading Option: Graded
Prerequisite for: ARCH 310

ARCH 231 Structural Fundamentals
Prerequisites: Admission to a professional program in the College of Architecture or permission
Description: Introduction to the concept of structure as integral and essential to architectural design. Exposure to basic physical principles and structural systems.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 232 Materials and Assemblies
Prerequisites: Admission to a professional program in the College of Architecture
Description: Introduction to materials and assemblies with an emphasis on design implications and contemporary practices.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 331, CNST 331

ARCH 240 Architecture History and Theory I
Description: Survey of the development of architecture from prehistory to the mid-eighteenth century.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 262; ARCH 341
ACE: ACE 5 Humanities ACE 7 Arts

ARCH 241 Architecture History and Theory II
Description: Survey of the history and theory of architecture from the mid-eighteenth century to the present day.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 262; ARCH 341
ACE: ACE 5 Humanities ACE 7 Arts

ARCH 262 Building Organization
Prerequisites: Admission to a professional program in the College of Architecture, or DSGN 110 and ARCH 241
Description: Introduction to spatial organizations as related to architectural programming and the design process. Exposure to common types of organizational configurations, the forces that shape them, and their consequential affects.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 310 Architectural Design Studio: Organize
Prerequisites: ARCH 210, ARCH 211
Description: Architectural design creating a complex programmatic and spatial organization. Creation/critique of design program; the proposal of plausible structure, material and their expressions; and the exploration of analytical and expressive potentials of representation.
Credit Hours: 5
Max credits per semester: 5
Max credits per degree: 5
Grading Option: Graded
ARCH 311 Architectural Design Studio: Situate
Crosslisted with: ARCH 311H
Prerequisites: ARCH 310
Description: Architectural design creating effective and appropriate relationships with manmade/natural environments. Selection/critique of site; the analysis and documentation of contextual conditions; and the incorporation of structure, material, and their expressions into design.
Credit Hours: 5
Max credits per semester: 5
Max credits per degree: 5
Grading Option: Graded
Prerequisite for: ARCH 430, ARCH 430H; DSGN 410

ARCH 311H Architectural Design Studio: Situate
Crosslisted with: ARCH 311
Description: Architectural design creating effective and appropriate relationships with manmade/natural environments. Selection/critique of site; the analysis and documentation of contextual conditions; and the incorporation of structure, material, and their expressions into design.
Credit Hours: 5
Max credits per semester: 5
Max credits per degree: 5
Grading Option: Graded
Prerequisite for: ARCH 430, ARCH 430H; DSGN 410

ARCH 327 Parametric Modeling for Design
Prerequisites: DSGN 123
Description: Introduction to parametric and related basic computational concepts for design. Explorations in specific parametric modeling software techniques.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Grading Option: Graded

ARCH 331 Structural Mechanics
Crosslisted with: CNST 331
Prerequisites: ARCH 232 or admission into the Construction Management degree program
Description: Introduction to various external force systems, and their resulting internal forces and deformations, which act on structural elements.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 332, CNST 332

ARCH 332 Structural Optimization
Crosslisted with: CNST 332
Prerequisites: ARCH 331
Description: Optimization of key properties of elemental components and systems of building structures: force, geometric, and material.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 430, ARCH 430H

ARCH 333 Building Environmental Technical Systems I
Crosslisted with: CNST 305
Prerequisites: PHYS 151.
Description: Characteristics and performance of buildings with respect to thermal and psychrometric environment in buildings related to human comfort, heat gain/heat loss, ventilation, natural energy systems and sustainable design principles, and plumbing and life safety systems in the Built environment.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 430, ARCH 430H; CNST 405

ARCH 334 Building Environmental Technical Systems II
Crosslisted with: IDES 334
Prerequisites: Admission to a professional program in the College of Architecture
Description: Architectural lighting and acoustical systems of buildings for non-engineers. Fundamentals of light and vision, lighting equipment, requirements for building lighting, fundamentals of sound and hearing, room acoustics, noise control, and basic design methods for both architectural lighting and acoustics.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 341 Architectural Theory
Prerequisites: ARCH 240 and 241.
Notes: Organized thematically.
Description: Architectural theory. Written accounts on what architecture should be and why. Compare a number of positions on particular issues that have persisted through the history of architectural theory.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 347 African Architecture
Crosslisted with: ARCH 547, AHIS 366
Prerequisites: Sophomore standing or above.
Description: Survey of the architectural traditions of the African continent, from pre-historic times to the present day. Buildings-famous and typical-theories, and approaches that are appropriate to the specific cultural environments.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 360 Site Context Issues
Crosslisted with: ARCH 360H
Prerequisites: ARCH 310
Description: Investigation of the interrelationship among the physical context as created by nature and humanity, the various design professions concerned with site development and architectural ideas. Site analysis, research, selection, and development projects along with practical exercises form the basis of the lab experience.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 430, ARCH 430H
ARCH 360H Site Context Issues
Crosslisted with: ARCH 360
Description: Investigation of the interrelationship among the physical context as created by nature and humanity, the various design professions concerned with site development and architectural ideas. Site analysis, research, selection, and development projects along with practical exercises form the basis of the lab experience.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Prerequisite for: ARCH 430, ARCH 430H

ARCH 392 Selected Topics in Architecture
Prerequisites: Permission.
Description: Group investigation of a topic in architecture originated by the instructor.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Grading Option: Graded

ARCH 396 Problems in Architecture
Prerequisites: Permission.
Description: Individual investigation of a topic in architecture.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Grading Option: Graded

ARCH 411 Architectural Design: Integrate
Crosslisted with: ARCH 411H
Prerequisites: DSGN 410, or by permission
Description: Continuation of complex problems as it relates to the integration and consideration of environmental stewardship, technical documentation, accessibility, site design, life safety, environmental systems, structural systems, and building envelope systems and assemblies, emphasizing technological considerations as formal and organizational determinants.
Credit Hours: 5
Max credits per semester: 5
Max credits per degree: 5
Grading Option: Graded
ACE: ACE 10 Integrated Product

ARCH 417 Product Design
Crosslisted with: ARCH 617, ARCH 817, IDES 417, IDES 817, LARC 417
Prerequisites: IDES 201, IDES 301 (or DSGN 421, 422 & 423), IDES 416
Description: Generate a design from conception to a finished product that emphasizes the awareness of the human and the environment in the creation of product design solutions.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Offered: SPRING

ARCH 418 Fabrication and Construction Team
Crosslisted with: ARCH 518, ARCH 818
Prerequisites: Permission.
Description: The shifting relationship between conceiving and making through hands-on, collaborative experience with actual design-construct projects in which students play a decisive role in all aspects of research, design and construction of the commission.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Grading Option: Graded

ARCH 428 BIM: Analysis
Crosslisted with: ARCH 528, ARCH 828
Prerequisites: ARCH 222
Description: Introduction to the principles and techniques of “GiM” (geometry information modeling) and analysis. Explores how “GiM” is essential to the concept of “BiM” (building information modeling) and how it is used in conjunction with different types of analytical modeling.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Grading Option: Graded
Offered: SPRING

ARCH 429 BIM: Interoperability
Crosslisted with: ARCH 529, ARCH 829
Prerequisites: ARCH 222
Description: Cover the basics of data and interoperability, including the definitions of key terms and an overview of the various technologies to facilitate data exchange between different systems and platforms.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Grading Option: Graded
Offered: SPRING

ARCH 411H Architectural Design: Integrate
Crosslisted with: ARCH 411
Prerequisites: DSGN 410, or by permission
Description: Continuation of complex problems as it relates to the integration and consideration of environmental stewardship, technical documentation, accessibility, site design, life safety, environmental systems, structural systems, and building envelope systems and assemblies, emphasizing technological considerations as formal and organizational determinants.
Credit Hours: 5
Max credits per semester: 5
Max credits per degree: 5
Grading Option: Graded
ACE: ACE 10 Integrated Product
ARCH 430 Technological Integration
Crosslisted with: ARCH 430H
Description: Integrative study of structural, building technology, and environmental technology systems in a building within the context of ARCH 411. Emphasis on the role structural, mechanical systems, and assemblages play in the evolution of an architectural design project. Students illustrate an understanding of the principles which underlie each of the technical systems and demonstrate the ability to apply those principles to the design project.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Offered: SPRING

ARCH 430H Technological Integration
Crosslisted with: ARCH 430
Description: Integrative study of structural, building technology, and environmental technology systems in a building within the context of ARCH 411. Emphasis on the role structural, mechanical systems, and assemblages play in the evolution of an architectural design project. Students illustrate an understanding of the principles which underlie each of the technical systems and demonstrate the ability to apply those principles to the design project.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 440 Details
Crosslisted with: ARCH 540, ARCH 840
Prerequisites: ARCH 341
Description: Focused study of architectural theory and problems of practice and physicality examined in the context of the architectural detail.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 443 Architectural Representations: Theory + Application
Crosslisted with: ARCH 543, ARCH 843
Prerequisites: ARCH 311
Description: Explores architectural practice relative to representational communication both internally within the design process as well as with an external audience. This course also investigates the impact of tangential techniques appropriated to the practice. Readings, discussions, and projects will focus on issues of perception and projection relative to these systems and how they impact the practice of architecture in a contemporary context. Course structure is both a theory seminar addressing the position of representation through readings, as well as a laboratory for investigating their application.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 458 The Changing Workplace
Crosslisted with: ARCH 558, ARCH 858, IDES 458, IDES 858
Description: Survey and integration of theory, methods, research and findings from the social, behavioral, and managerial sciences as they relate to the design of work environments. Factors effecting change in the contemporary workplace.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 461 Urbanism
Crosslisted with: LARC 461, ARCH 561, ARCH 861
Prerequisites: ARCH 360 or permission.
Notes: Letter grade only.
Description: Issues of contemporary urbanism and the processes of urban design. Experiential nature of cities, role of public policy, ideology, genesis and development of urban form and space.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 466 Community Design Center
Crosslisted with: ARCH 566, ARCH 866
Prerequisites: Permission.
Description: Community-oriented design studio. The design process and its relationship to the environmental development process.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Grading Option: Graded

ARCH 467 Planting Design
Crosslisted with: ARCH 567, ARCH 867, LARC 467, PLAS 467
Description: Processes, principles, and elements using plant materials as a key component of landscapes designed for human intent. Focus is on a systems approach, combining environmental attributes with functional needs to create aesthetic, functional, and sustainable landscapes for parks, commercial property, and residences using a combination of site visits and online resources.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Grading Option: Graded with Option
Offered: FALL
Course and Laboratory Fee: $25
ARCH 469 Ecological Landscape Design
Crosslisted with: PLAS 469
Prerequisites: Permission
Description: Integration of ecological and environmental assessment, design process and management considerations to create detailed landscape plans for public, private, and commercial clients. Includes dream landscape project. Individuals and collaborative teams will develop concepts and details, conduct client meetings and studio critiques, and communicate graphically and verbally through presentations.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Grading Option: Graded with Option
Offered: SPRING
ACE: ACE 10 Integrated Product
Course and Laboratory Fee: $25

ARCH 481 Women in Design
Crosslisted with: ARCH 581, ARCH 881, IDES 481
Prerequisites: Admission to the BSD program.
Description: Intensive study of particular historical and contemporary contributions by women to the design professions related to the built environment. Evaluation of design work by and about women seen in their aesthetic and intellectual context. Examinations of the roles and values of women in design and their impact on the assumptions and issues currently held by the profession.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded

ARCH 489 Design Research
Crosslisted with: ARCH 589, ARCH 889, IDES 489, IDES 889, LARC 489
Prerequisites: Admission to a professional program in the College of Architecture.
Description: Comprehensive overview of the complementary and contributory relationship between research and design, with a particular emphasis on design research as a projective activity.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
Offered: FALL

ARCH 491 Seminar in Architecture
Prerequisites: Permission
Description: Selective studies of contemporary problems in design and practice.
Credit Hours: 2-3
Min credits per semester: 2
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option

ARCH 492 Selected Topics in Architecture
Crosslisted with: ARCH 492H, ARCH 592, ARCH 692, ARCH 892
Prerequisites: Permission.
Description: Group investigation of a topic in architecture originated by the instructor.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 24
Grading Option: Graded