

ARCHITECTURAL TECHNOLOGY (ARCH)

ARCH 101 Design I - Elements of Design

4 Units (Degree Applicable, CSU, UC)

Lecture: 54 Lab: 54

Corequisite: ARCH 121

Design and design process including conceptualization, visualization, form making, presentation, expression, and site analysis of physical, contextual, and cultural aspects of design and the urban environment. Portfolio will be produced. Field trips are required.

Course Schedule

ARCH 102 Design II - Architectural Design

4 Units (Degree Applicable, CSU, UC)

Lecture: 54 Lab: 54

Corequisite: ARCH 122 or ARCH 23

Advisory: (ARCH 10 and ARCH 11) or (ARCH 101 and ARCH 141)

Formerly ARCH 21. Second level architectural design studio with a focus on site analysis, design conceptualization, form making, program development and presentation. Emphasis is on critical thinking and problem solving integrated with the artistic design process. Investigations will stress symbolic expression, aesthetics, craftsmanship, technical skills, vocabulary and physical object making through the design of multi-family residential, institutional and cultural buildings. Field trips are required.

Course Schedule

ARCH 121 CADD and Digital Design Media Level I

4 Units (Degree Applicable, CSU, UC)

Lecture: 54 Lab: 54

Corequisite: ARCH 101

CADD (Computer Aided Design and Drafting) Level 1 and computer applications in architecture, engineering, and related fields including spreadsheet, drawing, and presentation application. Field trips required.

Course Schedule

ARCH 122 Architectural Presentations

4 Units (Degree Applicable, CSU, UC)

Lecture: 54 Lab: 54

Corequisite: ARCH 21 or ARCH 102

Advisory: (ARCH 10 and ARCH 11) or (ARCH 101 and ARCH 141)

Formerly ARCH 23. Analysis and preparation of architectural presentation projects, including schematic and final design, architectural models, oral presentation techniques, board layouts using hand-drawn and computer-aided techniques, and development of project portfolio. Field trips required.

Course Schedule

ARCH 141 Design Drawing and Communication

4 Units (Degree Applicable, CSU, UC)

Lecture: 54 Lab: 54

Formerly ARCH 11. Architectural drawing techniques including graphic standards, scales, orthographic, paraline, and perspective projections. Field trips required.

Course Schedule

ARCH 142 Architectural Materials and Specifications

4 Units (Degree Applicable, CSU)

Lecture: 54 Lab: 54

Advisory: Eligibility for MATH 51

Formerly ARCH 12. Building materials and specifications used in architecture and construction. Includes a lab component of common building material applications. Field trips required.

Course Schedule

ARCH 145 Building and Zoning Codes

3 Units (Degree Applicable, CSU)

Lecture: 54

Advisory: ARCH 141 or ARCH 11

Formerly ARCH 14. Building and zoning codes, including code requirements related to architectural design and construction documentation. Process of obtaining design approvals and building permits from proper authorities having jurisdiction.

Course Schedule

ARCH 146 Architectural Drawings and Fabrications

3 Units (Degree Applicable, CSU)

Lecture: 36 Lab: 71

Advisory: ARCH 141 (formerly ARCH 11)

Formerly ARCH 15. Architectural working drawings and construction documents for light frame construction. Field trips required.

Course Schedule

ARCH 147 Architectural CAD and BIM

3 Units (Degree Applicable, CSU)

Lecture: 36 Lab: 71

Advisory: (ARCH 141 or ARCH 11) or (ARCH 121 or ARCH 16)

Formerly ARCH 18. 3-D Computer Aided Design and Drafting (CAD) and Building Information Modeling (BIM) for architectural design and design development. Portfolio of 3-D building models and extracted 2-D drawings will be produced. Field trips required.

Course Schedule

ARCH 180 Science Concepts for Sustainable Design and Environmental Control

3 Units (Degree Applicable, CSU)

Lecture: 54

Simplified and contextualized science concepts focused on sustainable design and environmental control. Applicable elements from several disciplines will be brought together and investigated in a non-mathematical and experiential format. Topics such as human thermal comfort, thermal energy, solar geometry, insolation, and energy conservation will be examined in the context of the built environment.

Course Schedule

ARCH 201 Design III - Environmental Design

4 Units (Degree Applicable, CSU, UC)

Lecture: 54 Lab: 54

Corequisite: ARCH 221

Advisory: ARCH 102

Theory and principles of environmental design as applied to architecture, landscape architecture, urban design, urban planning, and civil engineering. Portfolio will be produced. Field trips required.

Course Schedule

ARCH 202 Design IV - Sustainable Design Advanced Project

4 Units (Degree Applicable, CSU)

Lecture: 54 Lab: 54

Corequisite: ARCH 222

Advisory: ARCH 201

Fourth level architectural design studio focusing on sustainability, energy efficiency, and environmental conservation. Emphasis is on critical thinking and problem solving involving material selection, envelope design, advanced space planning, and the development of designs from complex building programs. Investigations will stress logical organization, craftsmanship, technical skills, vocabulary, and physical object making through the design complex building types. Field trips are required.

Course Schedule

ARCH 221 Architectural Rendering and Illustration

3 Units (Degree Applicable, CSU, UC)

Lecture: 36 Lab: 71

Corequisite: ARCH 201

Advisory: ARCH 122

Architectural and interior illustration including perspective drawing, sketching, shades and shadows, entourage, and color application utilizing various media and development of project portfolio. Field trips required.

Course Schedule

ARCH 222 Advanced Digital Media, Generative, and Algorithmic Design and Illustration

3 Units (Degree Applicable, CSU)

Lecture: 36 Lab: 71

Corequisite: ARCH 202

Architectural computational and algorithmic design. Course focuses on design mathematics, visual interface coding, and the development of digital models from computational definitions. Computer Aided Design (CAD), 3 dimensional (3-D) illustration and modeling. Development of interior and exterior 3-D models and how they interact with solar lighting.

Course Schedule

ARCH 247 Architectural CAD Working Drawings

3 Units (Degree Applicable)

Lecture: 36 Lab: 71

Advisory: (ARCH 15 or ARCH 146) or (ARCH 147 or ARCH 18)

Formerly ARCH 26. Architectural Computer Aided Design (CAD) for design development and working drawings. Portfolio of working drawings using Building Information Modeling (BIM) and CAD applications of integrated 3-D and 2-D BIM/CAD models will be produced. Field trips required.

Course Schedule

ARCH 250 World Architecture I

3 Units (Degree Applicable, CSU, UC)

Lecture: 54

Formerly ARCH 31. Development of world architecture from pre-history to the Middle Ages. Influence of geography, religion, and socio-economic background on architecture from ancient Egypt, Europe through the Middle Ages, and classic civilizations of Asia and the Americas. Field trips required.

Course Schedule

ARCH 251 World Architecture II

3 Units (Degree Applicable, CSU, UC)

Lecture: 54

Formerly ARCH 32. Development of world architecture from the Renaissance to the present. Influence of environment, religion and socio-economic movements on modern architecture. Field trips required.

Course Schedule

ARCH 280 Structural Design Level I

3 Units (Degree Applicable, CSU)

Lecture: 54

Advisory: Eligibility for MATH 71

Theories of structural design and the relationship of structure to form, function, and economics. Analysis of structural systems including statics, strength of materials, and structural properties as well as the demonstration of forces and stresses.

Course Schedule

ARCH 290 Architectural Work Experience

1-2 Units (Degree Applicable)

(May be taken for Pass/No Pass only)

Lab: 60-150

Prerequisite: Compliance with work experience regulations as designated in the College Catalog

Provide work experience in architecture at an approved work site related to classroom instruction. A minimum of 75 paid or 60 non-paid)clock hours per semester of supervised work is required for each unit of credit. Field trips are required

Course Schedule