

ARCHITECTURAL TECHNOLOGY DEGREE AND CERTIFICATE PROGRAM

ASSOCIATE IN SCIENCE DEGREE IN ARCHITECTURAL TECHNOLOGY

Major Code: 020100

Plan B

The Architectural Technology program prepares men and women for careers in the Architectural Industry as drafters, designers, project managers, or material salespersons. Students are also prepared for related fields such as environmental design, industrial design, sustainable technology, urban planning, fabrication or construction management. Courses of study may be selected and scheduled in any order based on course prerequisites, the available class schedule, and/or academic and technical competencies. Students seeking a transfer major must see a college counselor and visit the Department of Architecture for requirements.

As part of the degree program, students must complete 18 units of General Education requirements from Graduation Plan B.

		Units
Env 101	Foundations of Design I	3
Env 102	Foundations of Design II	3
Arc 115	Architectural Practice	2
Arc 121	Freehand Drawing	2
Arc 151	Materials of Construction	3
Arc 160	Computers for Designers	3

Arc 161	Introduction to Computer Aided Architectural Design	2
Arc 162	Computer Aided Design and Drafting	3
Arc 164	Design Software for Architecture	2
Arc 172	Architectural Drawing I	3
Arc 173	Architectural Drawing II	3
Arc 201	Architectural Design I	3
Arc 221	Architectural Rendering	2
Arc 223	Portfolio Development	1
Arc 261	Computer-Aided Design for Architecture	3
Arc 271	Architectural Drawing III	3
Arc 291	Strength of Architectural Materials	3
	Additional G.E. Requirements	18
	Total	62

CERTIFICATE OF ACHIEVEMENT IN ARCHITECTURAL TECHNOLOGY

Major Code: 020100

Two options for the Certificate of Achievement in Architectural Technology are offered. They are Architectural Graphics and Architectural Construction Documents. Below are the required courses for each option:

		Units
ARCHITECTURAL GRAPHICS		
Env 101	Foundations of Design I	3
Env 102	Foundations of Design II	3
Arc 121	Freehand Drawing	2
Arc 160	Computers for Designers	3
Arc 164	Design Software for Architecture	2
Arc 172	Architectural Drawing I	3
Arc 221	Architectural Presentation Graphics	2
Arc 223	Portfolio Development	1
Arc 261	Computer-Aided Design for Architecture I	3
Arc 262	Computer-Aided Design for Architecture II	3
Eng 28	Intermediate Reading & Comp.	3
Math 123A	Elementary & Int. Algebra I	4
Math 123 B	Elementary & Int. Algebra II	4
	Total	36

ARCHITECTURAL CONSTRUCTION DOCS.**Units**

Arc 115	Architectural Practice	2
Arc 151	Materials of Construction	3
Arc 160	Computers for Designers	3
Arc 161	Introduction to Computer Aided Architectural Design I	2
Arc 162	Computer Aided Design and Drafting	3
Arc 164	Design Software for Architecture	2
Arc 172	Architectural Drawing I	3
Arc 173	Architectural Drawing II	3
Arc 271	Architectural Drawing III	3
	or	
Arc 272	Architectural Drawing IV	3
Eng 28	Intermediate Reading & Comp.	3
Math 123A	Elementary & Int. Algebra I	4
Math 123 B	Elementary & Int. Algebra II	4
	Total	36

SKILLS CERTIFICATES IN ARCHITECTURAL TECHNOLOGY

These skills certificates are designed to help students prepare for careers in the Architectural Industry. Units earned for a Skills Certificate may also be used toward Certificates of Achievement and the Associate in Science Degree in Architectural Technology.

ENVIRONMENTAL GRAPHICS

Env 101	Foundations of Design I	3
Arc 121	Freehand Drawing	2
Arc 160	Computers for Designers	3
Arc 221	Architectural Rendering	2
Arc 223	Portfolio Development	1
Arc 261	Computer-Aided Design for Architecture I	3
Arc 262	Computer-Aided Design for Architecture II	3
	Total	17

DESIGN

Env 101	Foundations of Design I	3
Env 102	Foundations of Design II	3
Arc 160	Computers for Designers	3
Arc 164	Design Software for Architecture	2

Arc 201	Architectural Design I	3
Arc 202	Architectural Design II	3
	Total	17

PRODUCTION DRAFTING

Arc 161	Introduction to Computer Aided Architectural Design	2
Arc 162	Computer Aided Design and Drafting	3
Arc 164	Design Software for Architecture	2
Arc 172	Architectural Drawing I	3
Arc 173	Architectural Drawing II	3
Arc 271	Architectural Drawing III	3
	or	
Arc 272	Architectural Drawing IV	3
	Total	16

ARCHITECTURAL TECHNICAL CERTIFICATE

Arc 115	Architectural Practice	2
Arc 151	Materials of Construction	3
Arc 160	Computers for Designers	3
Arc 161	Introduction to Computer Aided Architectural Design	2
Arc 162	Computer Aided Design and Drafting	3
Arc 172	Architectural Drawing I	3
	Total	16

For information on Student Learning Outcomes for this program, go to <http://www.lahc.edu/slo/program.html>

ARCHITECTURE

ARC 115 (2.00 Units) ARCHITECTURAL PRACTICE

2.00 hours lecture

Grading: Letter Graded

This course covers the role of an Architect in professional practice, including employment, legal and administrative procedures, and relationship to other design and construction professions. Licensing requirements and the operation of a professional office are also studied.

Transfer Credit: CSU

ARC 121 (2.00 Units) FREEHAND DRAWING I

1.00 hour lecture and 3.00 hours lab

Grading: Letter Graded

Students will study drawing and sketching using pencil, ink, and charcoal, mostly of perspective drawings of architectural forms. This course includes studies of

composition, form, value, and scale. A \$20 lab fee is required.

Transfer Credit: UC/CSU

ARC 132 (3.00 Units) ARCHITECTURAL HISTORY I: PREHISTORY TO THE MIDDLE AGES

3.00 hours lecture

Grading: Letter Graded

This course covers the development of architecture from prehistoric times to the beginning of the Renaissance, focusing on geographical, geological, climatic, religious social and historical aspects. Note this course satisfies GE Requirements in Humanities. (Same as Art 137 (3) UC:CSU)

Transfer Credit: UC/CSU

ARC 133 (3.00 Units) ARCHITECTURAL HISTORY II: LATE MIDDLE AGES TO MODERN

3.00 hours lecture

Grading: Letter Graded

This course covers the development of architecture from Renaissance to modern architecture of today and tomorrow, focusing on geographical, geological, climatic, religious social and historical aspects. Note this course satisfies GE Requirements in Humanities.

Transfer Credit: UC/CSU

ARC 151 (3.00 Units) MATERIALS OF CONSTRUCTION

3.00 hours lecture

Grading: Letter Graded

This course investigates principal building materials: wood, steel, concrete, and masonry, and their uses in the architecture and construction field. Non-structural materials such as glass, roofing, plastics, and paint are covered as well as sustainable strategies and materials.

Transfer Credit: CSU

ARC 160 (3.00 Units) COMPUTERS FOR DESIGNERS

1.50 hours lecture and 4.50 hours lab

Grading: Letter Graded

This course is an introduction to Photoshop and Illustrator, geared toward architects, environmental and industrial designers. Emphasis on how designers can optimize and understand the role of digital medium in today's design industry. A \$20 lab fee is required.

Transfer Credit: CSU

ARC 161 (2.00 Units) INTRODUCTION TO COMPUTER-AIDED ARCHITECTURAL DESIGN

1.00 hour lecture and 3.00 hours lab

Grading: Letter Graded

This course introduces AutoCAD drafting geared toward architects. Covering all basic commands, drawing organization, and residential projects. A \$20 lab fee is required.

DE**

Transfer Credit: CSU

ARC 162 (3.00 Units) COMPUTER-AIDED DESIGN AND DRAFTING

1.00 hour lecture and 5.00 hours lab

Prerequisite: Completion of Architecture 161 with a grade of 'C' or better.

Grading: Letter Graded

This course is a continuation of ARC 161 presenting studies of AutoCAD for architects focusing on advanced concepts such as dynamic blocks and annotative text and dimensioning. Includes basic 3-dimensional modeling in AutoCAD and Rhino. A \$20 lab fee is required.

Transfer Credit: CSU

ARC 164 (2.00 Units) DESIGN SOFTWARE FOR ARCHITECTURE

1.00 hour lecture and 3.00 hours lab

Grading: Letter Graded

This course introduces Revit and BIM concepts. Creation of a 3-dimensional model and resulting 2-dimensional drawings such as plan, section, elevation. A \$20 lab fee is required.

Transfer Credit: CSU

ARC 165 (2.00 Units) SUSTAINABLE DESIGN AND BUILDING INFORMATION MODELING

1.00 hour lecture and 2.00 hours lab

Prerequisite: Completion of Architecture 164 with a grade of 'C' or better.

Grading: Letter Graded

This course examines the underlying principles of sustainability design. Major aspects of sustainable design such as site location, energy efficiency, and material selection are covered. In addition, this course addresses the importance of Building Information Modeling (BIM) as it relates to sustainable design. Advanced topics in BIM are covered. A \$20 lab fee is required.

DE**

Transfer Credit: CSU

DE** indicates that this course may be offered as Distance Education

TBA** indicates that this course may be offered in TBA format

**ARC 170 (2.00 Units)
BEGINNING ARCHITECTURAL DRAFTING**

1.00 hour lecture and 3.00 hours lab

Grading: Letter Graded

This course is an introduction to architectural skills for students entering architecture, urban planning, art, landscape, environmental, or interior design. Training in drawing at scale, developing multi-view drawings of buildings, floor plans, elevations, etc. Introduction to model building, sketching, and spatial comprehension. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 172 (3.00 Units)
ARCHITECTURAL DRAWING I**

2.00 hours lecture and 4.00 hours lab

Grading: Letter Graded

In this course techniques of architectural drafting, symbols, dimensioning, and methods of representation, including the fundamentals needed to prepare a complete set of working drawings for a simple wood frame structure. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 173 (3.00 Units)
ARCHITECTURAL DRAWING II**

2.00 hours lecture and 4.00 hours lab

Prerequisite or corequisite: Completion of Architecture 172 with a grade of 'C' or better. Completion of Architecture 161 with a grade of "C" or better, or concurrent enrollment.

Grading: Letter Graded

In this course students will study further development of drafting skills centered around the documentation of a two-story wood frame structure including floor plans, elevations, sections, details, plot plan, and topography. Covers the fundamental use of materials in construction with emphasis on building codes. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 201 (3.00 Units)
ARCHITECTURAL DESIGN I**

1.00 hour lecture and 5.00 hours lab

Prerequisites: Completion of Architecture 172 and Environmental Design 102 with grades of 'C' or better.

Grading: Letter Graded

In this course students will work in a design lab studio exploring an architectural design problem, focused on analysis, layout, aesthetics, interpretation, sustainability and the nature of materials. Methods of presentations are studied as well as design approaches. A \$20 lab fee is required.

Transfer Credit: UC/CSU

**ARC 202 (3.00 Units)
ARCHITECTURAL DESIGN II**

1.00 hour lecture and 5.00 hours lab

Prerequisite: Completion of Architecture 201 with a grade of 'C' or better.

Grading: Letter Graded

Students in this course will work in a design lab studio exploring an architectural design problem, focused on analysis, function, site, urban environment, aesthetics, culture and sustainability. Methods of presentations are studied as well as design approaches. A \$20 lab fee is required.

Transfer Credit: UC/CSU

**ARC 221 (2.00 Units)
ARCHITECTURAL RENDERING**

1.00 hour lecture and 3.00 hours lab

Prerequisite: Completion of Architecture 160 and Architecture 161 with a grade of 'C' or better.

Grading: Letter Graded

In this course students will study a variety of digital media including 3DStudio Max, AutoCAD, Illustrator, InDesign, and Photoshop used in the creation of advanced rendering and illustration of architectural projects. Graphic layouts, montage, and interchange between various formats are explored. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 223 (1.00 Units)
PORTFOLIO DEVELOPMENT**

2.00 hours lab

Prerequisite: Completion of Architecture 160, Architecture 161, and Environmental Design 102 with a grade of 'C' or better.

Grading: Letter Graded

Students in this course will create a professional architectural portfolio suitable for employment interviews or submission to transfer universities. Synthesize previous projects and skills into a cohesive graphic package. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 261 (3.00 Units)
COMPUTER-AIDED DESIGN FOR
ARCHITECTURE I**

1.00 hour lecture and 5.00 hours lab

Grading: Letter Graded

This course is an introduction to 3D Studio Max, including 3-dimensional modeling of objects and environments, rendering and materials. A \$20 lab fee is required.

Transfer Credit: CSU

DE** indicates that this course may be offered as Distance Education

TBA** indicates that this course may be offered in TBA format

**ARC 262 (3.00 Units)
COMPUTER-AIDED DESIGN FOR
ARCHITECTURE II**

1.00 hour lecture and 5.00 hours lab

Prerequisite: Completion of Architecture 261 with a grade of 'C' or better.

Grading: Letter Graded

In this course students will further development of 3D Studio Max skills and techniques, focused on advanced modeling and rendering techniques. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 271 (3.00 Units)
ARCHITECTURAL DRAWING III**

1.00 hour lecture and 5.00 hours lab

Prerequisite: Completion of Architecture 173 with a grade of 'C' or better.

Grading: Letter Graded

In this course students study the design and construction of masonry buildings are studied together with a further development of wood framing. Analysis is made of long span techniques and construction. Air conditioning equipment, specification writing, and cost estimating are introduced. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 272 (3.00 Units)
ARCHITECTURAL DRAWING IV**

1.00 hour lecture and 5.00 hours lab

Prerequisite: Completion of Architecture 173 with a grade of 'C' or better.

Grading: Letter Graded

In this course students study the design and construction of steel buildings are studied with wood as a secondary system. Special code requirements and drawing conventions as they relate to steel construction are emphasized. A \$20 lab fee is required.

Transfer Credit: CSU

**ARC 291 (3.00 Units)
STRENGTH OF ARCHITECTURAL MATERIALS I**

3.00 hours lecture

Grading: Letter Graded

This course introduces basic principles of architectural structures and materials, including various structural systems used in buildings. The structural design and sizing of columns, beams and their relationships in building structures are developed.

Transfer Credit: CSU

ENVIRONMENTAL DESIGN

**ENV 101 (3.00 Units)
FOUNDATIONS OF DESIGN I**

1.00 hour lecture and 5.00 hours lab

Grading: Letter Graded

This course introduces design laboratory studio for students pursuing architecture, environmental or other design fields focusing on the study of elements, form, and space. Sustainable design topics, drawing and model-making techniques are covered. A \$20 lab fee is required.

Transfer Credit: UC/CSU

**ENV 102 (3.00 Units)
FOUNDATIONS OF DESIGN II**

1.00 hour lecture and 5.00 hours lab

Prerequisite: Completion of Environmental Design 101 with a grade of 'C' or better.

Grading: Letter Graded

This course serves as a design laboratory studio for students pursuing architecture, environmental or other design fields focusing on the study of organization, circulation, proportion and scale. Natural factors, materials, processes, sustainable design topics, drawing and model making techniques are covered. A \$20 lab fee is required.

Transfer Credit: CSU

DE** indicates that this course may be offered as Distance Education

TBA** indicates that this course may be offered in TBA format