Architectural Design Technology

Careers & Technology

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DEGREE

A.S.—Architectural Design Technology

CERTIFICATE OF ACHIEVEMENT

Architectural Design Technology

See also:
Green Buildings: Environmental Design, Energy Management and Performance Based Construction (page 75)

Program Description

This program provides students with a background in Architectural Drafting. Students who successfully complete the suggested program will be capable of doing detail and layout work normally expected of the drafting aide or technician.

The program is designed to provide transfer opportunities in the Environmental Design and/or Construction Management disciplines as well as opportunities for students to qualify for employment in a variety of positions within related industries.

NOTE: It is highly recommended that each student keep a complete record of work to present for evaluation by university program advisors and/or employers.

Career Opportunities

Architectural Draftspersons
Planning Assistants
Facilities/Space Planner
Designer/Technicians
CADD Operators

Some Career Opportunities may require more than two years of college study. Classes beyond the associate degree may be required to fulfill some Career Opportunities or for preparation for transfer to a university program.

Highlights

- State-of-the-art computer aided drafting laboratory

NOTE TO TRANSFER STUDENTS:
If you are interested in transferring to a four-year college or university to pursue a bachelor's degree in this major, it is critical that you meet with a CRC counselor to select and plan the courses for your major. Schools vary widely in terms of the required preparation. The courses that CRC requires for an associate's degree in this major may be different from the requirements needed for the bachelor's degree.

For information about the student learning outcomes for this program, see http://www.crc.losrios.edu/pslo

DEGREE
A.S.—Architectural Design Technology
CODE #1086

This degree program utilizes CADD to prepare students for careers or transfer in the area of Design Drafting with an emphasis in Architectural Drafting.

REQUIRED PROGRAM			Units
ADT	300	Architectural Sketching and Modeling I	3
ADT	310	Architectural Computer-Aided Drawing I	3
ADT	312	Architectural Computer-Aided Drawing II	3
ADT	314	Architectural 3D Modeling	3
ARCH	320	Architectural Design and Communication I	3.5
ARCH	330	Design Fundamentals	3
ARCH	321	Architectural Design and Communication II	3.5
ARCH	322	Architectural Design and Communication III	3.5
ARCH	332	Design Awareness	3
ARCH	329	Architectural Working Drawings	4
BIT	100	Introduction to the International Building Code	3
CMT	310	Materials of Construction	3
CMT	112	Construction Estimating	3
TOTAL UNITS REQUIRED			**41.5**

G.E. Graduation Requirements for this degree - see pages 20-21

CERTIFICATE OF ACHIEVEMENT
Architectural Design Technology
CODE #1086

This certificate program utilizes CADD to prepare students for careers in the area of Design Drafting with an emphasis in Architectural Drafting.

REQUIRED PROGRAM			Units
ADT	300	Architectural Sketching and Modeling I	3
ADT	310	Architectural Computer-Aided Drawing I	3
ADT	312	Architectural Computer-Aided Drawing II	3
ADT	314	Architectural 3D Modeling	3
ARCH	320	Architectural Design and Communication I	3.5
ARCH	330	Design Fundamentals	3
ARCH	321	Architectural Design and Communication II	3.5
ARCH	322	Architectural Design and Communication III	3.5
ARCH	329	Architectural Working Drawings	4
CMT	310	Materials of Construction	3
TOTAL UNITS REQUIRED			**32.5**

ARCHITECTURAL DESIGN TECHNOLOGY (ADT)

ADT 300
Architectural Sketching and Modeling I **3 Units**
(formerly: Basic Technical Drafting)
Prerequisite: None
Course Transferable to CSU
Hours: 36 hours LEC ; 54 hours LAB

This course instructs students from the beginning level of hand sketching of architectural graphic and digital modeled images. The course is designed for the existing and new structures, Green Design-Sustainability environments of Interior Architecture-Building Construction and guides students in hand sketched graphic concepts through digital modeling in formulating project forms and spaces. A software application, such as SketchUp®, will be utilized within the course as the primary tool for the development of the student's visual and computer modeling skills.

ADT 302
Architectural Sketching and Modeling II **3 Units**
Prerequisite: ADT 300 with a grade of "C" or better
Course Transferable to CSU
Hours: 36 hours LEC ; 54 hours LAB

This course instructs students at an intermediate level of hand sketching and digital surface model development. The course is designed to facilitate further development to refining hand sketching techniques and digital design concepts of structure and interior architectural elements/spaces. The software application such as SketchUp® will be utilized as the primary software to refine and further develop detail concepts and techniques in digital modeling.

ADT 304
Office & Commercial Space Planning **3 Units**
Prerequisite: None
Course Transferable to CSU
Hours: 36 hours LEC ; 54 hours LAB

This course instructs students at the basic to intermediate level in office, commercial and residential space planning, Title 24 and general building code requirements. Concepts covered will develop skills in space programming, criteria schematics and matrices, bubble diagrams, space planning and layout, building materials, code requirements and applications to the design model.

ADT 310
Architectural Computer-Aided Drawing I **3 Units**
(formerly: Introductory Computer-Aided Design Drafting)
Prerequisite: ADT 300 and 302 with grades of "C" or better
Course Transferable to CSU
Hours: 36 hours LEC ; 54 hours LAB

This course covers the introductory study in Architectural Computer-Aided Drawing/Design with specific emphasis in the architectural field. Course subject areas will include but not be limited to identifying CADD components, working in the Windows environment, creating and saving files, entity geometry, editing, viewing entities, text/font creation, layering, dimensioning, Model/Paper Space and plotting. The subject content will cover the development of architectural floor plans, foundation plans & foundation 'details', electrical plans, subdivision plans and others drawings as they relate to the architectural field of study. Students will learn how to develop professional architectural drawing file documentation through the preparation and plotting (printing) presentation.

ADT 312
Architectural Computer-Aided Drawing II **3 Units**
(formerly: Intermediate Computer-Aided Design Drafting)
Prerequisite: ADT 310 with a grade of "C" or better
Course Transferable to UC/CSU
See UC Limitations & Counselor
Hours: 36 hours LEC ; 54 hours LAB

This sequential course covers architectural computer-aided design drawing with emphasis on intermediate and advanced dimensioning, drawing and documentation. Students will develop a residential remodeling project using advanced commands and techniques, create reference blocks/wblocks, symbols and libraries, dimensioning, assign attributes, generate bill of materials of extracted attributes, external reference, multiple view-ports, create custom line types, write macros and script files, and create custom tool bars and buttons.

ADT 314
Architectural 3D Modeling **3 Units**
(formerly: Advanced Three Dimensional Computer-Aided Design Drafting)
Prerequisite: ADT 310 and 312 with grades of "C" or better; under special circumstances, such as prior outside experience, a student may take ADT 314 prior to taking ADT 312, but must obtain the instructor's permission. These courses are sequential prerequisites for this course.
Course Transferable to UC/CSU
See UC Limitations & Counselor
Hours: 36 hours LEC ; 54 hours LAB

This course covers the basic 3-dimensional study in computer-aided design drafting and design with emphasis in the architectural fields. Course subject areas will include massing and mass Elements, space and space boundary objects, wall/window/door tools, curtain walls, creating tool palettes, dimensioning, elevations, sections, blocks, schedules and tags, and VIZ® Render utilizing appropriate software such as the AutoDesk Architectural Desktop®.

ADT 316
Building Information Modeling (BIM) I **3 Units**
Prerequisite: ADT 310 and 312 with grades of "C" or better
Advisory: ADT 314
Course Transferable to CSU
Hours: 36 hours LEC ; 54 hours LAB

This course instructs students in the beginning level of Building Information Management as it relates to parametric building modeling for architectural interiors and building space using software such as AutoDesk's Revit®. The content is a first level introduction course to data-generated Parametric Building Modeling for architectural designing and drawing, also known as Building Information Management (BIM), that surpasses pencil and CADD (vector) generated architectural drawings.

ADT 318
Building Information Modeling (BIM) II **3 Units**
Prerequisite: ADT 316 with a grade of "C" or better; in the event a student demonstrates to the instructor a level of experience equivalent to ADT 316, the student can take the ADT 318 course
Course Transferable to CSU
Hours: 36 hours LEC ; 54 hours LAB

This course instructs students to the intermediate level of parametric modeling and management of architectural interiors and exteriors, building space management/design using software such as Autodesk's Revit®. The content is a second level course introduction to data-generated parametric building modeling document drawing also known as Building Information Management that surpasses pencil and CADD generated architectural drawings.

ADT 495
Independent Studies in
Architectural Design Technology **1-3 Units**
Prerequisite: None
Course Transferable to CSU
Hours: 18 hours LEC ; 54 hours LAB

ADT 498
Work Experience in
Architecture Design Technology **1-4 Units**
Prerequisite: None
General Education: AA/AS Area III(b)
Course Transferable to CSU
Hours: 300 hours LAB

This course provides students with opportunities to develop marketable skills in preparation for employment or advancement within their current job. Course content will include understanding the application of education to the workforce; completion of required forms, which document the student's progress and hours spent at the work site; and developing workplace skills and competencies. During the course of the semester, the student is required to fulfill an 18 hour orientation and 75 hours of related paid work experience, or 60 hours of unpaid work experience for one unit. An additional 75 or 60 hours of related work experience is required for each additional unit. The course may be taken again when there is new or expanded learning on the job for a maximum of 16 units.

ADT 499
Experimental Offering in
Architectural Design Technology **.5-4 Units**
Prerequisite: None
Course Transferable to CSU
Hours: 18 hours LEC ; 54 hours LAB