CAD/BIM DESIGNER – BUILDING DESIGN AND ENVIRONMENT – LEVEL 2 – ASSOCIATE IN SCIENCE DEGREE, CERTIFICATE OF ACHIEVEMENT

TOP Code:

0953.00
The CAD/BIM Designer program prepares students for entry-level positions in architectural, engineering, and construction fields. Certificate recipients learn to integrate industry specifications and codes and utilize Computer Aided Design (CAD) and Building Information Management (BIM) software to solve building and construction design problems using the principles and standards of Sustainable Technology. They also develop virtual and rapid prototyping fabrication skills. As design technicians in these realms, students find additional opportunity in related fields, such as interior design, set & exhibit design, municipal infrastructure, and sustainable technologies.

Students focus on communication and critical thinking skills, developing space-planning solutions through an iterative design process that involves preliminary sketching, 2-dimensional, 3-dimensional, and parametric drafting and modeling. They realize and evaluate these designs using rapid prototyping such as laser cutting, 3D printing, among other advanced manufacturing techniques. Building Information Modeling (BIM) allows integration between multiple technologies and procedures, towards real world applications.

The program provides the opportunity to obtain industry credentials, gain experience in real-world projects, and develop long-term transferable skills sets aligned to the work force. This course of study prepares participants for successful completion of LEED accreditation at the Associates Level. Graduating students exhibit the capability to work in professional settings, to collaborate, execute design tasks, and meet client and project requirements. They will produce CAD design, revision, and fabrication sets, build virtual and physical models, and create animations and visual presentation materials.

The program builds on several Certificates including CAD/BIM Technician – Building Design & Environment, CAD/BIM Modeler – Building Design & Fabrication, and leads to an Associate of Science degree.

Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

Program Outcomes

- Utilize appropriate technologies and techniques to produce iterative prototypes within a digital workflow to meet design intent and industry criteria.
- Apply sustainable design and construction technology principles, processes, and standards, to produce comprehensive digital and technical representations of architectural, engineering and construction projects.
- Communicate effectively using audience-appropriate technical, graphical, oral and written formats in the critical evaluation of design processes and products.
- Collaborate effectively on diverse teams to identify, analyze and solve technical design problems related to current issues at varying project scales.

Requirements for the Certificate of Achievement

Code	Title	Units
REQUIRED COURSES		
DT 017	BUILDING DESIGN & CONSTRUCTION TECHNICAL GRAPHICS	3
DT 030	SUSTAINABLE TECHNOLOGIES	3
DT 114	BUILDING INFORMATION MODELING DESIGN (BIM DESIGN)	3
DT 118	3-DIMENSIONAL BUILDING DESIGN & REPRESENTATION	3
Choose 2-3 electives below to meet the 18 unit requirement		**6**
ART 041A	INTERIOR DESIGN: SPACE PLANNING AND MATERIALS I	
BLDG 212	PRINT READING FOR CONSTRUCTION	
BLDG 213	BUILDING CONSTRUCTION CODES AND STANDARDS	
BLDG 214	MATERIALS & PROCESSES OF CONSTRUCTION: SUB GRADE TO ROOF FRAMING	
DT 008A	INTRODUCTION TO DIGITAL DESIGN AND FABRICATION	
or ENGR 002	ENGINEERING GRAPHICS	
DT 008B	INTERMEDIATE DIGITAL DESIGN AND FABRICATION	
DT 101	FABRICATION LABORATORY	
Total Units		**18**

General Education Requirements for the Associate in Science Degree

- General Information (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/)
- PCC Local Gen Ed (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#pcclocaltext)
- CSU Breadth (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#csubreadthtext)
- IGETC (https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#igetctext)