

# 3D MODELING AND DESIGN CERTIFICATE OF ACHIEVEMENT

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This certificate is designed to prepare students for entry-level employment in the fields of architecture; civil, structural, mechanical, electrical engineering, urban planning, interior design, landscape design, manufacturing, and related fields. Computer Aided Drafting, CAD, Rhino and Grasshopper are the primary tool used to produce and present documents in these fields. Students completing this certificate will most likely find employment with a licensed architect, registered structural engineer, mechanical engineer or for local, state or federal governmental agency or urban planning or municipal utility or home improvement and remodeling specialty business.

Code	Title	Units
<b>Required Courses</b>		
ARCH 111	Sketching and Design Visualization	2
ARCH 112	Environmental Design	4
ARCH 130	Computer-Aided Design (CAD) Drafting	2
ARCH 133	Introduction to 3D Modeling and Design	2
ARCH 233	Advanced 3D Modeling and Design	2
<b>Total Units</b>		<b>12</b>

*Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.*

## Program Learning Outcomes

**At the completion of this program, students will be able to:**

- Read and interpret blueprints, design documents, and project specifications to gain meaningful information
- Compare and contrast the conventional drawing types and views and explain the advantages of each
- Demonstrate the ability to mechanically construct a variety of basic drawings utilizing industry conventions of scale, scale, line, symbols, lettering and dimensioning techniques
- Demonstrate the ability to mechanically construct a variety of drawings utilizing three dimensional modeling and design techniques