

# Computer Aided Architectural Drafting and Design

# CAR.CA

CODE	COURSE	CREDITS	CODE	COURSE	CREDITS
<b>First Year/First Semester</b>			<b>First Year/Second Semester</b>		
CAD-101	Computer Aided Engineering Graphics	4	CAD-202	Advanced CADD Project	3
EGR-103	Technical Drawing	3	CAD-205	Architectural CADD Using Revit	3
		7			6
			<b>Total Minimum Credits</b>		<b>13</b>

**PROGRAM DESCRIPTION**

Computer Aided Architectural Drafting and Design involves the 2D and 3D drafting and modeling of architectural and building structures and systems in accordance with national and international drafting standards. Both computer-assisted and manual drafting techniques will be explored. Students will explore building/zoning codes, graphical information systems (GIS), and Building Information Modeling (BIM). The student will learn to create computerized architectural models plus visualization and 3D walk-throughs. This program is particularly well suited to those students who wish to work with the construction professionals who produce residential and commercial architectural structures. Program completers can work on civil engineering projects including roads, parks, dams, bridges, waste water treatment facilities, etc. Software packages include Autodesk's AutoCAD and Revit. Additionally, the CAR.CA certificate is a career ladder program and all program credits can be applied toward completion of the CAD. AAS degree.

**PROGRAM GOALS**

- To prepare program completers for immediate employment in Civil Engineering or Architectural/Architectural Engineering enterprises.
- To prepare program completers for career advancement in Civil Engineering or Architectural/Architectural Engineering enterprises.

**PROGRAM STUDENT LEARNING OUTCOMES**

- At the end of the program, the graduate will be able to:
1. The graduate will be able to utilize fundamental and advanced two-dimensional and three-dimensional CAD to produce architectural drawings and renderings.
  2. The graduate will have generated a personal portfolio of industry standard documents utilizing a variety of computer drafting applications.
  3. The graduate will also be proficient in manual, hand drafting practices and techniques.
  4. The graduate will be able to develop complete plans to meet the needs of the (AEC) Architecture, Engineering and Construction industries and explain mechanical, electrical and plumbing building systems.
  5. The graduate will have created 3-D parametric building models and related content using BIM software and use it to extract embedded information to analyze and document building characteristics.
  6. The graduate will be able to develop plans and profiles, section views, sub division map, grading plans with accurate and correct interpretation of survey data utilizing survey instruments.
  7. The graduate will be able to collect, manage, and process field data in support of geospatial mapping activities.
  8. The graduate will be able to apply quantity takeoffs and calculate earthwork in civil engineering and architectural projects.

**EMPLOYMENT OPPORTUNITIES**

- AutoCAD Civil 3D Designer
- Civil CAD Drafter
- Entry-level Engineering Technician

**CONTACT PERSON**

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**THIS PROGRAM IS NOT APPROVED FOR FINANCIAL AID**