

COMPUTER AIDED DESIGN TECHNOLOGY– ARCHITECTURAL DESIGN OPTION (ATC)

Advanced Technical Certificate

Career-Technical Program

Interest Areas:

**Arts, Comm. and Humanities
Manufacturing and Trades**

The Computer Aided Design Technology program offers students the opportunity to learn skills required by today's industries. Students can pursue a two-semester intermediate technical certificate, a four-semester advanced technical certificate, and a four-semester associate of applied science degree. Portions of the associate of applied science degree options may transfer to various four-year institutions. Students entering the A.A.S. degree program should be prepared to complete A.A.S. math and English requirements during the first year of the program. Placement in specific English and math courses is determined by the college placement assessments.

Current industry professionals may enroll in a single course on a space available basis and with instructor permission.

Gainful Employment Information (<https://www.nic.edu/programs/ge/18-CC2/Gedt.html>)

Program Website (https://www.nic.edu/programs/viewprogram.aspx?program_id=18)

Program Requirements

Course	Title	Credits
Semester 1		
CADT-102A	Technical Sketching - Architectural Applications	2
CADT-104A	CAD Graphics I - Architectural Applications	2
CADT-106A	CAD Graphics II - Architectural Applications	2
CAOT-164	Computer Fundamentals for Technical Programs	1
CAOT-165	Productivity Software for Technical Programs	1
CAOT-166	Living Online for Technical Program	1
Select one of the following:		3-5
MCTE-105	Technical Mathematics for Machining and Computer Aided Design Technologies	
GEM 3 - A.A.S. Mathematical Ways of Knowing		
Credits		12-14
Semester 2		
ATEC-117	Occupational Relations and Job Search	2
CADT-131	Residential Architecture I	4
CADT-133	Commercial Architecture I	2
CARP-154	Building Science	3
ECTE-100 or ENGL-101	Fundamentals for Writing or English Composition	3
Credits		14

Semester 3		
CADT-201	Architectural Print Reading and Estimating	2
CADT-202	Residential Architecture II	4
CADT-203	Commercial Architecture II	3
PHIL-201	Logic and Critical Thinking	3
Credits		12
Semester 4		
CADT-204	Residential Architecture III	4
CADT-205	Commercial Architecture III	3
CADT-207	Building Design Integration	2
A.A.S. Institutionally Designated		6
Credits		15
Total Credits		53-55

Course Key



GEM



WCHE



AAS



Gateway



Milestone

Institutionally
Designated

Program Outcomes

Upon completion of the program, students will be able to:

- Recognize and explain the role of a CAD drafter and designer.
- Describe the different disciplines of CAD – architecture, mechanical and civil.
- Identify and apply the various sketching techniques used in architecture – still-life, multi-view, perspective.
- Produce hand- and computer-aided sketches of buildings and landscapes.
- Identify and use various CAD software programs used in industry to produce CAD drawings.
- Use a computer-aided sketching program to produce 3D building models.
- Demonstrate knowledge of drafting conventions by using computer-aided design software efficiently to complete the drawing setup process.
- Demonstrate appropriate work relationships and habits, communication skills, and computation skills used in the welding industry.
- Identify the various construction drawing sheets used for print reading (i.e., Architecture, Civil, Structural, Mechanical, Electrical, Plumbing, HVAC).
- Use construction math and its applications.
- Use various methods of measurement.
- Identify and give examples of various methods of construction practices.
- Describe the role and purpose of standard building codes.
- Interpret residential and commercial blueprints by identifying the different types of drawings within a set of blue prints.
- Use a computer-aided design software program to produce 3D parametric residential and commercial building models.
- Analyze the structural, mechanical, plumbing, and electrical components for a 3D parametric commercial building.
- Illustrate the construction process from the transformation of an idea or need into a completed set of construction documents.