ARCHITECTURAL DRAFTING
DIPLOMA – 35 CREDITS

About this program

Students completing this program will be prepared to obtain employment with architectural and engineering firms, contractors and a variety of manufacturing and distributing companies related to the construction industry. Computer-aided drafting is an important tool for the construction industry and the design professions and is an important part of the Architectural Drafting program. This program teaches students the principles of residential and commercial building technology, as well as the drafting skills to apply them.

Program outcomes

1. Demonstrate professional work behavior and communication.
2. Report existing conditions of buildings and site layouts.
3. Analyze relationships between building systems in coordination with architectural drawings.
4. Create and present relevant design concepts.
5. Produce architectural construction drawings utilizing CAD software.

Curriculum overview

Crds	Requirement type
35	Required courses
35	**Total**

Developmental courses note: A student may be required to enroll in developmental courses in reading, writing and math. A student's scores on the Accuplacer assessment will determine enrollment in developmental courses. The purpose of developmental courses is to prepare students for the demands of a college-level curriculum. *Credits may vary.*

Accreditation: Minnesota State Community and Technical College is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education. The Higher Learning Commission 230 South LaSalle Street, Suite 7-500 Chicago, IL 60604-1411 http://www.ncahigherlearningcommission.org Phone: 312.263.0456 / 800.621.7440

Curriculum requirement details

Required courses

Course	Crds
ARCH1122 - Computer Aided Drafting for Architecture	4
ARCH1126 - Residential Project I	3
ARCH2248 - CADD Alternatives	3
CADD1000 - AutoCAD Basics	3
CONM1101 - Construction Documents and Codes	3
CONM1108 - Principles of Estimating	4
CONM1124 - Building Systems	3
ENGL1101 - College Writing	3
ENGT1118 - Construction and Manufacturing Math	3
ENGT1126 - Engineering Graphics	3
ENGT1134 - Office Systems and Equipment	3

Other requirements or restricted electives

Course summaries

ARCH1122 - Computer Aided Drafting for Architecture .... *(4 credits)*
This course covers the development of three-dimensional architectural modeling and documentation using AutoCAD for Architecture software. Emphasis is on creating and editing custom component styles.

Prerequisites:

- CADD1000
- ENGT1134

ARCH1126 - Residential Project I .... *(3 credits)*
This course covers the design development and documentation of single-family living. Students will be introduced to residential design styles as well as proper documentation methods.

Prerequisites:

- CADD1000
- ENGT1134

ARCH2248 - CADD Alternatives .... *(3 credits)*
This course will familiarize the student with computer drafting and modeling software for the graphic design of residential construction.

CADD1000 - AutoCAD Basics .... *(3 credits)*
This course provides the fundamentals of computer-aided drafting (CAD) using the latest version of the AutoCAD drafting software. The course develops the CAD skills necessary to design and print complex two-dimensional drawings and sheet sets.

CONM1101 - Construction Documents and Codes .... *(3 credits)*
This course provides an introduction to understanding construction drawings, specifications, processes and building codes.

CONM1108 - Principles of Estimating .... *(4 credits)*
This course focuses on the basics of material, labor and equipment estimating. Students will learn to calculate the quantities of material comprising a project. These quantities will determine the primary portion of the direct costs used in a construction bid. This process will be the first step in completing accurate bids for construction projects of all sizes.

Prerequisites:

- CONM1101

CONM1124 - Building Systems .... *(3 credits)*
This course is a comprehensive treatment of the various techniques, systems and methodologies utilized in the construction industry and will help the student prepare for the responsibilities of supervision on a modern construction project.

ENGL1101 - College Writing .... *(3 credits)*
Meets MnTC Goal Area 1. This is an introductory writing course designed to prepare students for later college and career writing. The course focuses on developing fluency through a process approach, with particular emphasis on revision. Students will consider purpose and audience, read and discuss writing and further develop their own writing processes through successive revisions to produce polished drafts. Course work will include an introduction to argumentative writing, writing from academic sources and a short research project.

Prerequisites:

- Completion of ELL1080, ENGL0096, or ENGL0097 with a grade of C or higher OR placement into college-level English.

ENGT1118 - Construction and Manufacturing Math .... *(3 credits)*
This course covers the application of common geometric and trigonometric calculations related to the construction and manufacturing industries.

Prerequisites:

- MATH0055

ENGT1126 - Engineering Graphics .... *(3 credits)*
This course introduces and develops basic skills in drawing, lettering, orthographic projection, sections and dimensioning. Students in this course will apply the basic fundamentals of pictorial drawing, including isometric, oblique, perspective, shade and shadow, and freehand sketching.

ENGT1134 - Office Systems and Equipment .... *(3 credits)*
This course covers the application of Windows software systems in coordination with AutoCAD software as well as general office equipment set-up and use.

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Program Plan — "Architectural Drafting Diploma"
Locations: Detroit Lakes

1st Fall Term (18 credits)

Courses

Course	Crds
CADD1000 - AutoCAD Basics	3
CONM1101 - Construction Documents and Codes	3
CONM1124 - Building Systems	3
ENGT1118 - Construction and Manufacturing Math	3
ENGT1126 - Engineering Graphics	3
ENGT1134 - Office Systems and Equipment	3

1st Spring Term (17 credits)

Courses

Course	Crds
ARCH1122 - Computer Aided Drafting for Architecture	4
ARCH1126 - Residential Project I	3
ARCH2248 - CADD Alternatives	3
CONM1108 - Principles of Estimating	4
ENGL1101 - College Writing	3