Industrial Controls AAS - 72 credits

Program Area: Electronic Engineering Technology (Fall 2025)

*****REMEMBER TO REGISTER EARLY*****

Program Description

The AAS Electronics Engineering Technology program with Industrial Controls Emphasis educates students in the areas of basic electronic theory and analysis, industrial control principles and practices, and provides students with the skills required to obtain jobs as industrial electronic technicians in a wide variety of industries. Training includes basic theory and extensive hands-on experience with industrial wiring practices, motors and motor controllers, programmable controllers, and a variety of industrial instrumentation.

Program Outcomes

- Operate common electronic test equipment, oscilloscopes, DMM's, and signal generators
- Read and understand circuit schematics, i.e. recognize basic circuit configurations and understand their operation
- Understand basic circuit analysis techniques
- Troubleshoot and repair common electronic circuits
- Install, program, and troubleshoot programmable controllers (PLC's) used in industrial plants
- Install, troubleshoot, and configure AC and DC motors
- Install and configure various PC hardware components, e.g. memory, hard drives, modems, and network cards
- Be proficient at cabling using appropriate standards and media

Required Courses

Number	Name	Credits	Term
ELTN 1406	DC Electricity	4	
ELTN 1408*	AC Electricity	4	
ELTN 1412	Digital Electronics	2	
ELTN 1422	Media and Cabling	2	
ELTN 1428	Electrical Safety	1	
MATH 1115*	Contemporary Math	4	
ELTN 1432*	Solid-State Devices	4	
ELTN 1442*	Motors and Generators	6	
ELTN 1480	Fluid Power	3	
ELTN 1500	Practical PC Maintenance	2	
ELTN 1510	Basic Mechanical Systems	2	
ELTN 1470*	Systematic Troubleshooting	1	
ELTN 2410*	Human Machine Interface	2	
ELTN 2440*	Motor Speed Controllers	3	
ELTN 2442*	Automation Controllers	3	
ELTN 2444*	Power Distribution for Industrial Controls	4	
ELTN 2400*	CET Exam Preparation	2	
ELTN 2430*	Introduction to Instrumentation	3	
ELTN 2450*	Automation Controller Applications	5	
ELTN 2452*	Process Control Theory	3	
	Choose 1 credit from any ELTN or ELEC course not listed above.	1	
MnTC General Education Requirements			
Goal Area 1	Communication (3 credit minimum)	11	
Goal Area 5 OR Goal Area 6	History and the Social and Behavior Sciences OR Humanities and the Fine Arts (3 credit minimum)		
Goal Areas 1-10	General Education - Other		

Total Credits **72**

*Requires a prerequisite or a concurrent course

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Program Articulations

This program has an articulation agreement in place that allows students to transfer credits earned in the LSC Electronic Engineering Technology – Industrial Controls AAS degree to Minnesota State University Moorhead, BS in Operations Management.

Pre-program Requirements

Successful entry into this program requires a specific level of skill in the areas of English, mathematics, and reading. Program entry will depend, in part, on meeting the prerequisites listed below:

English/Reading:

- Eligible for ENGL 1106 - College Composition I, or
- Completion of ENGL/READ 0950/0955 (or equivalent or higher). ENGL/READ 0950/0955 may be taken concurrently with Semester I coursework.

Mathematics:

- Eligible for MATH 0970 - Intermediate Algebra, or
- Completion of MATH 0950/0955 (or equivalent or higher). MATH 0950/0955 may be taken concurrently with Semester I coursework.

There are other ways to qualify. Visit Course Placement (lsc.edu/course-placement) to find out more.

For interpretation of test results and selection of appropriate coursework; or general information about the program, admissions, financial aid, and getting started at LSC, contact the professional advising team at: professional advising team (advising@lsc.edu) or 218-733-7601

For more information about the Electronic Engineering Technology – Industrial Controls AAS Degree including course descriptions, course prerequisites, and potential career opportunities, see the program website (https://www.lsc.edu/degrees/electronic-engineering-technology--industrial-controls-aas/)

or

Contact Faculty Advisors, Dave Lustila (david.lustila@lsc.edu) or 218-733-7687 or Alan Alberg (alan.alberg@lsc.edu) or 218-733-7687

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LSC Major ID: 5310

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