



*****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, DMMs, 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 1402	Basic Electricity	8	
ELTN 1412	Digital Electronics	2	
ELTN 1422	Media and Cabling	2	
ELTN 1500	Practical PC Maintenance	2	
ELTN 1432*	Solid-State Devices	5	
ELTN 1442*	Motors and Generators	6	
ELTN 1470	Systematic Troubleshooting	1	
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	
<i>Choose 9 credits from the following (other courses may be allowed as electives with program advisor approval):</i>		8	
<ul style="list-style-type: none"> • Any ELTN or ELEC courses not listed above • COMM 1601: Interviewing Procedure and Practice (1 credit) • ELTN 2477: Electronics Internship (2 credits) 			
MnTC General Education Requirements			
Goal Area 1: Communication (3 credit minimum)		15	
Goal Areas 3: Natural Sciences OR Goal 4: Math (3 credit minimum)			
Goal Areas 5: Social and Behavior Sciences OR Goal 6: Humanities (3 credit minimum)			
Goal Area 1-10: General Education-Other			
TOTAL CREDITS		72	

**Requires a prerequisite or a concurrent course*

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: Minnesota State University Moorhead, BS in Operations Management: <http://www.mntransfer.org/download.php?id=4813>



Industrial Controls AAS - 72 credits

Program Area: Electronic Engineering Technology (Fall 2016)

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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:

- A score of 78 or higher on the reading comprehension portion of the Accuplacer, or
- Completion of ENGL/READ 0950 or 0955 (or equivalent course or higher). ENGL/READ 0955 may be taken concurrently with Semester I coursework.

Mathematics:

- A score of 71 or higher on the **Elementary Algebra Skills** portion of the Accuplacer, or
- Completion of MATH 0460 (or equivalent or higher). Math 0460 may be taken concurrently with Semester I coursework

*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: pat@lsc.edu or 218-733-7601*

For more information about the Electronic Engineering Technology – Industrial Controls AAS Degree including course descriptions, course prerequisites, the gainful employment disclosure, and potential career opportunities, see program Website: <https://degrees.lsc.edu/electrical-engineering/>

- or -

Contact Faculty Advisors, Dave Lustila: d.lustila@lsc.edu or 218-733-7687 or Chris Ringsred: c.ringsred@lsc.edu or 218-733-7688 or Alan Alberg: a.alberg@lsc.edu or 218-733-7687



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All courses in diploma and/or certificate programs are acceptable for credit toward Lake Superior College degree programs as indicated on individual program planners. This is not a contract; Lake Superior College reserves the right to change the planner as necessary. This document is available in alternative formats upon request, by contacting Disability Services, disabilityservices@lsc.edu or (218) 733-7650 or MRS/TTY (800) 627-3529.