

Industrial Manufacturing & Auto Control System

ASSOC OF APPLIED SCIENCE

Major code: 2224
Department: Industrial Manufacturing and Controls
Chair: Justin Blazzard
Advising: Justin Blazzard 541-881-5974

PROGRAM OVERVIEW

The Industrial Manufacturing and Control Systems AAS prepares students to work in a variety of automated electro-mechanical, product assembly, process control or product distribution industries that use programmable controls, instrumentation, troubleshooting and other methodologies to accomplish system management. Provides skills to define, integrate, install, program, maintain and operate complex control systems.

PROGRAM/DISCIPLINE OUTCOMES

At completion of the IMAC program, students will be able to:

- Demonstrate proper safety procedures when performing minor troubleshooting repairs.
- Devise maintenance routines for mechanical, hydraulic, and pneumatic systems.
- Employ appropriate diagnostic tools to troubleshoot, repair, and /or maintain production systems.
- Calculate total system amperage, voltage, and wattage.
- Connect motors, electrical connections and controllers to allow a Program Logic Controller (PLC) to properly operate a machine.
- Demonstrate correctly and perform periodic maintenance procedures.
- Troubleshoot system for errors or malfunctions.
- Apply correct procedures in setting up equipment to perform basic welds using OAW, SMAW, FCAW, and GTAW processes.

FOUNDATION SKILLS REQUIREMENTS (13 CREDITS)

Write 115 Intro to College Writing [or higher] (4-credits)
 BA 204 Team Dynamics (3-credits)
 Math 095 Intermediate Algebra (5-credits)
 INED 156 Employment Strategies (1-credit)

REQUIRED COURSES (71 CREDITS)

Courses are listed in suggested sequence.

YEAR 1

<u>COURSE #</u>	<u>COURSE TITLE</u>	<u>CREDITS</u>
- HDEV 112	Freshman Seminar OR AG 207 AG Seminar.	1
- DRFT 112	GENERAL DRAFTING & SKETCHING	
WELDER.....		3
- INED 100	INTRO TO AUTOMATION/RENEWABLE.....	3
- INED 101	INTRO TO BASIC TROUBLESHOOTING.....	3
- INED 104	ELECT SYSTEMS TROUBLESHOOTING I.....	3
- INED 107	ELECT SYSTEM TROUBLESHOOTING II.....	3
- INED 108	PRINCIPLES OF TECHNOLOGY.....	3
- INED 112	CONTROL SYSTEMS.....	3
- INED 167	CAD I 2D DRAWING.....	4
- INED 212	INDUSTRIAL SAFETY & MANAGEMENT.....	3
- WELD 150	BASIC WELDING I.....	5
- WELD 160	BASIC WELDING II.....	5
- WELD 296	WELDING FABRICATIONS PRACTICES.....	4

YEAR 2

<u>COURSE #</u>	<u>COURSE TITLE</u>	<u>CREDITS</u>
- CS 101	COMPUTER FUNDAMENTALS I.....	4
- INED 103	MECHANICAL SYSTEMS.....	3
- INED 113	BASIC HYDRAULICS.....	2
- INED 114	BASIC PNEUMATICS.....	3
- INED 115	PROCESS CONTROL & INSTRUMENTATION.....	3
- INED 213	ADVANCED CONTROL SYSTEMS.....	3
- INED 280	INDUSTRIAL COOP WORK EXP.....	6
- WELD 297	WELDING FABRICATION PRACTICES II.....	2
- WELD 298	WELDING FABRICATION PRACTICES III.....	2

Total number of credits..... 90

ELECTIVES (6 CREDITS)

Electives