

ADVANCED AUTOMATION & ROBOTICS TECHNOLOGY (AART)

IvyTech.edu/advanced-automation-robotics

OVERVIEW



The Advanced Automation and Robotics (AART) program at Ivy Tech offers hands-on learning with modern equipment in classes taught by faculty who have spent their careers working in manufacturing. Students will be able to troubleshoot automated manufacturing equipment like PLCs, robotics, pneumatics, hydraulics, and motors and controls.

For even more real-world experience, this degree offers the opportunity for a paid internship at local companies where students will work two days per week and attend class three days per week. A few of the companies we partner with include: Frito-Lay, Oerlikon, Arconic, Masterguard, SIA, CAT, and Wabash National.

TWO-YEAR PROGRAM OPTIONS

ASSOCIATE OF APPLIED SCIENCE

(75 credit hours = 6 semesters)

An Associate of Applied Science (AAS) degree in Advanced Automation and Robotics Technology will give you the knowledge and skills for career entry or advancement in a current job.

Graduates of the AART program will be able to work as an automated equipment technician in almost any industry being able to troubleshoot automated manufacturing equipment like PLC's, robotics, pneumatics, hydraulics, and motors controls.

Students will earn several certifications that will make them even more valuable to employers including the Manufacturing Skills Standards Council (MSSC) Certified Production Technician (CPT) credential, 10 hour OSHA Certification and Siemens Level 1 certification.

ONE-YEAR OR LESS PROGRAM OPTIONS

CERTIFICATES OFFERED

Mechatronics Level 1

(27 credit hours = 2 semesters)

TECHNICAL CERTIFICATE OFFERED

Automation and Robotics Technology

(34 credit hours = 3 semesters)

MANUFACTURING-LAB

Ivy Tech's large industrial work-space provides a setting for hands on training in automation, robotics, and electrical and mechanical systems. The skill set gained from this equipment prepares students for Indiana's future employment needs in engineering and manufacturing.

WHIN-PARTNERSHIP

The Ivy Tech Lafayette regional campus is a partner of the Wabash Heartland Innovation Network (WHIN), which exists to cultivate an ecosystem of technology adoption specific to Digital Agriculture and Advanced Manufacturing programs.

Ivy Tech works alongside Purdue University and industry partners to demonstrate how remote sensors in a farm field, or manufacturing floor (moisture, temperature, nitrates, and water quality, mechanical vibration) can collect data real-time through IoT (Internet of Things) platforms located in the testbeds located on our 65 acre crop farm and Advanced Manufacturing labs.

This technology can enhance decision making, which will enable businesses in our region to become more globally competitive.

These technologies are being incorporated within the course work, applied laboratory experiments, and into internship opportunities for students at the Ivy Tech Lafayette campus.

WHIN is a 10-county initiative sponsored by the Lilly Endowment, Inc.

FEATURED CAREER OPTION

INDUSTRIAL MACHINERY MECHANIC

\$25.41

/hour median salary
in Indiana*

1,773

annual job openings*

FOR MORE INFORMATION:

Bryce Eaton

Program Chair, Assistant Professor

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765-269-5281

IF YOU'VE GOT QUESTIONS, WE'VE GOT ANSWERS.

FOR MORE INFORMATION:

School Advanced Manufacturing, Engineering & Applied Science

765.269.5229



Certificate programs in this program are considered by the U.S. Department of Education to be "Gainful Employment" programs. Information about program length, cost, loan debt, graduates, and related occupations can be found at www.IvyTech.edu/gainful-employment.html

Ivy Tech Community College-Lafayette

Advanced Automation & Robotics Technology

2018-2019

THE FOLLOWING SUGGESTED SEQUENCE INCLUDES ALL COURSE REQUIREMENTS FOR THIS DEGREE. YOU MUST CONSULT WITH AN ACADEMIC ADVISOR TO DETERMINE WHICH ELECTIVES BEST MEET YOUR CAREER GOALS.

ASSOCIATE OF APPLIED SCIENCE

Course #	Title	Credit Hours
Semester 1		
S ADMF 101	Key Principles of Advanced Manufacturing	3
S INDT 113	Basic Electricity	3
S IVYT 113	Student Success in Technology	1
T ADMF 102	Technology in Advanced Manufacturing	3
T ADMF 122	Automation-Mechatronics Electrical and Robotic Systems	3
Semester 2		
MATH 122	Applied Technical Mathematics	3
S INDT 104	Fluid Power Basics	3
S INDT 203	Machine Maintenance and Installation	3
T ADMF 112	Automation-Mechatronics Mechanical Systems	3
T ADMF 222	Automation-Mechatronics Pressurized Systems	3
Semester 3		
ADMF 202	Automation-Mechatronics Advanced Control Systems	3
INDT 205	Programmable Controllers I	3
Semester 4		
COMM 104	Workplace Communication	3
ADMF 116	Automation and Robotics in Manufacturing I	3
ADMF 206	Automation and Robotics in Manufacturing II	3
XXXX XXX	Statewide Elective	3
INDT 206	Programmable Controllers II	3
Semester 5		
INDT 103	Motors and Motor Controls	3
INDT 204	Electrical Circuits	3
INDT 212	Programmable Controllers III	3
^ INDT 279	Industrial Technology Capstone	1
ENGL 111	English Composition	3
Select 1 of the following courses:		
CHEM 111	Chemistry I	4
SCIN 100	Earth Science	4
PHYS 100	Introductory Physics	4
SCIN 101	Science of Traditional and Alternative Energy	4
Semester 6		
XXXX XXX	Humanities/Social & Behavioral Sciences Elective	3
XXXX XXX	AART Statewide Elective	3
XXXX XXX	AART Statewide Elective	3
Total Credit Hours: 75		

CERTIFICATE in MECHATRONICS LEVEL 1

Course #	Title	Credit Hours
Semester 1		
ADMF 101	Key Principles of Advanced Manufacturing	3
ADMF 102	Technology in Advanced Manufacturing	3
ADMF 112	Automation-Mechatronics Mechanical Systems	3
ADMF 122	Automation-Mechatronics Electrical and Robotic Systems	3
ADMF 202	Automation-Mechatronics Advanced Control Systems	3
ADMF 222	Automation-Mechatronics Pressurized Systems	3
INDT 104	Fluid Power Basics	3
INDT 113	Basic Electricity	3
INDT 203	Machine Maintenance and Installation	3
Total Credit Hours: 27		

TECHNICAL CERTIFICATE

Course #	Title	Credit Hours
Semester 1		
S ADMF 101	Key Principles of Advanced Manufacturing	3
S INDT 113	Basic Electricity	3
S IVYT 113	Student Success in Technology	1
T ADMF 122	Automation-Mechatronics Electrical and Robotic Systems	3
T ADMF 102	Technology in Advanced Manufacturing	3
Semester 2		
MATH 122	Applied Technical Mathematics	3
S INDT 104	Fluid Power Basics	3
S INDT 203	Machine Maintenance and Installation	3
T ADMF 112	Automation-Mechatronics Mechanical Systems	3
T ADMF 222	Automation-Mechatronics Pressurized Systems	3
Semester 3		
ADMF 202	Automation-Mechatronics Advanced Control Systems	3
INDT 205	Programmable Controllers I	3

Total Credit Hours: 34

DUAL CREDIT COURSES

High School Course(s)	Ivy Tech Course(s)
DOE #5608 Advanced Manufacturing I	ADMF 101-Key Principles of Advanced Manufacturing
DOE #5606 Advanced Manufacturing II	ADMF 102-Technology in Advanced Manufacturing
DOE #5608/5610 Adv. Manufacturing I or Industrial Automation & Robotics I	ADMF 112-Automation Mechatronics Mechanical Systems
DOE #4832/5694/5612/5618 Tech II or Industrial Automation and Robotics II or Energy Maintenance I	ADMF 122-Automation Mechatronics Electrical and Robotic Systems
DOE #5612/5686 Industrial Automation and Robotics II or Industrial Technical Maintenance I	ADMF 222-Automation-Mechatronics Pressurized Systems
DOE #5686/5610 Industrial Technical Maintenance I or Industrial Automation and Robotics I	INDT 104-Fluid Power Basics
DOE #5684/4830/5610/5616 Construction Trades: Elective I or Industrial Automation and robotics I or Energy Industry I	INDT 113-Basic Electricity
DOE # 5610 Industrial Automation and Robotics I	ADMF 116-Automation and Robotics in Manufacturing I
DOE#5612 Industrial Automation and Robotics II	INDT 203-Machine Maintenance and Installation
DOE#5612 Industrial Automation and Robotics II	INDT 205-Programmable Controllers I

Ready to get started?

APPLY NOW FOR FREE

at IvyTech.edu/applynow

Symbol Key:

S 1st 8 weeks

T 2nd 8 weeks

^ Capstone

Our online application is FREE.

Why wait? Apply today! IvyTech.edu/applynow

