Automated Industrial Technology (AIT)
Ken Hackler

Agenda

- Introductions
- CTE at Mesa CC
- What is Automated Industrial Technology / Industrial Automation
- Type of Work & Positions
- Why Industrial Automation / AIT Program
- AIT Classes
- Amatrol Lab Equipment & Training Material
- AIT Certifications, Degree & Transfer Option
- 3rd Party Nationally Recognized Program with Certifications

Mesa CC CTE Programs

- Automation
- AutoCad / 3D Printing
- Automotive
- Computer Science / Networking
- Construction Trades
- Dental
- Early Childhood
- Electronics
- Fashion and Design
- Fire Science / EMT
- Landscape / Horticulture
- Machining (CNC & Manual)
- Nursing
- Vet Tech
- Welding

Introductions

- Ken Hackler
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- Cesar E. Becerra
  - Student Services Supervisor
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- Matt Rayman
  - Applied Sciences & Technology Student Services Specialist Sr., Navigator
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Industrial Automation

- Discovery Channel & Science Channel How its Made

- [Eye Drop Machine](#)

- [Automobile Assembly](#)

Type of Work & Positions

- Install, Configure, Maintain, Troubleshoot/Diagnose, Repair and Make Modifications to Hardware and Software on Industrial Equipment
  - Industrial Engineering Technicians
  - Automation Technician
  - Maintenance Technician
  - Manufacturing Technicians
  - Productions Technicians
  - Robotics Technician
  - Process Technician
- Industries
  - Manufacturing, Distribution Centers, Food and Beverage, Packaging, Pharma, Oil & Gas, Chemical, Water/Wastewater
- Starting Salaries $50k to $60k ($24-$28Hr)
- Four Current Students Obtained New Positions
  - High $60s to $80s ($40Hr)
  - None have Associates yet, only one has CCL1

Why Industrial Automation / AIT Program

- Enjoy technology, but want a hands-on role
- Combines computing, equipment and technology to make things that people need
- Don't want to spend 4-5 years getting an engineering degree before starting employment
- Great career that has expanding opportunities with financial stability
- Long Term Career Options
  - Automation Engineer
  - Project Management
  - Supervision / Engineering Management
  - Leadership Positions Beyond 1st Level Supervision
    - I started with an entry level role and became a Vice President

Mesa AIT Lab

AIT125 DC & AC Components and Circuits

AIT225 Industrial Motors & Motor Control

AIT210 Programmable Logic Controller (PLCs) Programming and Troubleshooting

AIT215 Process Control Systems

AIT110 Mechanical Power Transmission

Laser Shaft Alignment Training System

AIT115 Hydraulic Systems

AIT120 Pneumatic Systems
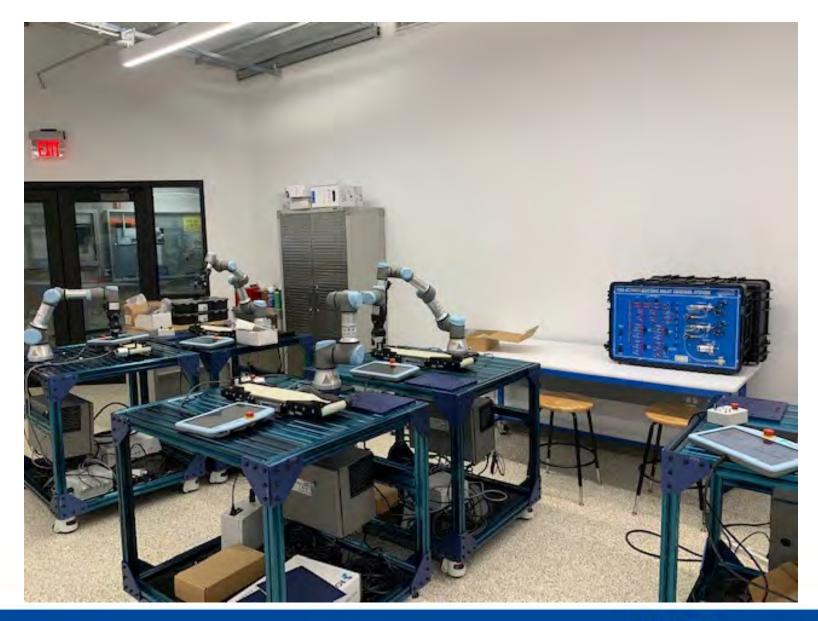
AIT250 AIT Capstone

AIT270 Robotics 1

AIT Certifications, Degree & Transfer

- Certificate of Completion in Automated Industrial Technology I
  - Five AIT Courses
- Certificate of Completion in Automated Industrial Technology II
  - Additional Five Courses
- Mini Certificate of Completion in Robotics
  - Three Courses (two overlap CCL I & CCL II)
- Associate in Applied Science Automated Industrial Technology
- NAU Industrial Leadership 90/30 Bachelor Degree

AIT Classes

- AIT Certificate I
  - AIT100 Industrial Safety
  - AIT105 Modern Maintenance Operations
  - AIT110 Mechanical Power Transmission Systems
  - AIT115 Hydraulic Systems
  - AIT120 Pneumatic Systems
  - AIT125 DC and AC Components and Circuits
- AIT Certificate II
  - AIT205 Power Electronics and Variable Frequency Drives (VFD)
  - AIT210 Programmable Logic Controller (PLC) Programming and Troubleshooting
  - AIT215 Process Control Systems (Controlling Liquid Flow & Chemicals)
  - AIT225 Industrial Motors and Motor Control
  - AIT270 Robotics 1 (Universal Robots)
- Associate of Applied Science – Additional Courses
  - AIT275 Robotics 2 (FANUC Robots and Interfacing to Vision Systems)
  - AIT250 AIT Capstone (Configure, Program entire Machine with Robot)
  - AIT291 AIT Internship
- AIT QuickStart/Bootcamp Courses
  - AIT123 J-STD Soldering Certification
  - AIT124 Composites
  - AIT128 A-620 Cable and Wire Harness Assembly Certification
  - AIT132 Industrial Technology for the Semiconductor Industry

AIT Certifications and Degree

Certificate of Completion in Automated Industrial Technology
- AIT100 Industrial Safety
- AIT105 Modern Maintenance Operations
- AIT110 Mechanical Power Transmission Systems
- AIT115 Hydraulic Systems
- AIT120 Pneumatic Systems
- AIT125 DC and AC Components and Circuits

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MESA
COMMUNITY COLLEGE
A MARICOPA COMMUNITY COLLEGE

AIT Certifications and Degree

Certificate of Completion in Automated Industrial Technology II

- AIT205 Power Electronics and Variable Frequency Drives (VFD)
- AIT210 Programmable Logic Controller (PLC) Programming and Troubleshooting
- AIT215 Process Control Systems (Controlling Liquid Flow & Chemicals)
- AIT225 Industrial Motors and Motor Control
- AIT270 Robotics 1 (Universal Robots)

AIT Certifications and Degree

- Mini Certificate of Completion in Robotics
  - AIT270 Robotics 1
  - AIT275 Robotics 2

AIT Certifications and Degree

- Certificate of Completion in Automated Industrial Technology I
- Certificate of Completion in Automated Industrial Technology II
- Associate in Applied Science Automated Industrial Technology
  - All Classes in CCL I & II
  - AIT250 AIT Capstone or AIT291 AIT Internship
  - Two additional Restrictive Elective courses

NIMS Certifications (3rd Party)

- Industrial Technology Maintenance (ITM)
  - Industry Recognized Accreditation Organization
  - Separate Testing and Certification of Hands-on Capability
    - Maintenance Operations
    - Mechanical Systems
    - Hydraulic Systems
    - Pneumatic Systems
    - Electrical Systems
    - Electronic Control Systems
    - Process Control Systems

Questions

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