INCAP
INDIANA CAREER APPRENTICESHIP PATHWAY

FOR HIGH SCHOOLERS

ADVANCED MANUFACTURING AND LOGISTICS

APPRENTICESHIP PROGRAM OCCUPATION PROFILE:

AUTOMATION AND ROBOTICS TECHNICIAN

Automation and Robotics Technicians help keep today's advanced manufacturing systems running. They install, maintain, troubleshoot, program, and improve automated equipment that combines robotics, mechanical systems, electrical components, sensors, controls, and software. Through this four-year apprenticeship, students gain real-world experience while building skills that are in high demand across modern manufacturing industries.

This occupation is ideal for a student who:

- Likes solving problems and figuring out how things work.
- Enjoys hands-on learning and working with equipment.
- Is interested in mechanical, electrical, or computer-controlled systems.
- Pays attention to detail and follows safety procedures.

What is the average starting hourly wage for this apprenticeship?

The salary varies by employer, but the range for the typical starting wage in the first year is **$14-17/hour**. Apprentices are employees and fall under their employer's policies for benefits, performance reviews, and salary increases.

What do apprentices do during their apprenticeship?

Automation and Robotics Technician apprentices help operate, maintain, troubleshoot, and improve advanced manufacturing systems. They may:

- Work safely around industrial robots and automated equipment.
- Inspect and maintain mechanical and electrical systems.
- Read schematics and technical documentation.
- Troubleshoot equipment and identify system faults.
- Work with motors, drives, sensors, conveyors, and control systems.
- Operate and program industrial robots.
- Work with PLCs and HMI systems.
- Assist with equipment installation and commissioning.
- Analyze equipment performance and recommend improvements.
- Complete a capstone project and technical specialization during the final year.

TYPICAL SCHEDULE

What year in school do students begin this apprenticeship?

11th grade

How long does this apprenticeship last?

Four years (year-round)

How many days each week do students participate in the apprenticeship?

11th grade: 2 days/week

Summer after 11th grade: 5 days/week (full-time)

12th grade: 3 days/week

Summer after 12th grade: 5 days/week (full-time)

Years 3 and 4: 4 days/week with employer, 1 day/week completing relevant coursework

What hours do students work during their apprenticeship?

Employers and apprentices work together to identify individual schedules. However, when apprentices are at their employer site, they should expect to work full eight-hour days.

What are some of the skills students learn on the job?

- Safety and industry practices: Lockout/tagout procedures, hazard recognition, industrial safety practices, robot-cell safety systems
- Mechanical and electrical systems: Motors and drives, bearings and power transmission, hydraulics and pneumatics, sensors and instrumentation, electrical troubleshooting, schematic reading
- Automation and robotics: Robot programming and operation, human-machine interface (HMI) systems, industrial networking, equipment commissioning
- Troubleshooting and optimization: Root cause analysis, fault diagnosis, system integration, performance monitoring, production improvement
- Professional skills: Communication, teamwork, problem solving, project execution, leadership development

What classes do students take at their high school to complete this apprenticeship?

Students will continue taking the classes required to graduate from high school. Automation and robotics-specific coursework is still being developed through a new CTE pathway, while employers will provide on-the-job training. Students must ensure their school schedule allows them to leave the school building for workplace training while still completing the classes they need to graduate.

What credential does a student receive when they complete this apprenticeship?

Through this apprenticeship, students will meet the key requirements for Indiana's new Employment Honors Plus diploma seal: completing at least 650 hours of work-based learning and earning an INCAP credential, which is recognized by the Indiana Department of Education as a Credential of Value. The diploma seal and the INCAP credential are recognized by businesses across Indiana as indicators of industry experience, and the INCAP credential may count toward college credit in a related degree program. Apprentices also earn an OSHA 10 General Industry credential. Additional technical certificates, college credit, degree pathways, and registered apprenticeship completion credentials may be available.

If a student chooses to continue working after their apprenticeship, what jobs are they qualified for?

Depending on the specialization track and employer, graduates may be prepared for roles such as:

- Robotics & Automation Technician
- Maintenance Technician
- Equipment Technician
- Mechatronics Technician
- Robot Operator/Technician
- Controls Technician
- Electromechanical Technician
- Commissioning Technician
- Industrial Maintenance Mechanic
- Field Service Technician
- Automation Specialist
- Robot Programmer
- Field Service Engineer
- Maintenance Reliability Technician
- Integration Technician
- Controls Engineer
- Automation Engineer
- Maintenance Supervisor
- Reliability Engineer
- Project Engineer
- Technical Trainer