Automated Packaging Systems Technician
32-454-1 Technical Diploma (two-year)

Program Overview
The Automated Packaging Systems Technician program will give students the skills they need to enter a career in the packaging industry. Students learn to service and repair a variety of packaging equipment and automated systems. This program emphasizes the maintenance and troubleshooting of electrical, mechanical, fluid power and Programmable Logic Controller components on packaging machines. Classroom and hands-on instruction on packaging machines plus visits to the packaging industry are all parts of the program. Students may participate in the Institute of Packaging Professionals meetings each month as members of the student chapter.

Special Features
This program is unique in the state. An outstanding feature of this program is the reliance on actual automated packaging machinery. The packaging industry, both locally and nationally, provides support to the program by providing scholarships, equipment, and supplies. Coursework will help prepare students to take PMMI exams for industry certification.

Admission Requirements
Students in this program must:
• Complete application form and submit with fee (fee waiver may apply if previously submitted)
• Complete Accuplacer entrance assessment to determine placement (waiver may apply with acceptable alternative test scores and/or postsecondary degree completion)
• Review and sign the Functional Ability Statement of Understanding
• Complete admissions meeting with a WITC counselor (above requirements should be completed prior to meeting)

Program Outcomes
Employers will expect Automated Packaging Systems Technician graduates to be able to:
• Demonstrate safe practices and techniques
• Install power transmission components, fluid power components, and automation components
• Maintain power transmission components, fluid power components, and automation components
• Troubleshoot power transmission components, fluid power components, and automation components
• Electrically connect automation and communication components
• Troubleshoot automated control systems
• Create electrical systems drawings and schematics for automated machines

Employability essentials and indicators will also be addressed to develop personal awareness, career effectiveness, and professionalism. See page 5 of the college catalog for a list of employability essentials and indicators.

Career Outlook
Typical positions available after graduation include:
• Packaging Systems Assembler
• Maintenance Technician
• Field Service Technician
• Line Mechanic/Adjuster
• Packaging Systems Operator

Employers will expect students to be able to:
• Packaging Systems Assembler
• Maintenance Technician
• Field Service Technician
• Line Mechanic/Adjuster
• Packaging Systems Operator

Curriculum

<table>
<thead>
<tr>
<th>Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>Applied IT Basics or</td>
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<tr>
<td>10150139</td>
<td>IT Essentials</td>
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<tr>
<td>32414335</td>
<td>DC Electricity</td>
<td>3</td>
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<tr>
<td>32414336</td>
<td>AC Electricity</td>
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<td>32414380</td>
<td>Basic PLCs</td>
<td>3</td>
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<tr>
<td>32420314</td>
<td>Basic Machine Shop</td>
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<tr>
<td>32449305</td>
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<td>32454340</td>
<td>Packaging Machine Maintenance</td>
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<tr>
<td>32454341</td>
<td>Fluid Power Systems</td>
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<tr>
<td>32454343</td>
<td>Packaging Machine Rebuilding</td>
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<td>Packaging Systems Equipment Control</td>
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<td>32454347</td>
<td>Electromechanical Componentry</td>
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<td>32454348</td>
<td>Troubleshooting</td>
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<td>32454349</td>
<td>Installation of Packaging Machines</td>
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<td>32454357</td>
<td>Power Transmission Componentry</td>
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<td>32454359</td>
<td>Packaging Materials/Processes</td>
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<td>32454362</td>
<td>Processes of Manufacturing - Packaging</td>
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<td>32454364</td>
<td>Motion Controls</td>
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<tr>
<td>32454366</td>
<td>Introduction to Robotics</td>
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Financial Aid Eligible

Campus: New Richmond

WITC WISCONSIN INDIANHEAD TECHNICAL COLLEGE

New Richmond

Technical Diploma (two-year)

Mechatronics Basics

Career Pathway Options
Career Pathways connect progressive levels of coursework to allow students to build upon their education. Each step in the pathway connects with employment options and provides the opportunity for advancement to higher levels. The Automated Packaging Systems Technician program includes the following pathway option:
• 30-454-1 Mechatronics Basics Technical Diploma (page 148)

Career Pathways

Technical Diploma (less than one-year)

Mechatronics Basics

Automated Packaging Systems Technician

Technical Diploma (two-year)

PMMI MECHATRONICS

WITC WISCONSIN INDIANHEAD TECHNICAL COLLEGE

New Richmond

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You will learn to research and locate suppliers for mechanical, packaging, and control systems.

32454340
Packaging Machine Maintenance - Credits: 3
This course develops the skills required for the implementation of vacuum, air, and oil used to transmit force for performing useful functions on machines. Students will apply symbols to components and connect components to understand the assembly operation, and maintenance of fluid power systems. The transmission of force is used in a variety of applications and can be hazardous to individuals who do not understand the related laws of physics. COREQUISITE: 32449305 General Safety.

32454341
Fluid Power Systems - Credits: 3
This course covers the fundamentals of computer hardware and software, as well as the responsibilities of an IT professional. The latest release includes mobile devices, Linux, and client-side virtualization, as well as expanded information about Microsoft Windows operating systems, security, networking, and troubleshooting. This course covers materials on the Comptia A+ certification exam.

10150139
IT Essentials - Credits: 2
The IT Essentials (ITE) course introduces students to the fundamentals of computer hardware and software, mobile devices, security and networking concepts, and the responsibilities of an IT professional. The latest release includes mobile devices, Linux, and client-side virtualization, as well as expanded information about Microsoft Windows operating systems, security, networking, and troubleshooting. This course covers materials on the Comptia A+ certification exam.

32414335
AC Electricity - Credits: 3
This course is an introduction to electricity. The focus will be on direct current as used in industry. You will learn the basics of series, parallel and combination circuits. You will develop skills in circuit analysis and electrical measurement using a digital multimeter.

32414336
DC Electricity - Credits: 3
This course is an introduction to alternating current electricity as used in industry. You will study series and parallel alternating current circuits that contain inductance and capacitance, as well as, single and three phase transformers, direct current, single phase and three phase motors. PREREQUISITE: 32414335 DC Electricity.

32414380
Basic PLCs - Credits: 3
This course will provide a foundation for working with microprocessor controls. Students will learn the theory and application of electrical principles as they are applied to control systems found in industry. The learner will use trainers and equipment simulating the work environment. Rebuilding and repairing machines gives students the opportunity to develop mechanical skill and see the potential problems that may require maintenance on packaging machinery. PREREQUISITE: 32454347 Electromechanical Componentry.

32454343
Packaging Machine Rebuilding - Credits: 5
This course will develop an understanding of the skills necessary to plan, install, and perform quality assurance used in a manufacturing environment. Students will learn about glass, metal, paper and plastic materials that are used in the packaging industry. Each material has special properties that provide benefits for packaging various products. You will learn about the processes that are used to create these materials as they are used in the packaging industry. PREREQUISITE: 32454347 Electromechanical Componentry.

32454344
Schematics, Prints, and Layouts - Credits: 2
This course covers an introduction and use of engineering drawings used to represent machines components. Students will draw sketches and develop interpretation skills required for the correct translation of machine drawings. Students will sketch electrical and control systems symbols that are used in electrical diagrams. COREQUISITES: 32449305 General Safety and 32454340 Packaging Machine Maintenance.

32454345
Packaging Systems Equipment Control - Credits: 3
This course covers the fundamentals of computer hardware and software, as well as the responsibilities of an IT professional. The latest release includes mobile devices, Linux, and client-side virtualization, as well as expanded information about Microsoft Windows operating systems, security, networking, and troubleshooting. This course covers materials on the Comptia A+ certification exam.

32420314
Basic Machine Shop - Credits: 3
This lab-based course will provide instruction in shop safety, measuring, print reading, and basic setup and operation of saws, mills, lathes.

32449305
General Safety - Credits: 1
The student will learn the United States labor law and safe work practices with employee training requirements. The proper use of safety equipment and personal application of safe working habits will be emphasized. Students who work with chemical hazards and use power tools are exposed to a variety of safety concerns that require the use of guidelines and regulations. Medical attention and response to emergencies is also an important procedure to preserve human life and prevent disease.

32454340
Packaging Machine Maintenance - Credits: 3
You will learn to research and locate suppliers for mechanical, electrical, pneumatic and automation components that are required to maintain and repair equipment. You will learn to read machine electrical diagrams and trace control circuits using a digital multimeter. COREQUISITE: 32449305 General Safety.

32454341
Fluid Power Systems - Credits: 3
This course develops the skills required for the implementation of vacuum, air, and oil used to transmit force for performing useful functions on machines. Students will apply symbols to components and connect components to understand the assembly operation, and maintenance of fluid power systems. The transmission of force is used in a variety of applications and can be hazardous to individuals who do not understand the related laws of physics. COREQUISITE: 32449305 General Safety.

You will learn how to select materials, fabricate parts, and use control system devices. PREREQUISITE: 32454345 Packaging Systems Equipment Control.

32454349
Installation of Packaging Machines - Credits: 5
The learner will develop skills necessary to plan, install, and perform system checkout. You will develop a schedule to simulate a machine installation, provide operator training, and develop a team approach to the installation. A variety of packaging machines will be used for the installation projects. A successful installation requires proper planning, teamwork, and the ability to analyze the machine’s performance. PREREQUISITE: 32454347 Electromechanical Componentry.

32454357
Power Transmission Componentry - Credits: 2
The learner will develop skills necessary to install, maintain, and repair mechanical drive system components. The learner will use machine components to develop skills for installing and repairing defective mechanical drive systems. The correct installation and maintenance is required for trouble-free operation. COREQUISITE: 32454345 Packaging Systems Equipment and Control.

32454359
Packaging Materials/Processes - Credits: 2
You will learn about glass, metal, paper and plastic materials that are used in the packaging industry. Each material has special properties that provide benefits for packaging various products. You will learn about the processes that are used to create these materials as they are used in the packaging industry. PREREQUISITE: 32454347 Electromechanical Componentry.

32454362
Processes of Manufacturing - Packaging - Credits: 2
You will learn how to select materials, fabricate parts, and perform quality assurance used in a manufacturing environment. Students will perform a variety of tasks to develop skills necessary for the manufacturing of components. Manufacturing is a fast-paced, highly technical, and globally competitive industry that requires a basic understanding of manufacturing principles. COREQUISITE: 32449305 General Safety.

32454364
Motion Controls - Credits: 2
The student will learn the application of motion controllers used in industry that accurately control position or speed. The student will select the correct motion controller from application requirements as used in industry. Performance will include the installation, connection, configuring, and troubleshooting of basic motion controllers. PREREQUISITE: 32454347 Electromechanical Componentry.

32442307
Welding for Mechanics - Credits: 2
Instruction in safe setup and operation of plasma cutting (PAC), oxy-fuel cutting (OFC), SMAW (Stick), GMAW (Mig), FLAW, and/or GTAW (Tig) welding in applications related to general industry practices. Selection of appropriate welding processes with a specific emphasis on typical repair situations including metal identification will be stressed.

Gainful employment information is available at this link: http://www.witic.edu/pgmpages/autopack/gainful-employment/G3dt.html. This information is provided as a federal requirement in an effort to help students make informed decisions related to the costs and potential employment in a chosen field.

Graduate Employment Information
(WITC Graduate Survey Responses 2014-2015; for most recent data, go to witc.edu)

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<thead>
<tr>
<th>Number of graduates</th>
<th>11</th>
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<tbody>
<tr>
<td>Number employed</td>
<td>7</td>
</tr>
<tr>
<td>Percent employed</td>
<td>100%</td>
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<tr>
<td>% employed in WITC district</td>
<td>14%</td>
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<tr>
<td>Range of yearly salary</td>
<td>$35,000-$74,874</td>
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<tr>
<td>Average yearly salary</td>
<td>$47,394</td>
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2017-2018