

## **(061) Associate in Applied Science**

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Graduates of the Multicraft Technology program are prepared to enter the work force as engineering technicians, field service engineers, plant maintenance technicians and application engineers or to move into supervisory positions. Graduates may continue their education at many colleges and universities and earn an advanced degree. Multicraft technicians combine knowledge of mechanical engineering technology with knowledge of electrical and electronic circuits to maintain, design, develop, test, and manufacture electronic and computer-controlled mechanical systems, such as robotic assembly machines. They also operate these machines in factories and other work sites. Maintenance technicians will work independently and with other plant personnel to perform preventative, predictive and routine maintenance tasks. They will troubleshoot issues, repair failures of production and facilities equipment, and ensure maximum equipment efficiency and effectiveness. Their work often overlaps that of both electrical and electronic engineering technicians and mechanical engineering technicians. The program content is constantly updated so that students stay current and competitive in today's market place. This degree allows the student to choose electives towards one student-selected specialization in Alternative Energy\*\*, Electrical, Electronics, HVAC, or Welding. Graduates of the program may pursue certification in their field.

### **Work and Employment**

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Graduates of this program are prepared to work in industry, instrumentation, design, field service, and service laboratories. Graduates may supervise technicians in the assembly, installation, repair, maintenance, calibration, and modification of electro-mechanical systems and robotics.

Sauk has formed partnerships with local manufacturers to offer paid internships for students in the Multicraft program. Visit <https://www.svcc.edu/academics/programs/manufacturing-technology/multicraft-technology/meip.html> for details.

### **Special Considerations**

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Workers usually have the following skills and aptitudes: the ability to do precise and detailed work, use good eye-hand coordination, notice and compare differences in objects, have mathematical and mechanical aptitudes, are analytic, curious and creative.

### **Program Contacts at Sauk Valley Community College**

Academic Advising, 815/835-6354

Scott Gillihan, Instructor of Welding, 815/835-6278

Steven McPherson, Associate Professor of Electronics/Technology, 815/835-6347.

Jeff Johnson, Multicraft Instructor, 815/835-6572

## **Total Hours Required - 63 Hours**

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### **Major Field Requirements - 46-47 Hours**

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- ELECTIVES 9 SEMESTER HOUR(S) - SEE AREA EMPHASIS ELECTIVES BELOW FOR CHOICES. CHOOSE ONE EMPHASIS
- EET 110 - Intro to Digital Electronics (4 Semester Hours)
- EET 245 - Programmable Controllers (3 Semester Hours)
- ELT 120 - Fund of Elec w/ Applied Math (3 Semester Hours)
- **OR**
- EET 107 - Intro to DC and AC Circuits (4 Semester Hours)
- ELT 259 - Industri & Agricultur Wiring (3 Semester Hours)
- ELT 262 - Electrical Controls (3 Semester Hours)
- IND 108 - Introduction to CAD (2 Semester Hours)
- IND 118 - Mechanical Systems (3 Semester Hours)
- IND 125 - Machining & Manufacturing Proc (3 Semester Hours)

- IND 131 - OSHA Standards (1 Semester Hours)
- IND 218 - Fluid Power (3 Semester Hours)
- IND 239 - Industrial Communications (3 Semester Hours)
- IND 250 - Industrial Internship (1-3 Semester Hours)
- WLD 102 - Shielded Metal Arc Welding (3 Semester Hours)
- WLD 106 - Welding Fundamentals (2 Semester Hours)

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### **General Education Requirements - 16 Hours**

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- Communications 6 Semester hour(s)
- Humanities/Fine Arts 3 semester hour(s)
- Social/Behavioral Science 3 Semester hour(s)
- Physical Science (PHY 175 Required) 4 Semester hour(s)

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### **SVCC Degree Requirement - 1 Hours**

- FYE 101 - First Year Experience (1 Semester Hours)

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### **Electives for Alternative Energy Emphasis - 9 Hours**

- ENE 102 - Small Wind Energy (3 Semester Hours)\*\*
- ENE 135 - Renewable Energy (3 Semester Hours)\*\*
- ENE 140 - Solar Thermal Energy (3 Semester Hours)\*\*
- ENE 145 - Geothermal Energy (3 Semester Hours)\*\*

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### **Electives for Electrical Emphasis - 9 Hours**

- EET 252 - Industrial Electronics (3 Semester Hours)
- ELT 101 - Electrical Wiring (3 Semester Hours)
- ELT 261 - National Electric Code (3 Semester Hours)
- IND 219 - Industrial Troubleshooting (3 Semester Hours)

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### **Electives for Electronics Emphasis - 9 Hours**

- EET 107 - Intro to DC and AC Circuits (4 Semester Hours)
- EET 207 - Advanced Circuits (3 Semester Hours)
- EET 218 - Microprocess Architecture Apps (4 Semester Hours)
- EET 261 - Adv Programmable Controllers (3 Semester Hours)
- EET 299 - Spec Topics in Electronics (1-3 Semester Hours)

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### **Electives for HVAC Emphasis - 9 Hours**

- HRS 114 - Sheet Metal Fabrication (3 Semester Hours)
- HRS 120 - Basic Refrigeration (3 Semester Hours)
- HRS 130 - Basic Heating (3 Semester Hours)

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### **Electives for Machining Emphasis - 9 Hours**

- IND 203 - Adv Machining & Manufac Proc (3 Semester Hours)
- IND 207 - Computer Numerical Cont Prog I (3 Semester Hours)
- IND 208 - Comp Numerical Control Prog II (3 Semester Hours)

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### **Electives for Welding Emphasis - 9 Hours**

- WLD 101 - Industrial MIG Welding (2 Semester Hours)

- WLD 103 - MIG Welding (3 Semester Hours)
- WLD 104 - TIG Welding (3 Semester Hours)
- WLD 140 - Robotic Welding (3 Semester Hours)

## **Suggested Program (will vary according to emphasis; see an academic advisor for individualized plan.)**

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### **First Semester - 15 Hours**

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- ELT 120 - Fund of Elec w/ Applied Math (3 Semester Hours)

**OR**

- EET 107 - Intro to DC and AC Circuits (4 Semester Hours)
- EET 110 - Intro to Digital Electronics (4 Semester Hours)
- FYE 101 - First Year Experience (1 Semester Hours)
- IND 108 - Introduction to CAD (2 Semester Hours)
- IND 118 - Mechanical Systems (3 Semester Hours)
- WLD 106 - Welding Fundamentals (2 Semester Hours)

### **Second Semester - 13 Hours**

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- Social/Behavioral Science 3 Semester hr(s)
- EET 245 - Programmable Controllers (3 Semester Hours)
- ELT 259 - Industri & Agricultur Wiring (3 Semester Hours)
- ELT 262 - Electrical Controls (3 Semester Hours)
- IND 131 - OSHA Standards (1 Semester Hours)

### **Summer Semester - 3 Hours**

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- WLD 102 - Shielded Metal Arc Welding (3 Semester Hours)

### **Third Semester - 15 Hours**

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- Elective 3-6 Semester hour(s)
- ENG 101 - Composition I (3 Semester Hours)
- IND 125 - Machining & Manufacturing Proc (3 Semester Hours)
- IND 218 - Fluid Power (3 Semester Hours)

### **Fourth Semester - 17 Hours**

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- Elective 3-6 Semester hour(s)
- Humanities/Fine Arts 3 Semester hour(s)
- ENG 111 - Bus/Technical Communication (3 Semester Hours)
- IND 239 - Industrial Communications (3 Semester Hours)
- IND 250 - Industrial Internship (1-3 Semester Hours)
- PHY 175 - Introduction to Physics (4 Semester Hours)