



Personality + Career

Students in SCC's Precision Machining and Automation Technology program are curious about how things are made, are creative, and often think about how to improve an item or how to make something work better. They like to see their work progress to a finished item and work with machines and tools. Organization and a strong attention to detail are also important.

Program	Credential	What do students learn in the program?	What do students earn?	Career Opportunities	Required Tools, Supplies, and Uniforms
Precision Machining and Automation - General Machinist	Certificate	Students learn to operate equipment used for drilling, tapping, boring, turning, and milling. They also learn about tool geometry, and a large assortment of cutting tools, giving them a strong foundation. Students learn to read blueprints and learn properties of a wide assortment of materials such as steel, brass, and aluminum.	No salary data available for the certificate.	General Machinist. Fixture maker, repair and rebuild of components that need manual machining as part of the process. Work that has a +/- .005 tolerance or greater is acceptable.	Tools are required. List provided. No uniform is required for this program.
Precision Machining and Automation Technology	Diploma	Students learn to operate equipment used for drilling, tapping, boring, turning, milling, and precision grinding. They also learn about tool geometry, and a large assortment of cutting tools, giving them a strong foundation. Students learn to read blueprints and learn properties of a wide assortment of materials such as steel, brass, and aluminum. They will learn basic programming and operation of Haas CNC mills, lathes and Coordinate Measuring Machines.	No salary data available for the diploma.	General machinist with entry level CNC programming and operations. Manual Machining and precision grinder. CNC operator. Work that has a +/- .0003 tolerance or greater is acceptable.	Tools are required. List provided. No uniform is required for this program.
Precision Machining and Automation Technology - Advanced CNC & Automation	Associate of Applied Science	In addition to the skills noted in the diploma option, students learn the fundamentals of 2D CAD systems and full 3D solid modeling using Solidworks. Students will also advance their CNC skills and learn Computer Aided Manufacturing utilizing Mastercam CAM software. The Advanced CNC and Automation option digs deep into maximizing your CNC machine for peak performance. Learn advanced programming techniques. Students will design and build their own piece of automated equipment that processes product.	\$25.85 per hour; \$53,768 annually	Precision Machinist, CNC programmer, CAD/CAM programmer and designer. Tooling Designer and Machinist. Advanced CNC Programmer and set-up in a production or toolroom setting. Fixture and equipment designer and builder.	Tools are required. List provided. No uniform is required for this program.
Precision Machining and Automation Technology - Tool Maker Mold and Die	Associate of Applied Science	In addition to the skills noted in the diploma option, students learn the fundamentals of 2D CAD systems and full 3D solid modeling using Solidworks. Students will also advance their CNC skills and learn Computer Aided Manufacturing utilizing Mastercam CAM software. The Tool Maker focus has an emphasis on the world of Mold and Die making. Students will design and build custom Molds and Dies of their own design using Manual and CNC Equipment. EDM's are a unique part of the Toolmaker option.	\$25.00 per hour; \$52,000 annually	Precision Machinist, CNC programmer, CAD/CAM programmer and designer. Mold Designer, Die Designer. and Machinist. Mold press and Stamping press set-up and troubleshooting.	Tools are required. List provided. No uniform is required for this program.

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- ▶ Veteran Education Benefits - southeast.edu/veterans-services
- ▶ GAP Assistance Program - southeast.edu/gap
- ▶ Children of State Teammate Tuition Reimbursement Program - southeast.edu/children-of-state-teammate-tuition-reimbursement-program



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✉ admissions@southeast.edu



Anything that is built, regardless of size, requires a machinist to be involved in the process – they are the parts makers of the world. As quickly as the world changes, so do the things that people buy and build every day. SCC's Precision Machining and Automation Technology program is constantly changing to keep up with the needs of the world's manufacturers so our students can be provided with an excellent career opportunity.

Students learn the necessary foundational processes that are needed, as well as modern methods of machining, both traditional and computerized. Students also gain knowledge and experience in tooling and materials selection, blueprint reading, measurement, project layout, and design and build of projects.

Program Contact Information

Kirby Taylor, Program Chair
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The SCC Experience

- » The SCC Precision Machining and Automation Technology program is hands-on! Students spend **175-275** hours in the lab each semester for a total of **900+** hours for the entire program. The **12:1** student-to-faculty ratio in the program ensures that students receive significant personal attention while they learn.
- » Approximately **75%** of students enter the program with little or no machining experience, and due to the experienced SCC faculty, graduate with highly sought-after machining skills from employers all over the country. The job demand for machinists is high and available in many fields. Faculty are committed to student success and will help them achieve their goals!
- » Associate of Applied Science students, in their fourth semester, have the opportunity to design and build their own capstone project. Students design all elements of their project and then create their functional project. This project equips students with the skills, experience, and confidence that enables them to immediately make an impact in the workforce.
- » SCC and regional industry partners have invested significant resources into the Precision Machining and Automation Technology program. The lab features CNC machines, lathes, grinders, drill presses, and milling machines. SCC has one of the largest machining labs in the country and is committed to ensuring students learn on up-to-date equipment so they are ready for any worksite.



TOOLS

Many tools are provided and students are only asked to purchase minimum tools in their first term, giving them time to explore and learn. Students then add to tools in future semesters. Tools are an investment in a student's career and SCC works with a variety of tool vendors to give students options. Many vendors offer students a significant discount. Students can also purchase tools from other vendors not associated with the College. Program faculty and advisors will provide students with specific information related to tools prior to the start of their first semester.

During the first week of each semester, tool vendors come to campus and provide students with options to buy single tools or tool sets based on program needs. Faculty will be available to help students make selections based on course and program needs.

Precision Machining & Automation Technology - Required Basic Tool List

TOOLS REQUIRED BY WEEK THREE OF FIRST TERM:

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|-------------------------------|------------------------------|-------------------------------------|--------------------------|
| • Safety Glasses, (2 pr) | • Gage Set, 1/32-1/4 Radius | • Tap Handle, 9" | • Tape Measure, 1/2" |
| • Steel Rule, 6" Flexible | • Gage Set, 17/32-1/2 Radius | • Tap Handle, 6" | • Parallel Set |
| • Dial Calipers, 6" | • Scriber | • Chuck Key, K3 size | • Test Indicator, .0005" |
| • Micrometer, 0-1" | • Edge Finder | • Pliers, Slip Joint | • Holder, Test Indicator |
| • Micrometer, 1-2" | • Screwdriver Set, 2-pc | • Hex Key Set, Standard | • Drill Set, 115 pc |
| • Travel Indicator, 1" | • Wrench, Adjustable | • Hex Key Set, Metric | • Layout Fluid |
| • Indicator Base, Magnetic | • Hammer, Brass | • Center Punch | • Diamond Dresser Insert |
| • Indicator Base Kit, Compact | • Hammer, Dead Blow | • Prick Punch | |
| • Precision Square, 6" | • File, Second Cut, Mill | • Countersink Set | |
| • Gage, Drill Point | • File Handle | • Deburring Tool | |
| • Gage, Center | • File Card | • Deburring Tool Replacement Blades | |
| • Gage, 60° Thread Pitch | • Chip Brush | • India Stone | |

Approx Total: \$2,075

TOOLS REQUIRED BEFORE BEGINNING SECOND TERM:

- | | | | |
|--------------------|--------------------------|------------------------|-----------------|
| • Depth Micrometer | • Test Indicator, .0001" | • Gage Set, Small Hole | • Pin Punch Set |
| • Arkansas Stone | • Gage Set, Telescoping | • Hammer, Ball Peen | |

Approx. Total: \$850

The program can provide rolling tool cabinets for student use, however students are encouraged to purchase their own.

*** Space in the lab is limited. Tool cabinets in excess of 30"W x 24"D are not permitted for student use, and will be turned away. ***

SCC instructors can provide you with tool vendors so you can receive special SCC student discount pricing.



Program	Credential	Location	Credit Hours	Tuition/Fees*	Books/Fees/Supplies	Tools	Total Cost*	Starting Term(s)	Number of Semesters Required - Full Time	Is Summer Term Required for Full Time?	Online Option	Can the Program be Completed Entirely Online?	Part-Time Option	Number of Semesters Required - Part Time	Is Summer Term Required for Part Time?	Typical Class Schedule
Precision Machining and Automation - General Machinist	Certificate	Milford	11	R - \$1,331 NR - \$1,562	\$575	\$2,075	R - \$3,981 NR - \$4,212	Fall and Spring	1	No	No	No	Yes	2	No	Monday–Thursday, 8 a.m. – 4 p.m., Friday, 8 a.m. – Noon
Precision Machining and Automation	Diploma	Milford	29.5	R - \$3,570 NR - \$4,189	\$877	\$2,925	R - \$7,372 NR - \$7,991	Fall and Spring	2	No	No	No	Yes	3-4	No	Monday–Thursday, 8 a.m. – 4 p.m., Friday, 8 a.m. – Noon
Precision Machining and Automation - Advanced CNC & Automation	Associate of Applied Science	Milford	64.5	R - \$7,805 NR - \$9,159	\$1,805	\$2,925	R - \$12,535 NR - \$13,889	Fall and Spring	4	No	No	No	Yes	8	No	Monday–Thursday, 8 a.m. – 4 p.m., Friday, 8 a.m. – Noon
Precision Machining and Automation - Tool Maker Mold & Die	Associate of Applied Science	Milford	64.5	R - \$7,805 NR - \$9,159	\$1,805	\$2,925	R - \$12,535 NR - \$13,889	Fall and Spring	4	No	No	No	Yes	8	No	Monday–Thursday, 8 a.m. – 4 p.m., Friday, 8 a.m. – Noon

*R=Resident, NR=Non-resident. Costs listed are estimates and are subject to change based on the market price of books, supplies, tools, uniforms, etc. Estimated costs also include tuition and fees. Additionally, days/times of week for class, lab, clinical/practicum are subject to change based on curriculum, facilities, instructor, and site availability. Actual program schedules will be provided prior to each enrolled term.