

2018-2019

SOUTHEAST
COMMUNITY
COLLEGE
NEBRASKA

MANUFACTURING ENGINEERING TECHNOLOGY

Associate of
Applied Science
Degree

MILFORD CAMPUS

www.southeast.edu/ManufacturingTech



Manufacturing engineering technologists like to make things. They also like to make them better, faster and more affordable. They are "hands-on" people who enjoy being a part of the design process. Do you have an analytical mind and good math skills? This program prepares students for careers in product design, operations management, lean manufacturing engineering, product research and development, quality control and assurance, and tooling design.

Types of jobs available:

- Product Designer
- Robot Programmer
- Engineering Technician
- Automation Engineer
- Machine Designer
- CNC Programmer
- Product Research and Development Specialist
- Direct Manufacturing Support Specialist
- Quality Control and Assurance Specialist
- Lean Manufacturing Engineer
- Production Engineer Tech
- Tooling Design and Development Specialist

SCC has an active student chapter, S218, of the Society of Manufacturing Engineers, which helps students create contacts with local industries and potential employers.

Graduate Earnings

Recent graduates report an average starting wage of \$19.60 per hour.

For more information contact:

Elaine Vavra, Program Chair
402-761-8210, 800-933-7223 ext. 8210
evavra@southeast.edu

or the College Admissions Office
Milford 402-761-8243, 800-933-7223 ext. 8243

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"I was drawn to SCC because of the hands-on training and amazing reputation.

Nearly all of the instructors had actually worked in the industry before coming to SCC to teach, which gave them a clear perspective of what information they needed to be teaching. The small student-to-instructor ratio enabled the instructor to help out one-on-one or present the information in different ways for others to better understand.



When you attend such a prestigious college, opportunities for internships and employment come from everywhere. Our trades are in high demand all over the country, and SCC has many connections. During my last two quarters of college, I was presented a full-time job offer well before my schooling was finished.

I graduated on a Friday and started working at ABE the following Monday. I am now the Lead Installation Technician and travel all over the U.S. and world. I had stepped into my dream job without even knowing it! Without SCC the chances of me being qualified or even made aware of this job opportunity would have been slim to none. I appreciate what this school has done for me educationally and personally. You never know where or when opportunities can arise. With the education you are receiving, you have already made the first step toward success and possibly the first step into achieving your dream."

*Michael Lorens, 2014 graduate
Lead Installation Technician, American Beer Equipment*

How Stuff Works

You'll Learn How 3-D Plastic Extrusion Printing Works

1 A 3-D model is created on a computer using computer-aided design software. Nearly any structurally sound object can be printed. Mechanical parts, artificial limbs, architectural models, and toys are just a few.



2 The 3-D model is sent to the printer, where it is sliced into hundreds of layers as fine as .010-inch thick, one-fifth the thickness of a dime.

3 The printer builds the 3-D models from the bottom up, one layer at a time, with tough, durable acrylonitrile butadiene styrene plastic. ABS plastic is heated to a semi-liquid state (500°F) and deposited in thin layers by a patented extrusion head. Catalyst software automatically determines when and where to deposit ABS or support material throughout the build process. The process can take as little as a few minutes to as long as several hours.



4 Once the object is finished, the part is allowed to cool, and the support material is removed. Models can be sanded, painted, tapped, and drilled and then assembled just like an actual working part of assembly.

Estimated Expenses

Nebraska Resident tuition/fee rate is \$69.50 per credit hour. Out-of-state tuition/fee rate is \$83.50 per credit hour. Graduation fee is \$25.

Housing is available at Beatrice and Milford campuses only. Tuition, books and fees are dependent upon classes taken each quarter.

Students should plan a budget that includes room, meals, clothing, laundry, medical care, recreation and entertainment, transportation, insurance, etc.

FIRST QUARTER

Tuition And Fees	\$1,494
Books	540
Tools	95
Total	\$2,129

SECOND QUARTER

Tuition And Fees	\$1,216
Books	530
Total	\$1,746

THIRD QUARTER

Tuition And Fees	\$1,286
Books	505
Tools	130
Total	\$1,921

FOURTH QUARTER

Tuition And Fees	\$1,216
Books	540
Total	\$1,756

FIFTH QUARTER

Tuition And Fees	\$1,355
Books	625
Total	\$1,980

SIXTH QUARTER

Tuition And Fees	\$1,494
Books	680
Total	\$2,174

Total Estimate For Program	\$11,706
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Basic Tools for Program

A 10-percent discount will be given if the following items are purchased as a complete set, and sets or individual items may be purchased at the Campus Store.

- .3 mm Lead - H degree (1 tube)
- .3 mm Mechanical Pencil
- .5 mm Lead - F degree (1 tube)
- .5 mm Mechanical Pencil
- .7 mm Lead - F degree (1 tube)
- .7 mm Mechanical Pencil
- Drawing Pencil - 9H degree, "PRISMACOLOR"
- Kit Bag 12" x 16" w/Mesh Webbing
- Drafting Dots 500/roll
- Tri-Angle Eraser
- Sandpaper Lead Pointer
- Bow Compass w/Beam
- Friction Divider
- Expandable Folder w/Flap & Rubber Band Closure
- Conversion Factors
- Sharp EL-506X Scientific Calculator
- Flash Drive Memory Stick (4 GB minimum)
- Safety Glasses - Must meet Z87 specs. (Not included in kit)
- 12" Inch Ruler - Mechanical Flat Scale

** Steel Rule; 6 inch flexible Caliper; 6 inch dial or digital (This tool needs to be purchased prior to entering the 4th quarter of study). See instructor for tool options and pricing.

General Education Requirements:

Contact your program advisor to select general education courses from each category, which will meet your program's graduation requirements. See the General Education pages online for a complete list.

(One class from each area below).

Oral Communications	4.5
SPCH1110 Public Speaking (Recommended)	
Written Communications	4.5
ENGL1110 Business Communications (Recommended)	
Analytical, Quantitative, and Scientific Reasoning	4.5
MATH1050 Thinking Mathematically (or higher)	
(Prerequisite for MFGT1333, 1413, 2549, & 2672).	
Critical Thinking & Problem Solving	4.5
PHYS1017 Technical Physics or	
PHYS1150 Descriptive Physics (Prerequisite for MFGT2566, 2668).	
Career and Life Skills	4.5
BSAD1010 Microsoft Applications I (Prerequisite for MFGT2670)	
	22.5 hours

To complete the A.A.S. degree, students also are required to take:

ACFS2020 Career Development	1.5
	1.5 hours

Students wishing to take advanced level or alternate courses to meet the College's General Education Requirements should contact their program advisor to ensure that the course/s meet the program requirements.

Students use a three-dimensional rapid prototype printer to print a variety of design and prototype projects. Students are eligible in their fifth quarter to take the Certified Manufacturing Technologist exam offered by the Society of Manufacturing Engineers (www.sme.org).

Please note: A grade of "C" or higher is required in all prerequisite courses.

Manufacturing Engineering Technology A.A.S. Degree Requirements:

Course #	Course title	Credit hrs
MFGT1125	Materials of Industry	4.5
MFGT1144	Engineering Drawing & Design I	5.0
MACH1241	Machinery's Handbook	5.0
MFGT1250	Engineering Drawing & Design II	3.5
MFGT1333	Fluid Power for Manufacturing	2.5
MFGT1350	AutoCAD for Manufacturing	3.0
MFGT1354	Die Design	5.0
MFGT1362	Lean Facilities Planning	3.0
MFGT1413	Electrical Fundamentals	4.0
MFGT1421	Manufacturing Processes I	4.5
MFGT1429	CNC for Automation	3.5
MFGT1456	Manufacturing Processes II	4.0
MFGT2549	Quality Assurance & SPC	4.5
MFGT2559	Geometric Dimensioning & Tolerancing	3.5
MFGT2566	Tooling Design	5.0
MFGT2620	Programmable Logic Controllers in Work Cell Design	3.0
MFGT2625	Robotics & Industrial Automation	4.5
MFGT2635	Plastics: Design & Engineering	4.5
MFGT2643	Engineering Statics & Strengths of Materials	4.5
MFGT2668	Product & Machine Design	3.5
MFGT2670	Autodesk Inventor	5.0
MFGT2672	Mechanisms	4.5
MFGT2680	Solid Works	3.0
		93.0 hours