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

“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 Lorenz, 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.

---

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) 4.5
- Written Communications 4.5
- ENGL1110 Business Communications (Recommended) 4.5
- Analytical, Quantitative, and Scientific Reasoning 4.5
- MATH1050 Thinking Mathematically (or higher)
- 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:
  - ACF52020 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:

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course title</th>
<th>Credit hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFGT1125</td>
<td>Materials of Industry</td>
<td>4.5</td>
</tr>
<tr>
<td>MFGT1144</td>
<td>Engineering Drawing &amp; Design I</td>
<td>5.0</td>
</tr>
<tr>
<td>MACH1241</td>
<td>Machinery’s Handbook</td>
<td>6.0</td>
</tr>
<tr>
<td>MFGT1250</td>
<td>Engineering Drawing &amp; Design II</td>
<td>3.5</td>
</tr>
<tr>
<td>MFGT1333</td>
<td>Fluid Power for Manufacturing</td>
<td>2.5</td>
</tr>
<tr>
<td>MFGT1350</td>
<td>AutoCAD for Manufacturing</td>
<td>3.0</td>
</tr>
<tr>
<td>MFGT1354</td>
<td>Die Design</td>
<td>5.0</td>
</tr>
<tr>
<td>MFGT1362</td>
<td>Lean Facilities Planning</td>
<td>3.0</td>
</tr>
<tr>
<td>MFGT1413</td>
<td>Electrical Fundamentals</td>
<td>4.0</td>
</tr>
<tr>
<td>MFGT1421</td>
<td>Manufacturing Processes I</td>
<td>4.5</td>
</tr>
<tr>
<td>MFGT1429</td>
<td>CNC for Automation</td>
<td>3.5</td>
</tr>
<tr>
<td>MFGT1456</td>
<td>Manufacturing Processes II</td>
<td>4.0</td>
</tr>
<tr>
<td>MFGT2549</td>
<td>Quality Assurance &amp; SPC</td>
<td>4.5</td>
</tr>
<tr>
<td>MFGT2559</td>
<td>Geometric Dimensioning &amp; Tolerancing</td>
<td>3.5</td>
</tr>
<tr>
<td>MFGT2566</td>
<td>Tooling Design</td>
<td>5.0</td>
</tr>
<tr>
<td>MFGT2620</td>
<td>Programmable Logic Controllers in Work Cell Design</td>
<td>3.0</td>
</tr>
<tr>
<td>MFGT2625</td>
<td>Robotics &amp; Industrial Automation</td>
<td>4.5</td>
</tr>
<tr>
<td>MFGT2635</td>
<td>Plastics: Design &amp; Engineering</td>
<td>4.5</td>
</tr>
<tr>
<td>MFGT2643</td>
<td>Engineering Statics &amp; Strengths of Materials</td>
<td>4.5</td>
</tr>
<tr>
<td>MFGT2668</td>
<td>Product &amp; Machine Design</td>
<td>3.5</td>
</tr>
<tr>
<td>MFGT2670</td>
<td>Autodesk Inventor</td>
<td>5.0</td>
</tr>
<tr>
<td>MFGT2672</td>
<td>Mechanical, Tifs</td>
<td>4.5</td>
</tr>
<tr>
<td>MFGT2680</td>
<td>Solid Works</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Total: 93.0 hours

---

Estimated Expenses

<table>
<thead>
<tr>
<th></th>
<th>FIRST QUARTER</th>
<th>FOURTH QUARTER</th>
<th>FIFTH QUARTER</th>
<th>SIXTH QUARTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition And Fees</td>
<td>$1,494</td>
<td>$1,216</td>
<td>$1,355</td>
<td>$1,494</td>
</tr>
<tr>
<td>Books</td>
<td>95</td>
<td>95</td>
<td>62</td>
<td>68</td>
</tr>
<tr>
<td>Total</td>
<td>$2,129</td>
<td>$1,756</td>
<td>$1,980</td>
<td>$2,174</td>
</tr>
<tr>
<td>Tools</td>
<td>530</td>
<td>625</td>
<td>68</td>
<td>688</td>
</tr>
<tr>
<td>Total</td>
<td>$1,746</td>
<td>$1,355</td>
<td>$1,980</td>
<td>$2,174</td>
</tr>
<tr>
<td>Total Estimate For Program</td>
<td>$1,921</td>
<td>$1,216</td>
<td>$1,980</td>
<td>$2,174</td>
</tr>
</tbody>
</table>

** 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.**