

Science, Technology, Engineering & Mathematics

The Science, Technology, Engineering & Mathematics Career Cluster includes careers that use STEM skills to conduct in-depth research to provide solutions to a variety of technical problems within many different fields. A postsecondary degree and relevant work experience are necessary to succeed in this cluster [careertech.org].

Casey Bowler was introduced to drafting and design when she visited a class at New River Community College.

While taking a variety of drafting and design classes in high school, Casey's interest in the field was solidified. "When I was in high school I really loved the drafting classes, and I knew that was something I wanted to pursue," she says.

Today she uses her skills as a tool drafter/designer at Federal-Mogul Corporation, which manufactures automotive products.

In her job, she has a variety of roles. Some days, she may help with the design of engine bearings. Other days, she may figure out why a part isn't being produced with the right specifications. "I have to figure out what's wrong in the tooling," says Casey.

One of the best parts of her job is being able to see her designing and drafting come to fruition. "At work I'm actually able to go out on the floor and see how my design is implemented. I can see how it worked or how I could improve it or change the design. I like to be able to see something that I did carried out and see how it affects what we do."

by Jessica Sabbath

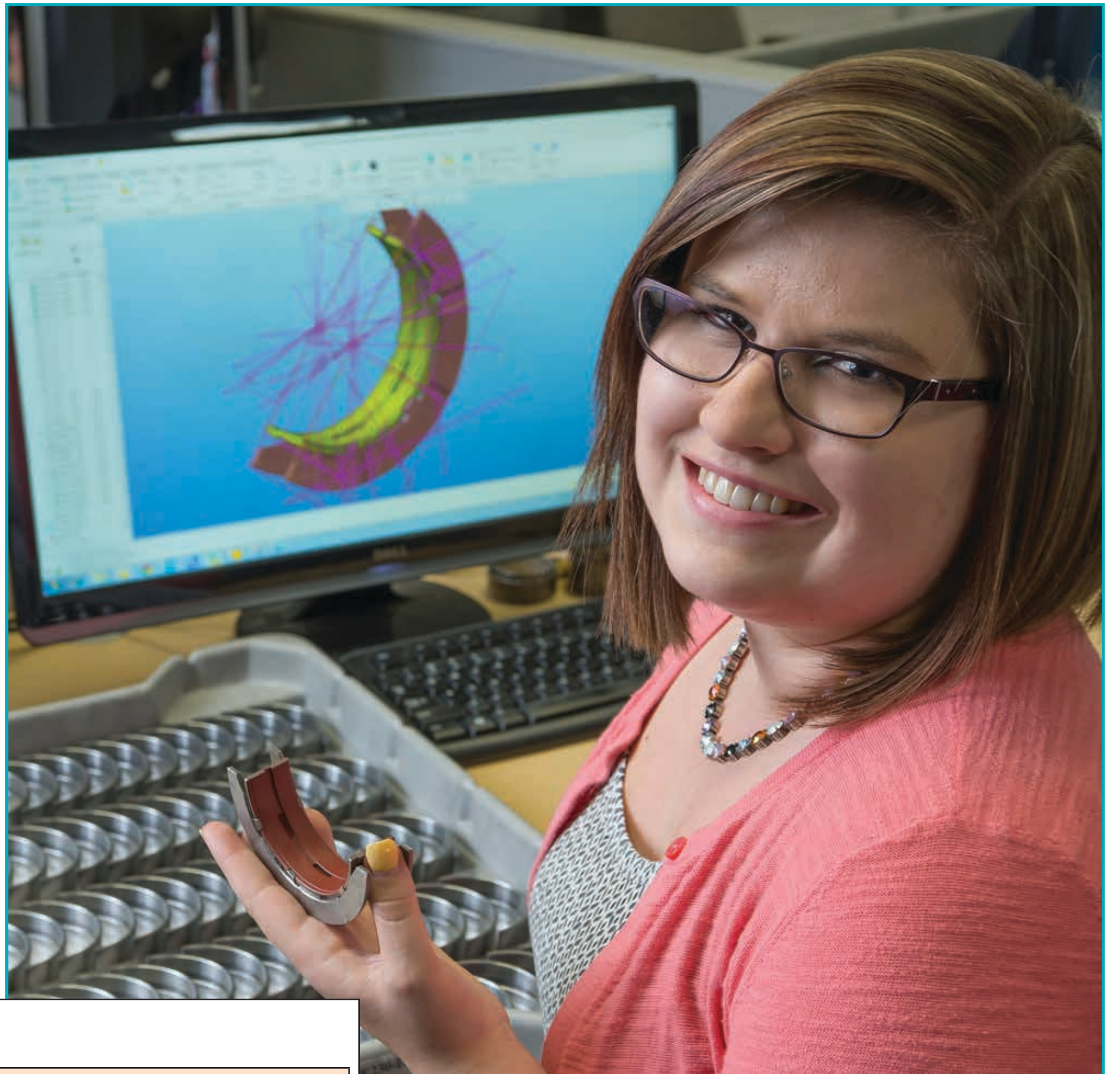


Photo by Mark Rhodes

What they make

Occupation	Employed in Va. ¹	Median wage ²	Predominant level of education
Civil engineers	8,716	\$78,140	Bachelor's degree
Mechanical engineers	7,902	\$89,460	Bachelor's degree
Electrical engineers	6,218	\$89,330	Bachelor's degree
Architectural and engineering managers	5,833	\$136,770	Bachelor's degree
Electronics engineers	5,181	\$102,430	Bachelor's degree
Aerospace engineers	4,320	\$122,890	Bachelor's degree
Industrial engineers	3,873	\$84,290	Bachelor's degree
Nuclear engineers	2,372	\$87,160	Bachelor's degree
Computer hardware engineers	1,982	\$115,640	Bachelor's degree
Computer scientists	1,901	\$112,770	Bachelor's degree
Biological technicians	1,086	\$38,450	Bachelor's degree
Chemical engineers	1,278	\$111,660	Bachelor's degree
Petroleum engineers	1,145	\$133,070	Bachelor's degree
Marine engineers	921	\$82,570	Bachelor's degree
Biochemists and biophysicists	580	\$64,890	Bachelor's degree
Geoscientists	545	\$89,450	Bachelor's degree
Health and safety engineers	529	\$85,050	Bachelor's degree
Environmental engineering technicians	440	\$42,130	Associate degree
Materials engineers	430	\$90,700	Bachelor's degree
Microbiologists	375	\$60,380	Bachelor's degree

¹ 2012 ² 2013

Sources: U.S. Bureau of Labor Statistics, Virginia Employment Commission, Trailblazers

Casey Bowler

Tool Designer/Detailer, Federal-Mogul Corporation, Blacksburg

High school: Christiansburg High School, Montgomery County Public Schools

CTE studies: Introduction to Engineering Design (PLTW); Engineering Drawing and Design; Civil Engineering and Architecture (PLTW); Advanced Drawing and Design



For more information about career planning, visit the CTE Resource Center's Web site.

