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Many knowledge-based jobs go blue collar

A national study broadens the definition of STEM jobs in the Treasure Valley and throughout the nation

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When you think of jobs that require mastery of science or math, chances are you don't think of auto mechanics or construction.

But a new study suggests you should think again. The study being released Monday shows both fields are among the top 10 STEM — science, technology, engineering and math — occupations in the Treasure Valley. And all three generally don't require a bachelor's degree.

The study found that nearly a third of all jobs requiring extensive STEM knowledge are filled by craft professionals or other blue-collar workers. And about half of all STEM jobs — in the Treasure Valley as well as nationwide — require a two-year associate degree or less.

"University attendance is not the only path to a STEM career," said the report's author, Jonathan Rothwell, associate fellow at the Metropolitan Policy Program of the Brookings Institution, a Washington, D.C., think tank. "While highly educated STEM professionals are a vital part of the economy, many less educated and often blue collar STEM workers contribute to economic growth and innovation in a variety of ways."

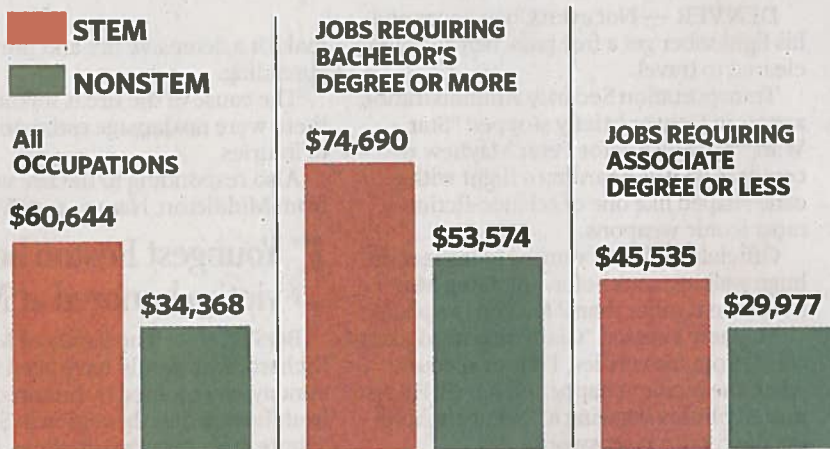
"Job growth, employment rates, patenting, incomes and exports are all higher in STEM-oriented economies."

At the College of Western Idaho, the 4-year-old community college in Nampa, students can feed the Valley's technical-knowledge economy through an array of associate degrees and certificates in automotive technology, drafting, health technology and other fields on Brookings' list of top 10 STEM occupations in the Boise-Nampa area.

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STEM SKILLS LOCAL JOBS REQUIRE, A4

WHAT STEM TRAINING MEANS FOR LOCAL EARNINGS



Source: Brookings Metropolitan Policy Program



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College of Western Idaho student Shane Vickery gets a truck ready for a transmission flush at Tune Tech on State Street. Vickery, a 2011 graduate of Meridian Academy, studies automotive repair, one of the top STEM occupations in the Treasure Valley, according to a new study.

STEM

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"There's a lot more of that core knowledge within these (professional-technical) areas than people expect,"

CWI Communications Director Jennifer Couch said.

Take engine repair. "It's amazing how much technology is in there now," both in mechanical systems and the diagnostic equipment used to fix them, Couch said. "We have a lot of people say, 'Whoa, I have to take a math class for this?' But the answer is definitely yes."

JOB AND WAGES

The College of Western Idaho's professional-technical programs reported 88 percent positive job placements in 2011. Couch said demand for the programs and their graduates remains strong. "We need people to

STEM SKILLS LOCAL JOBS REQUIRE

About 20 percent of Boise-Nampa area jobs require science, technology, engineering and/or math knowledge and skills, according to the study. That ranks this area No. 46 out of 100 U.S. metro areas. Here's how the study broke down Boise-Nampa jobs by the type of specialized knowledge required.

Field	Jobs	Share of total area jobs
Science	23,230	9.7 percent
Computers (tech)	10,860	4.5 percent
Engineering	26,380	11 percent
Math	14,850	6.2 percent

Source: Brookings Metropolitan Policy Program

make sure the stuff we're using works," she said.

STEM training pays off with improved earnings op-

portunities, the Brookings study found. In jobs requiring an associate's degree or less, STEM-trained workers earned about 36 percent more than their counterparts in other fields. STEM jobs requiring a bachelor's degree or more bring in about 23 percent more than jobs requiring a two-year degree or less.

Idaho Department of Commerce Director Jeff Sayer echoed the study's emphasis on skills training.

"Based on our conversations with existing Idaho companies and those that are considering the state for future expansion, it is clear that there is a high demand for a highly skilled workforce — both in the areas covered by more traditional degrees ... but also in fields that require more advanced technical training," Sayer said in an email. "It is critically important that industry continues to have a significant seat at the table to ensure that Idaho's colleges and universities are equipping students with the skill sets they demand and anticipating future workforce needs across a variety of existing and emerging industry clusters."

Idaho teachers are eager to foster student success in STEM fields, said Melissa McGrath, spokeswoman for the Idaho Department of Education. Annual STEM workshops for teachers are planned for later this month across the state. All 500 spaces were snapped up by teachers at all grade levels soon after the dates were announced in March, she said.

The Brookings study analyzed data from the Department of Labor, the Bureau of Labor Statistics, the American Community Survey and the Strumsky Patents Database.

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ECONOMIC PERFORMANCE INDICATORS

Here's how the Boise-Nampa area fared among the 100 metro areas in key economic indicators. Figures are from 2011.

Unemployment rate

8.8% rank 59

Median household income

\$45,065 rank 82

Patents per worker, 2007-11

6,500 rank 43

Source: Brookings Metropolitan Policy Program

TOP 10 LOCAL STEM OCCUPATIONS IN BOISE-NAMPA AREA

Job category	Number of jobs	Share requiring bachelor's degree
Health diagnosing and treating	8,860	35.4%
Computer occupations	6,030	90.9%
Construction trades	4,220	0%
Engineers	4,160	100%
Financial specialists	2,820	93.1%
Drafters, engineering and mapping techs	2,250	8%
Operations specialties managers	2,170	100%
Health technologists and technicians	1,830	7.4%
Other management jobs	1,790	78.5%
Vehicle mechanics, installers and repairers	1,600	0%

Source: Brookings Metropolitan Policy Program