

Highlights from the *STEM in Virginia* Career Cluster Brief

Virginia is a national leader in technology and innovation—**by 2020, it is estimated that STEM will provide employment opportunities for over 100,000 Virginians.** Moreover, beyond the many career choices in the specific fields included in STEM, the technological competence and problem solving skills encouraged in this cluster will only become increasingly important for today's young job-seekers, no matter what fields they pursue. STEM instruction remains a high priority for all high school CTE programs in Virginia, as explained in the recently-released Career Cluster Brief, *STEM in Virginia*, and summarized below:

STEM IN VIRGINIA: INNOVATION AND OPPORTUNITY

Virginia is a national leader in technology and innovation. For example:

- Virginia's computer systems design and related services industry is among the largest in the nation.
- Virginia received \$3.56 billion in Federal research and development contracts in 2013—the third highest total state grant in the country.

Students can find motivation and inspiration in the wide variety of STEM opportunities available in the Commonwealth, in fields such as:

- Advanced manufacturing;
- Cyber security;
- Aerospace engineering;
- Nuclear physics; and
- Biotechnology

EMPLOYMENT, EDUCATION, AND EARNINGS

The majority of occupations in STEM require at least a Bachelor's degree. Most occupations are expected to see growth in the next several years, and several—such as Engineering Managers and Aerospace Engineers—have median salaries of over \$115,000.

SPOTLIGHT ON SKILLS

STEM skills, such as problem solving, creative thinking, and sound analysis of data, are important for *all* students, whatever field they pursue. In order to foster such skills, many advocate for:

- Hands-on, problem- or project-based learning experiences in the classroom;
- Strong technology support and initiative within school divisions; and
- Student IT organizations or classes, which may serve the dual purpose of improving IT support and fostering student skills.

A strong economy in Virginia depends on continued growth and strength of STEM related occupations. Students prepared to pursue careers in science, technology, engineering, and mathematics are crucial for the economic vitality of the Commonwealth, as well as for national competitiveness.