# Technology
STEM

JOB OUTLOOK

Science, technology, engineering, and mathematics (STEM) occupations are projected to grow over two times faster than the total for all occupations in the next decade. The U.S. Bureau of Labor Statistics (BLS) 2019–29 employment projections show that occupations in the STEM field are expected to grow 8.0 percent by 2029, compared with 3.7 percent for all occupations.

Even though many STEM occupations are expected to enjoy faster than average employment growth in the 2019–29 decade, high demand for computer occupations is largely behind the expected increase in STEM employment in the next decade.
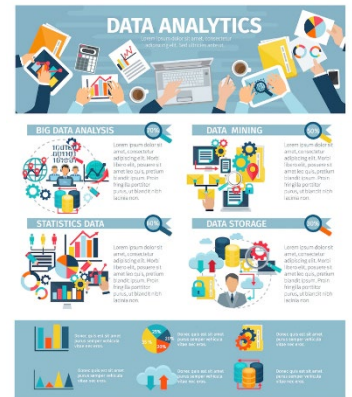
OCCUPATION PROFILE

As Tennessee strives to maintain and advance its economic stability and workforce, we must make it our goal to increase the number of students who come through and out of K–16 education prepared for these high-demand STEM-related careers. Unfortunately, students who choose to pursue these careers are often inadequately prepared to take on the challenges these positions demand. Secondary and postsecondary students are often lacking critical thinking, problem solving, and collaborative skills that are imperative for success. This too often affects their on-the-job performance. Students often struggle not only with academic knowledge when applying for a job, but they also face challenges involving real world applications like problem solving, conducting independent research, and proactively seeking solutions.

As consumers and businesses increasingly participate in the digital economy, connect devices to the internet, and store more sensitive data online, the demand for specialized computer occupations will increase notably. As a result, employment of information security analysts, software developers, and computer and information research scientists are expected to grow at a robust pace over the next decade from 2019 to 2029.

Civil Engineer	Electrical Engineer	Mechanical Engineer	Software Developer	Geographic Information Systems Technologist	Electrical Engineering Technician
Median Salary: $81,420	Median Salary: $96,630	Median Salary: $95,880	Median Salary: $98,180	Median Salary: $58,030	Median Salary: $60,220

Memphis-Shelby County Schools

ROAD MAP TO SUCCESS

PROGRAM OF STUDY PROFILE

The Technology program of study is for students who wish to pursue careers in robotics, electronics, and related engineering and technology fields. Course content introduces students to the principles of engineering and the engineering design process, then progresses to apply these skills in the context of robotics, electronics, and automated systems. Upon completion of this POS, students will have gained valuable training in an Engineering Practicum or AP Physics capstone course and be prepared for advanced study in a variety of STEM fields at the postsecondary level.

CAREER PATHWAY

SECONDARY EDUCATION

* Principles of Engineering and Technology
* Digital Electronics
* Robotics & Automated Systems
* Engineering Practicum

CERTIFICATIONS

* Computer Software Specialist
* Software Testing
* Geographical Information
* Applied Geospatial Information Systems

ASSOCIATES

* A.S. Computer Engineering Technology
* A.S. Geographical Information Systems
* A.S. Mechanical Engineering Technology
* A.S. Electrical Engineering Technology

BACHELORS:
* B.S. Mechanical or Electrical Engineering
* B.S. Civil Engineering
* B.S. Computer Engineering

MSCS PARTICIPATING SCHOOLS: Bolton HS, Central HS, Trezevant CTC & Kirby HS

LOCAL EMPLOYERS: City of Memphis, FedEx, Hysoung HICO, MLGW, Navy Corp of Engineers, Shelby County Government