

Engineering Pathways

Health and safety engineers, except mining safety engineers and inspectors prevent harm to people and property by applying knowledge of systems engineering and mechanical, chemical, and human performance principles.

Industrial engineers determine the most effective ways to use the basic factors of production—people, machines, materials, information, and energy—to make a product or provide a service.

Marine engineers and naval architects are involved in the design, construction, and maintenance of ships, boats, and related equipment.

Materials engineers are involved in the development, processing, and testing of the materials used to create a range of products, from computer chips and aircraft wings to golf clubs and snow skis.

Mechanical engineers research, design, develop, manufacture, and test tools, engines, machines, and other mechanical devices.

Mining and geological engineers, including mining safety engineers find, extract, and prepare coal, metals, and minerals for use by manufacturing industries and utilities.

Nuclear engineers research and develop the processes, instruments, and systems used to derive benefits from nuclear energy and radiation.

Petroleum engineers search the world for reservoirs containing oil or natural gas.

Employment of engineers is expected to grow about as fast as the average for all occupations over the next decade, but growth will vary by specialty. Biomedical engineers should experience the fastest growth, while civil engineers should see the largest employment increase.



District School Board of Pasco County

Heather Fiorentino, Superintendent

This innovative opportunity is made possible by the collaborative partnership of the following organizations:

Agency for Workforce Innovation
District School Board of Pasco County
Pasco Economic Development Council
Pasco-Hernando Jobs and Education
Regional Partnership, Inc.
Pasco-Hernando Community College

To apply or to receive more information about this opportunity, please visit <http://careers.pasco.k12.fl.us/academies/>

EQUAL EDUCATIONAL OPPORTUNITIES

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River Ridge High School

11646 Town Center Road • New Port Richey, FL 34654
(727) 774-7200



Academy of Engineering

River Ridge High School

Mission

The Mission of the River Ridge High School Engineering Academy is to provide students with an advanced rigorous and relevant curriculum in science, technology, engineering, and math.

Starting salaries for engineers are among the highest of all college graduates.

Engineers apply the principles of science and mathematics to develop economical solutions to technical problems.

Career Academies... The Right Choice!

Career Academies prepare students to meet the demands of a changing workforce while providing the opportunity for successful high school graduation, gainful employment, postsecondary education, and industry recognized certification.



Curriculum

The Academy of Engineering partners with Project Lead the Way (PLTW) a national nonprofit organization that works with the academy to implement a curriculum, developed by it and imparted by teachers whom it has trained, that emphasizes hands-on experiences in Science, Technology, Engineering, and Mathematics (STEM).

PLTW is about more than just science, technology, engineering, and mathematics. It's about learning real skills, solving real problems, and making real discoveries about the world.

PLTW develops motivated, well-rounded students by instilling confidence, stressing the importance of self-discovery, encouraging innovative problem solving and critical thinking, teaching team building, and rewarding creativity.



Studies have shown that Project Lead The Way students become the prepared, competent high-tech employees U.S. industries need to succeed.

Engineering Pathways

Most engineers specialize. Following are details on the 17 engineering specialties covered in the Federal Government's Standard Occupational Classification (SOC) system.

Aerospace engineers design, develop, and test aircraft, spacecraft, and missiles and supervise the manufacture of these products.

Agricultural engineers apply knowledge of engineering technology and science to agriculture and the efficient use of biological resources.

Biomedical engineers develop devices and procedures that solve medical and health-related problems by combining their knowledge of biology and medicine with engineering principles and practices.

Chemical engineers apply the principles of chemistry to solve problems involving the production or use of chemicals and biochemicals.

Civil engineers design and supervise the construction of roads, buildings, airports, tunnels, dams, bridges, and water supply and sewage systems.

Computer hardware engineers research, design, develop, test, and oversee the manufacture and installation of computer hardware.

Electrical engineers design, develop, test, and supervise the manufacture of electrical equipment.

Electronics engineers, except computer are responsible for a wide range of technologies, from portable music players to the global positioning system (GPS).

Environmental engineers develop solutions to environmental problems using the principles of biology and chemistry.