Engineering

SPECIALIZED ACADEMIC PROGRAMS

Explore hands-on, real-world challenges - affordable housing design, biofuel production, app development – and see how an engineering education prepares you to develop the solution.

Sioux City Community Schools
believe... achieve... succeed

Pathway Description:

Through the engineering pathway, students step into the varied roles engineers play in our society, discover new career paths and possibilities, and develop engineering knowledge and skills. In addition, as students work in teams to design and test solutions, they are empowered to develop in-demand, transportable skills like collaboration, critical thinking, and communication.

Key Competencies:

- Demonstrate an ability to identify, formulate, and solve engineering problems
- Demonstrate an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- Demonstrate an ability to design and conduct experiments, as well as to analyze and interpret data
- Demonstrate an ability to apply knowledge of mathematics, science, and engineering
- Demonstrate an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
- Pursue the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- Demonstrate an understanding of professional and ethical responsibility
- Demonstrate an ability to function on multidisciplinary teams
- Demonstrate an ability to communicate effectively
- Recognize the need for, and develop an ability to engage in, life-long learning

Courses (HS Credits):

Year 1 9655 Introduction to Engineering Design - PLTW (2)
Year 2 (options) 9655 Introduction to Engineering Design - PLTW (2)
9656 Principles of Engineering - PLTW (2)
Year 3 (options) 9655 Introduction to Engineering Design - PLTW (2)
9029 Civil Engineering & Architecture - PLTW (2)
9660 Digital Electronics - PLTW (2)
9656 Principles of Engineering - PLTW (2)
9018 Computer Science Principles - PLTW (2)
Year 4 9028 Engineering Design & Development (2)

College Credits: 9

Annual National Average Salary for Entry Level Engineers: $58,000+

Career Opportunities:

Engineer	Project Manager
Designer	Manager
Drafter	Technician

SIOUX CITY CAREER ACADEMY
Pathways to the future