

GAIN REAL-WORLD SKILLS AND EXPLORE CAREERS

Learn a variety of new skills while gaining valuable experience through Core Plus Aerospace.

Across manufacturing industries, multitudes of fasteners are used to hold items together. In this Core Plus Aerospace unit, students gain familiarity with nut and bolt fasteners and how to install them.

Students learn how to identify and install permanent fasteners using hex-drive fasteners and lockbolts. They also have opportunities to demonstrate safety knowledge and proper tool and equipment selection for a specific task or fastening project.

WITH YOUR SKILLS ANY PATHWAY IS POSSIBLE

1

Future Opportunities:

- Certificate and degree programs
- Earn and learn programs
- A job in manufacturing

2

What kind of credits can you earn?

Depending on your district, you can earn math, science, English, Career and Technical Education (CTE), and elective credits.

Pay Scale:

Average annual salary for manufacturing employees in Washington: \$88,000

Skills you will learn:



SAFETY



MATH



**TECHNICAL
SKILLS**



More Info:

www.coreplusaerospace.org

Developed by industry, the Core Plus Aerospace curriculum includes 1,080 hours of instruction and hands-on learning opportunities that prepare Washington high school students for aligned post-high school training and college programs, apprenticeships, and manufacturing careers. Core Plus Aerospace students graduate with options.

The fasteners unit introduces students to the various fasteners used in aerospace manufacturing and other industries. Students learn about using bolts and nuts as fasteners, other fastening systems using hex-drive fasteners and lockbolts, tensile strength and shear strength, installation techniques, use of torque wrenches, and requirements for protruding bolts and flushness. As they progress, students are asked to demonstrate installation of fastening systems through hands-on projects. Students must also be able to select proper tools and equipment and correctly follow all safety and handling procedures to create a product that meets inspection criteria.

DEVELOPING REAL-WORLD SKILLS

Among many skills, students learn to:

- Identify the components of a fastening system using nuts and bolts, hex-drive fasteners, and lockbolts.
- Distinguish between sheer and tension as types of stress/load on installed bolts.
- Demonstrate the normal installation of bolts.
- Distinguish protruding head from flush head fasteners.
- Describe or demonstrate normal procedures for installation of lockbolt fasteners.

CONNECTING TO WASHINGTON STATE LEARNING STANDARDS

Among many standards covered, Core Plus Aerospace students learn to:

- Model with mathematics.
- Write a function that describes a relationship between two quantities.
- Reason quantitatively and use units to solve problems.
- Use units to understand problems and guide the solution of multi-step problems.

EXPLORE MORE

Learn more about the curriculum and hear from Core Plus Aerospace teachers, students, and graduates employed in industry and attending college programs across Washington state.



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