Spring Branch ISD
Career &Technical Education

Manufacturing

The Manufacturing career cluster is all about turning raw materials into finished products! This includes everything from designing and managing production to keeping machines running smoothly. If you enjoy working with tools, technology, or even figuring out how things work, you could find a great fit here. Jobs in this field range from welder and machinists to engineers who design and optimize production systems, and even high-tech roles like semiconductor processing. Whether you're into hands-on work or solving complex problems, manufacturing offers tons of exciting opportunities.

Example Occupations

Welders, Cutters, Solderers, and Brazers
Median Wage: $48,177
Annual Openings: 6,792
10-Year Growth: 23%

First-Line Supervisors of Production and Operation Workers
Median Wage: $62,584
Annual Openings: 5,926
10-Year Growth: 17%

Industrial Production Managers
Median Wage: $119,691
Annual Openings: 1,296
10-Year Growth: 19%

Data Source: Texas Wages, Texas Workforce Commission. Retrieved 3/8/2024.

Welding

The Welding program of study offers an exciting look into high-tech machines, robots, and tools that work with metal and plastic. You'll learn how to modify parts, repair machine tools, and maintain individual machines, while also mastering hands-on skills like hand-welding and flame-cutting. Throughout the program, you'll gain valuable experience working with advanced equipment to build and fix machines. On top of that, you'll have the chance to earn AWS (American Welding Society) Welding certifications, which can open doors to great job opportunities in the industry. Whether you are passionate about tech, building things, or solving problems, welding gives you the skills needed for a successful career in a growing field.

Endorsement:
Business and Industry

Student Organization

SkillsUSA

Welding
Program of Study

Level 1: Grade 9 -12	Occupational Safety and Environmental Technology I *Students will explore principles and practices of occupation safety and health, learning how to create and maintain safe work environments across various industries. The course covers key safety regulations and introduces environmental protection laws and standards.* *This course is the introductory course for the Welding and Automotive Tech programs of study that will be at Guthrie in the 2026-2027 school year.*
Level 2: Grade 10-12	Welding I *Students gain knowledge and skills in welding including joint design, Oxyfuel welding and cutting, plasma arc cutting, shielded metal arc welding, and gas metal arc welding. Hand and power tools, welding on various types of metals, reading blueprints, metal characteristics, and equipment setup are also covered.*
Level 3: Grade 11-12	Welding II *Students build on the knowledge and skills from Welding I and learn advanced skills needed in the welding industry. Students will know the functions and applications of the tools, equipment, technologies, and materials used in welding including types of welds, inspections, code, and standards in preparation for a career in welding.* IBC: AWS D1.1 Structural Steel and AWS D9.1 Sheetmetal Welding
Level 4: Grade 12	Practicum in Manufacturing *Students apply manufacturing concepts and principles in the classroom and workplace including on-the-job training, hands-on learning, and demonstration of knowledge and skills acquired in the welding program of study.*