Many industries need skilled workers who can transform and assemble materials into products. Using machines, tools, metals, and gases, engineering technicians, machine shop assistants, and welders fabricate goods of all types, including those used for oil pipelines, aircraft, household appliances, and automobiles.

These Lone Star College Career & Technical Education programs are part of Lone Star Energy & Manufacturing Institute, an industry-specific training hub for businesses with employees currently working or seeking a career in the oil and gas, alternative energy, or mechanized (automated) production industries.

**Why choose Lone Star College?**

- **It's convenient.** You can take courses on campus or online. With six state-of-the-art campuses throughout the Houston region, LSC is close to home and there’s an open door near you.

- **It’s affordable.** Lone Star College tuition is much less than the cost of attending one year at a 4-year college.

- **It prepares you for a well-paying career, not just a job.** The specialized skills you’ll learn at Lone Star College can help you earn a higher salary.

- **It will quickly get you into the workforce.** Depending on the certification you choose, Lone Star College’s non-credit Career & Technical Education programs can get you into the workforce in a few months instead of a few years.

**Frequently Asked Questions**

1. **Are financial aid or workforce scholarships available?**  
   Financial aid and workforce scholarships may be available for some Lone Star College Career & Technical Education programs. Go to LoneStar.edu/CTE to learn more.

2. **How can I get more information?**  
   To learn more about this and other non-academic transfer CTE programs, go to LoneStar.edu/CTE. To learn more about academic transfer programs, go to LoneStar.edu/Programs-Classes.

3. **Are customized classes available for employers?**  
   Customized courses and programs are available for employers through Lone Star Corporate College. Go to LoneStar.edu/CorporateCollege to learn more.

4. **Is Lone Star College looking for instructors?**  
   Yes! Go to LoneStar.edu/Jobs to search and apply for open positions.
Non-credit fast track programs:

Pre-Apprentice

Machining Pre-Apprentice
In this six-week program, students will learn the machine shop methods and safety procedures needed to set up, operate and measure basic fabricated machine parts.

Engineering Technician Assistant Pre-Apprentice
In this six-week program, students will learn the design and operation of mechanical and electrical equipment, as well as how to troubleshoot and maintain this equipment within a complex, integrated system.

Machining

Machine Shop Assistant
Machine shop assistants provide assistance to more experienced machinists, like CNC operators, in the setup of the machining process. Students will learn the selection and layout of the correct tools and stock, as well as how to provide hands-on manual machining expertise when required.

Machine Tool (CNC) Operator
Machine tool operators set up, program and operate computerized numeric control (CNC) automated machining units. They are responsible for monitoring the machining process, as well as verifying machined parts meet all criteria as defined in the design specifications.

Welding

Shielded Metal Arc Welder (SMAW)
Shielded metal arc welders work primarily with heavy plate steel and pipe welding in the construction industry, including the building construction and pipeline industries. The oil and gas industry also uses shielded metal arc welders for both construction and repair of its offshore and onshore drilling and production facilities.

Gas Metal Welder (MIG)
Metal inert gas welding/gas metal arc welding is used in the automotive repair industry, as well as in the construction of steel-sided buildings for thin steel welding. In addition, this certification program covers metal art creation, the most common type of welding done in a home shop setting.

Gas Tungsten Welder (TIG)
Tungsten gas welding includes the use of gases like helium to weld non-ferrous metal like aluminum and titanium, as well as other exotic metals. Tungsten gas welding is also commonly used where custom components are fabricated by hand, as with valve control assemblies used in the oil and gas industry.

Pipe Welder
Pipe welding consists of connecting pipes and understanding the factors that affect the quality of pipe connections. This program combines the classes in the Shielded Metal Arc Welder program with classes specifically for pipe welding.

Welding Inspector
This program will prepare you to take your welding inspector certification exam.

Engineering Technology

Engineering Technician
An engineering technician maintains production of oil field service equipment, robots, automated manufacturing machines, oil field pumps, gas pumps, and security systems.

Credit/Academic Transfer
Want classes or a program that will transfer to a four-year college or university? Go to LoneStar.edu/programs-classes.