

Energy Career Cluster

The Energy Career Cluster prepares individuals for careers in the designing, planning, maintaining, generating, transmission, and distribution of traditional and alternative energy.

Oil and Gas Exploration and Production Statewide Program of Study



The Oil and Gas Exploration and Production program of study focuses on processing, refining, and distributing petroleum and gas. It introduces CTE learners to the process of regulating the flow of oil into pipelines, controlling pumping systems, and operating and maintaining machinery to generate electric power.

Secondary Courses for High School Credit

Level 1

- Oil and Gas Production I/Lab
- Foundations of Energy

Level 2

- Oil and Gas Production II/Lab
- Occupational Safety and Environmental Technology I

Level 3

- Oil and Gas Production III
- Occupational Safety and Environmental Technology II
- Career Preparation

Level 4

- Oil and Gas Production IV
- Project Based Research
- Applied Mathematics for Technical Professionals
- Practicum in Energy

Postsecondary Opportunities

Associates Degrees

- Petroleum Engineering
- Chemical Engineering
- Petroleum Technology/ Technician
- Industrial Mechanics and Maintenance Technology

Bachelor's Degrees

- Petroleum Engineering
- Chemical Engineering
- Mechanical Engineering
- Industrial Engineering

Master's, Doctoral, and Professional Degrees

- Petroleum Engineering
- Chemical Engineering
- Mechanical Engineering
- Industrial Engineering

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Intern at an oil or gas company
- Read trade publications to understand economic and political issues

Work-Based Learning Activities

- Earn an American Petroleum Institute Certification

Industry-Based Certifications

- NCCER Core
- NCCER Instrumentation Level I

- ISA Certified Control Systems Technician*
- OSHA 30 Hour General*

*IBC Sunsetting 8/31/24



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Extraction Workers- All Other	\$44,616	145	25%
Extraction Workers	\$34,570	1,000	7%
Drill Operators, Oil and Gas	\$52,083	925	14%

Successful completion of the Oil and Gas Exploration and Production program of study will fulfill requirements of the Business and Industry endorsement or STEM endorsement if math and science requirements are met. Revised – August 2022

Oil and Gas Exploration and Production Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Oil and Gas Production I/Lab	13001250 (1 credit) 13001255 (2 credits)	None	None
Foundations of Energy	13040503 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Oil and Gas Production II/Lab	13001260 (1 credit) 13001265 (2 credits)	Oil and Gas Production I	None
Occupational Safety and Environmental Technology I	N1303680 (1 credit)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Oil and Gas Production III	13040500 (1 credit)	Oil and Gas Production II	None
Occupational Safety and Environmental Technology II	N1303681 (1 credit)	OSET I	None
Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITE
Oil and Gas Production IV	13040501 (1 credit)	Oil and Gas Production III	None
Applied Mathematics for Technical Professionals	12701410 (1 credit)	None	None
Project Based Research	12701500 (1 credit)	None	None
Practicum in Energy	N1303910 (2 credits)	None	None

FOR ADDITIONAL INFORMATION ON THE ENERGY CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
<https://tea.texas.gov/cte>

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