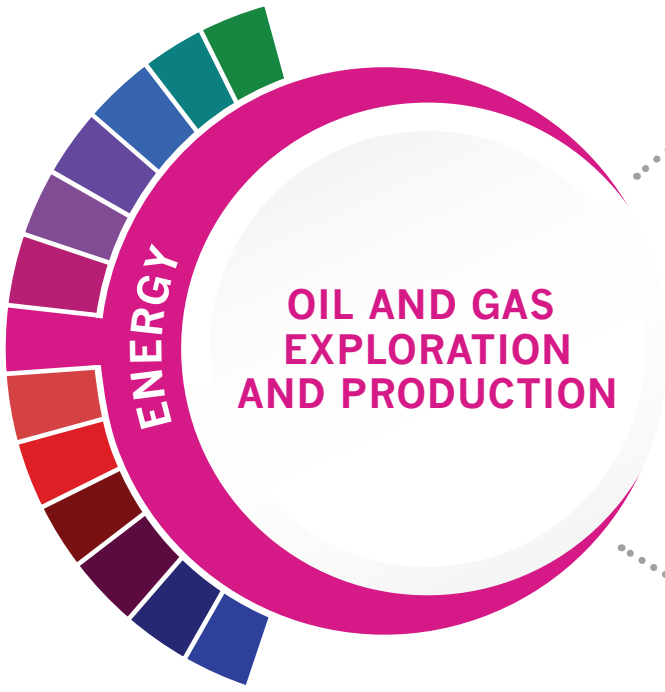




Local Implementation Considerations:

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal accountability reporting.



COURSES

- LEVEL 1**
Oil and Gas Production I
Foundations of Energy

- LEVEL 2**
Oil and Gas Production II
Occupational Safety and Environmental
Technology I

- LEVEL 3**
Oil and Gas Production III
Occupational Safety and Environmental
Technology II
Career Preparation I

- LEVEL 4**
Oil and Gas Production IV
Project-Based Research
Applied Mathematics for Technical Professionals
Practicum in Energy (TBD)

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
	Above Ground Storage Tanks Inspector Certification	Petroleum Engineering		
	Pressure Vessels Inspector Certification	Chemical Engineering		
	Piping Inspector Certification	Petroleum Technology/ Technician	Mechanical Engineering	
	API QUTE - Qualification of Ultrasonic Testing Examiners	Industrial Mechanics and Maintenance Technology	Industrial Engineering	
*Includes Level I and Level II Certificates				
For more information on postsecondary options for this program of study, visit TXCTE.org				

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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Career Preparation:
Intern at an oil or gas
company, American
Petroleum Institute
Certification

**Work Based Learning
Activities:**
Read trade publications
to understand economic
and political issues

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



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

Successful completion of the Oil and Gas Exploration and Production program of study will fulfill requirements of the Business and Industry Endorsement.

Approved Statewide Program of Study - September 2019



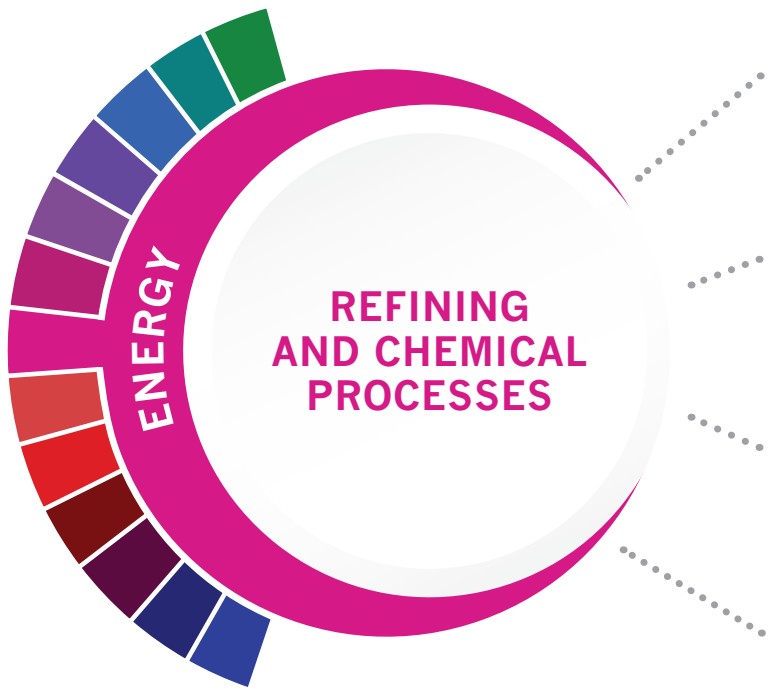
COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Oil and Gas Production I	13001250 (1 credit)	None	9-12
Foundations of Energy	N1300263 (1 credit)	None	9-12
Oil and Gas Production II	13001260 (1 credit)	PREQ: Oil and Gas Production I	10-12
Occupational Safety and Environmental Technology I	N1303680 (1 credit)	None	9-12
Oil and Gas Production III	N1300256 (1 credit)	PREQ: Oil and Gas Production II	11-12
Occupational Safety and Environmental Technology II	N1303681 (1 credit)	None	9-12
Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	11-12
Oil and Gas Production IV	N1300257 (1 credit)	PREQ: Oil and Gas Production III	11-12
Project-Based Research	12701500 (1 credit)	None	11-12
Applied Mathematics for Technical Professionals	12701410 (1 credit)	None	11-12
Practicum in Energy	TBD	TBD	TBD

FOR ADDITIONAL INFORMATION ON THE ENERGY CAREER CLUSTER, PLEASE CONTACT:

Laura Torres | Laura.Torres@tea.texas.gov

<https://tea.texas.gov/cte>



COURSES

- LEVEL 1**
Foundations of Energy

- LEVEL 2**
Introduction to Process Technology
Introduction to Instrumentation and Electrical (TBD)

- LEVEL 3**
Petrochemical Safety, Health, and Environment
Advanced Instrumentation and Electrical (TBD)

- LEVEL 4**
Project-Based Research
Applied Mathematics for Technical Professionals
Practicum in Energy (TBD)

POSTSECONDARY OPTIONS

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
MSSC Certified Production Technician (CPT)	Process Technology Certificate Level II	Process Technology	Business Administration and Management, General	
	Petroleum Energy Technology Certificate	Process Operating Technology	Business/ Commerce, General	
	Qualification of Ultrasonic Testing Examiners (Sizing)	Logistics, Material, and Supply Chain Management	Industrial Engineering	
	Certified Plant Supervisor	Petroleum Technology/ Technician	Petroleum Engineering	

* Includes Level I and Level II Certificates

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Gas Plant Operators	\$62, 650	312	9%
Petroleum Pump System Operators, Refinery Operators, and Gaugers	\$71,448	1,181	9%
Power Plant Operators	\$71, 635	309	9%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Tour a power plant or refinery

Work-Based Learning Activities:
Explore student summer conferences.

The Refining and Chemical Processes program of study helps students discover how to monitor, adjust, and control different equipment housed in petrochemical plants and refineries. It introduces students to the computer technology and instrumentation used to operate a variety of equipment systems and industrial processes, helping students build the skills needed to operate these systems.



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

Successful completion of the Refining and Chemical Processes program of study will fulfill requirements of the Business and Industry Endorsement.

Approved Statewide Program of Study - September 2019



COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Foundations of Energy	N1300263 (1 credit)	None	9-12
Introduction to Process Technology	N1300262 (1 credit)	None	11-12
Introduction to Instrumentation and Electrical	TBD	TBD	TBD
Petrochemical Safety, Health, and Environment	N1300264 (1 credit)	None	11-12
Advanced Instrumentation and Electrical	TBD	TBD	TBD
Project-Based Research	12701500 (1 credit)	None	11-12
Applied Mathematics for Technical Professionals	12701410 (1 credit)	None	11-12
Practicum in Energy	TBD	TBD	TBD

FOR ADDITIONAL INFORMATION ON THE ENERGY CAREER CLUSTER, PLEASE CONTACT:

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