

# Oil and Gas Production IV

Subject: Career Development and Career and Technical Education

Grade: 11

Expectations: 27

Breakouts: 69

## (a) Introduction.

1. Career and technical education instruction provides content alignment with challenging academic standards and relevant knowledge and skills for students to further their education and succeed in current or emerging professions.
2. The Energy Career Cluster focuses on Texas's diverse economic landscape, geography and natural resources, including renewable energy potential, transportation system, labor force, and leadership in environmental research.
3. Oil and Gas Production IV is designed to extend training for future petroleum engineering technicians in all areas of down and mid-stream operations. Students complete an intense core curriculum in areas that include hydrocarbon safety, drilling, petroleum geology, oil and gas exploration and production, reservoir operations, well head completions, petroleum data management operations and analysis, natural gas production, and economics. In conjunction with this course, students employ the latest computer software in engineering and petroleum, operations, data mining,

- (ii) apply competencies related to information
  - (iii) apply competencies related to interpersonal skills
  - (iv) apply competencies related to problem solving
  - (v) apply competencies related to critical thinking
  - (vi) apply competencies related to resources systems of operation
- (E) demonstrate knowledge of personal and occupational safety, health, environmental regulations, and first-aid policy in the workplace; and
- (i) demonstrate knowledge of personal safety in the workplace
  - (ii) demonstrate knowledge of occupational safety in the workplace
  - (iii) demonstrate knowledge of health in the workplace
  - (iv) demonstrate knowledge of environmental regulations and first-aid policy in the workplace; and
    - (i) apply competencies related to information

(3) The student explains the concepts of safety in well completions and indicates tools and procedures for completing a drilled wellbore. The student is expected to:

- (A) research health and safety standards for the workplace and environment such as Standards and Wireline Operations and Procedures and Occupational Safety and Health Administration (OSHA) and standards provided by professional organizations in the oil and gas industry such as the American Chemical Society, American Institute of Chemical Engineers, Center for the Advancement of Process Technol.

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- (iii) formulate a safety plan that covers safety guidelines, including safety uniforms
  - (iv) formulate a safety plan that covers safety equipment, including first-aid
  - (v) formulate a safety plan that covers safety equipment, including safety uniforms
- (B) describe and accurately measure the flow of oil, gas, and water in real time;
- (i) describe the flow of oil in real time
  - (ii) describe the flow of gas in real time
  - (iii) describe the flow of water in real time
  - (iv) accurately measure the flow of oil in real time
  - (v) accurately measure the flow of gas in real time
  - (vi) accurately measure the flow of water in real time
- (C) ensure precautions and measures are considered during the surface well testing; and
- (i) ensure precautions are considered during the surface well testing
  - (ii) ensure measures are considered during the surface well testing

(G) evaluate the cost of completion operations for well completion.

(i) evaluate the cost of completion operations for well completion