



**Gateway®**

Prescreening Requirements, Core Curriculum,  
and Related Learning Objectives

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**Introduction to Oil and Gas Training Program**

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## Introduction to Oil and Gas Training Program

### 1.0 Introduction to Oil and Gas Training Program Description

The purpose of the Introduction to Oil and Gas training program curriculum is to define the body of knowledge and set of job skills needed to train and prepare personnel for entry-level technical skilled positions in the oil and gas industry.

### 2.0 General Accreditation Criteria

This curriculum incorporates onshore and offshore core Training Modules, Sub-Modules, Learning Topics, and Learning Objectives and Assessments Guidelines.

**This curriculum cannot be used for:**

- SafeLandUSA and/or SafeGulf only
- WellSharp only

**Recommended Attendees:** Individuals interested in entering into a technical position in the oil and gas industry that have passed all prescreen program requirements.

**Acceptable Delivery Methods:** The program must be led by a technical instructor using multiple delivery methods. Particular portions of the program require hands-on skills assessment. Practical exercises may also be required.

- *Alternate Delivery:* A third-party vendor may be used for certain segments of training (i.e.: Well Control) only if the third party has IADC accreditation for said segment (i.e.: Well Control). If learning institution cannot provide at least 75 percent of the program/course, the institution cannot gain accreditation. It is the responsibility of the accredited program party to maintain and verify all third party sourced training during the accredited validation period.
- *E-Learning:* Portions of the training can be delivered through e-Learning methods. Please refer to GTW-01E, *Gateway e-Learning Requirements*, for specifics. Any topic denoted as Skill Based “S” in the Curriculum section 4.0, is not eligible to be taught via e-Learning.

**Minimum Course Length:** 76 minimum classroom (academic) hours, not to include knowledge assessments or skills assessments.

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**Class Size:** Each training institution will determine what a feasible class size is. Institutions will demonstrate floor plans for each class location, showing adequate accommodations. For optimal learning, it recommended for this training program a 1:25 instructor to student ratio.

**Program Curriculum Notes:** The curriculum that follows includes five components: Training Module, Sub-Modules, Learning Topic, and Learning Objectives and Assessment Guidelines.

*Accredited learning institutions should foster a safety culture similar to the industry norms.*

Learning Topics: This section provides detailed guidance for instructors on what trainees should learn.

Learning Objectives and Assessment Guidelines: This section defines what trainees should be able to do at the conclusion of the training and provides some examples of how to attain the objectives.

**Assessment Notes:**     **K** = Knowledge Assessment required but not limited to

**S** = Skills Demonstration Assessment required but not limited to

Questions on the Knowledge Assessment will be graded as a cumulative score. To pass the Intro to Oil and Gas training program, the trainee must earn at least a cumulative score of 80% on the knowledge test and a score of satisfactory on the skills assessment. Skills assessments must be pass/fail. Trainees must pass each skill through demonstration at least once during the time spent in the program.

**Program Equipment/Supplies Required:** Equipment effectiveness will be assessed at time of audit. Actual hands-on equipment is preferred, but not required. Alternate forms of training (e.g., simulators) are acceptable.

**Instructor Requirements:** Minimum standards must be defined for instructors or facilitators of the program or training product. Additional instructor credentials are required for RigPass and WellSharp courses. See relevant instructor applications (e.g., SCO-05 and WCT-05 respectively for specific requirements).

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**Accreditation Cycle:** An audit will take place prior to accreditation. If no major findings are noted, the next audit will be 3 years from the initial audit and will continue at that interval as long as no major findings are noted. Major findings can result in a shorter audit period or the loss of accreditation.

If during the initial audit, any major findings are noted, accreditation will not be issued until all items are corrected.

### 3.0 Prescreen Requirements

Prescreening of program candidates is a requirement of this program. The order of the prescreen process may be altered but each component of the process must be completed. See the Appendices A and B for prescreen requirements and recommended prescreen process flow.

Training providers may develop additional prescreening requirements, but the minimum requirements must be met and retained for each trainee for at least 5 years. The prescreen process requirements are as follows:

- Mandatory prescreen interview questions
- Background and drug screening
- Personality traits, aptitudes, and foundational knowledge and skills (WorkKeys)
- Fitness (fit-to-train) requirements

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4.0 Curriculum

4.1 Introduction to the Oil and Gas Industry – 4 hour minimum

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Economic Impact (Societal and Personal)</b>	1. Explain role of oil and gas in workforce and economic vitality globally and regionally (geographic) U.S.	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	2. List examples of oil and gas investments in communities' infrastructure.		K
	3. List items in and around trainee's home that are products derived from hydrocarbons.		K
	4. Describe the end-to-end process of hydrocarbons from production to consumption.		K
	5. Explain the energy production levels in the U.S. as they relate to hydrocarbon and renewables.		K
	6. Compare and contrast the factors influencing the boom-bust cycles of domestic oil and gas production.		K
<b>Environmental and Economic Stewardship</b>	1. List oil and gas industry's innovations in the use of natural resources acquired in production (carbon footprint, water, waste treatment).	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	2. Explain role of hydrocarbon in the overall diversification of energy sources in the U.S.		K
	3. Summarize the economic and environmental benefits of energy conservation as part of the diversification of the energy portfolio in the U.S. Energy Independence and Security Act of 2007 (EISA).		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
	4. Explain energy independence as a national security issue.		K
	5. Explain the geo-political perspectives and influences of the oil and gas industry.		K
<b>Basic oil and gas regulations, standards, and best practices, as well as key regulatory bodies</b>	1. Recognize the key regulatory agencies associated with the oil and gas industry.	Write a paper on the trainee’s thoughts about the stated objectives. [Include a multiple choice or matching question on the assessment.]	K
	2. Explain why oil and gas industry has regulations (safety, environment, etc.).	This assessment could be a discussion (15 minutes) within the classroom setting (recognition through discussion).	K
<b>IADC and awareness of industry self-regulation efforts</b>	1. Recognize the role that IADC and other associations play in self-regulating the industry.	Example of how regulation impacts oil and gas operations: In Ohio, reserve pits are no longer permitted on shale sites. All drill cuttings must be hauled to an approved land fill.	K
<b>Industry Sectors: Upstream, mid-stream, downstream</b>	1. Name the three primary sectors of the oil and gas industry and describe the primary activities that occur within each sector.	Role play as a means of assessing (or as a class activity) the subsections on Key Operational Areas. (If you worked in this area, what might you be doing?)	K
<b>Land vs. Offshore operations</b>	1. Compare and contrast onshore and offshore oil and gas operations (e.g., types of rigs, positions, products, environments, formations).	Trainees assigned an area, have to line up in order of area/activity, and then describe their area’s activity(ies). (For example, exploration comes before drilling, which comes before production, etc. Trainees would be challenged to explain that well servicing comes during drilling as well as production.)	K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Types of oil and gas companies and their functions (operators, drilling contractors, service co. etc.)</b>	1. Name the major categories of and identify the differences in companies operating in the oil and gas industry.	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
<b>Geology and Exploration</b>	1. Identify crude oil and natural gas as “fossil fuels.”	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	2. List three types of hydrocarbons produced or refined from crude oil and natural gas.		K
	3. Describe basic geology and the primary rock formations that are applicable to the oil and gas industry.		K
	4. Identify the primary means of exploration for crude oil and natural gas bearing rock formations.		K
	5. Describe the primary activity(ies) that take place during exploration for oil and gas.		K
	6. Identify several companies and job positions that contribute to these activities.		K
<b>Drilling Process Overview (Drilling)</b>	1. Describe the basic drilling processes and activities.	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	2. Identify several companies that contribute to these activities.		K
	3. Identify several key job positions that support drilling processes.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Production Process Overview</b>	1. Explain the need for separation of crude oil and natural gas at the earth’s surface to place crude oil into storage tanks or pipeline and natural gas into pipelines. <ul style="list-style-type: none"> <li>a. Identify where crude oil goes after placed in storage tanks or pipelines (refinery).</li> <li>b. Identify how natural gas, once placed in a pipeline, can be used (direct for heating source or for further processing for a heating or fuel source).</li> </ul>	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	2. Describe the primary activities that take place during production operations and identify types of companies that contribute to these activities.		K
	3. Explain the importance of well stimulation.		K
	4. Describe the process of hydraulic fracturing.		K
	5. List two primary means of producing crude oil and natural gas.		K
<b>Well Servicing Overview</b>	1. Identify the types of well servicing.	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	2. Describe the primary activities that take place during well servicing operations.		K
	3. Identify several companies that contribute to these activities.		K
<b>Transportation, Pipeline</b>	1. Identify four modes for transporting crude oil and natural gas.	(pipeline, truck, rail car, barge/tanker ship)	K
	2. Describe the primary activities that take place during transportation of oil and gas.	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	3. Identify several companies that contribute to these activities.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Refining</b>	1. Describe the primary activities that take place during refining operations.	One final, comprehensive assessment activity could suffice for the Intro Module (including this unit).	K
	2. Identify several companies that contribute to these activities.		K
<b>Career Paths (including transferability among sectors)</b>	1. List entry-level positions in the oil and gas industry and describe their basic roles (see KSA database).	Present videos of interviews of oil and gas workers describing their jobs and methods used to learn and master the skills required to perform their job.	K
	2. Describe methods that could be used to advance from entry level to advanced employment in the different sectors.		K
	3. List several career pathways (jobs that tend to be sequential).		K

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**4.2 Personal and Behavioral and Non-Technical Skill Development – 16 hours minimum**

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Generational differences</b>	1. Explain how different generations communicate (give an example and scenarios dealing with safety).	Scenario/role play for all	K
	2. Describe safety implications of generational communications.	Businessjournal.gallup.com/ "There's a Generational Gap in Your Workplace"; "Training Across Generations" and a few case scenarios for study; "Drop By Drop" DVD by coastal.com and a Self-Evaluation Questionnaire.	K
	3. Identify different generational working styles and explain possible implications.		K
<b>Culture and diversity differences</b>	1. Identify cultural scenarios, sensitive topics, norms, and what may be encountered in the international workplace.	Scenario/role play	K/S
		Cultural Competency Problem DVD w/ Test	
<b>Situational awareness</b>	1. Identify potential hazards and assess environment before every task.	Test, group activity/flipchart	S
	2. Explain the importance of assessing the environment before embarking a task.	Test, Pictures. Show and Tell. Group Activity	K
	3. Demonstrate situational awareness in various scenarios.	Role play	S
<b>Situational ethics</b>	1. Explain the importance of ethics.	Ethics Officer Association <a href="http://www.ethics.org">www.ethics.org</a>	K
	2. Explain the implications of life choices on employability.	Play the "Shame Game". If it smells fishy...probably is.	S
<b>Intellectual property</b>	1. Describe what intellectual property is and explain the ramifications of violating rights.	Test	K
	2. Explain methods of protecting intellectual property.		K
<b>Personality types, assessments, and analysis</b>	1. Identify your personality style and the various types of personalities.	Activity; scenario/role play; D.I.S.C. <a href="http://www.everythingdisc.com">www.everythingdisc.com</a>	K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
	2. Explain how your personality type affects the way you communicate with others and how you solve problems.		S
	3. Identify various personality styles through scenarios.		S
<b>Personal financial planning</b>	1. Create a budget plan.	Test; observation of discussion/rubric	S
	2. Explain how financial decisions can affect your future (e.g., credit).	<a href="http://www.daveramsey.com/totalmoneymakeover/financialpeace">www.daveramsey.com/totalmoneymakeover/financialpeace</a>	K
	3. Identify different savings and investment options.	Lecture and <a href="http://www.annualcreditreport.com">www.annualcreditreport.com</a>	K
	4. Explain the importance of 401k and future financial planning.		K
<b>Social responsibility and social media</b>	1. Explain potential impact for using social media in the workplace.		K
	2. Explain and demonstrate the use of electronic communications both on and off the job.	Test and scenario	K/S
	3. Explain the legal implications of sharing company-specific information outside of the workplace (including the media).		K
<b>Interpersonal skills</b>	1. Explain the importance of listening skills to facilitate safety in the workplace.		K
	2. Identify verbal and non-verbal means of communication.	Observation/rubric; auditory learning session; flipchart	S
	3. Describe appropriate communication/interaction in the workplace.		K
<b>Speak-up culture</b>	1. Identify critical times you should speak up.	<a href="http://www.whistleblowers.org">www.whistleblowers.org</a> ; group activity and discussion	K
	2. Discuss implications of not speaking up.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
	3. Identify chain of command for reporting potential issues/hazards and time frames for reporting safety.		K
<b>Communicating under pressure (communicating instructions; affirming understanding of instructions)</b>	1. Differentiate between appropriate and inappropriate language and speech in difficult situation(s).	Observation/rubric	S
<b>Safety Leadership</b>	1. Identify leadership characteristics.	Scenario; group discussion and flipchart; leadership game; role play/rubric	K
	2. Explain the importance of having a safety mindset both on and off the worksite.		K
	3. Explain the effects of proper safety leadership on retention in the work environment.		K
	4. Describe your personal responsibility to drive safety leadership.		K
<b>Working with teams</b>	1. Discuss expectations of being new to a workplace/team and how you will fit into the overall work environment.	Test; scenario/role play	K
	2. Explain the importance of working collaboratively toward zero incidents (successful teamwork).	www.ledetmanagement.com – lecture, flipchart, handout, group activity, Play a game-Iceberg game	K/S
	3. Identify and explain various teamwork dynamics you may encounter as a new person on the rig and how to respond.		K/S
<b>Importance of working in pairs (for safety)</b>	1. Identify the benefits and challenges associated with working in pairs.	Play a game	K
<b>Stress management / personal planning</b>	1. Identify typical sources of stress.	Scenario (differentiate between personal and operational)	K
	2. Identify potential high stress/risky situations in the oil and gas industry.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
	3. Explain the importance of balancing work and home stress.		K
	4. Explain and demonstrate effective techniques to help manage and mitigate stress.		K/S
<b>Managing conflicts in the workplace</b>	1. Identify typical conflicts you may encounter.	Scenario; conflict toolbox.	K
	2. Determine effective techniques to resolve conflicts.		S
	3. Demonstrate how to manage conflict using different techniques.		K
	4. Explain the process for escalating the resolution of conflicts when assistance is needed.		K

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**4.3 Rig 101 – 8 hours minimum**

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Rig Vocabulary</b>	1. Identify and explain basic rig terminology.	Test	K
	2. Identify oil and gas acronyms.		K
<b>Basic Rig Systems</b>	1. Identify and explain rig components, functionality, and basic rig systems.	Labeled drawing	K
	2. Identify zones of the rig (sub structure, mast, circulating, well control equipment, etc.).		K
<b>Command Structure</b>	1. Identify chain of command structure and explain its importance (specific to location).	Role-play communication between Hands and Company Man.	K
<b>Oil and Gas life</b>	1. Explain the risks associated with domestic and international travel to and from the worksite.	Oral or written exam; real-life testimonies	K
	2. Explain procedures and requirements for arrival at the worksite (specific to location).		K
	3. Identify challenges associated with oil and gas living and lifestyle (crowded, lack of privacy, long hours, isolation, hygiene, etc.).		K
	4. Identify and discuss possible pressures at home that impact oil and gas employment.		K
	5. Explain the impact of personal conduct (horseplay, violence, offensive behavior, hygiene, etc.).		K
<b>Record Maintenance</b>	1. Explain the importance of maintaining records (disposable, permits to work, training, shipping, etc.).	Written exam	K
<b>Intellectual Property</b>	1. Explain employee responsibilities in regards to intellectual property.	Written exam	K

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**4.4 Technical Math – 8 hours minimum**

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Math Fundamentals</b>	1. Apply and calculate basic algebraic equations.	Assessment would be written tests; demonstrations of actual basic industry level math.	S
<b>Basic Oilfield Calculations</b>	1. Apply industry’s basic units of measurement (API, metric, SI).		S
	2. Demonstrate how to convert fractions to decimals.		S
	3. Apply basic oilfield calculations and fundamental statistics.		S

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**4.5 Safety Orientation (IADC RigPass certification issued) – 8 hours**

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>General Safety Principles</b>	1. Explain and demonstrate Stop Work Authority and responsibility.	Scenario and test	K/S
	2. Identify and demonstrate risk assessment and worksite safety (hazards, roles/responsibilities, intervention, JSA, pre-job planning, simultaneous operations, signs/placards, safety conflicts).		S
	3. Explain the significance of workplace housekeeping.		K
	4. Explain the importance of reporting and investigating incidents, should they occur.		K
	5. Explain the importance of worksite policies (alcohol, drug, prohibited items, etc.).		K
	6. Explain the dangers and mitigation of manual material handling.		K
<b>Personal Protective Equipment (PPE)</b>	1. Identify the importance of and demonstrate use of PPE including but not limited to: <ul style="list-style-type: none"> <li>a. Head protection</li> <li>b. Face and eye protection</li> <li>c. Hearing protection</li> <li>d. Foot protection</li> <li>e. Hand protection</li> <li>f. Respiratory protection</li> <li>g. Fall protection</li> <li>h. Proper lifting and back safety</li> <li>i. Practice selecting, inspecting, and donning appropriate PPE</li> </ul>	Test and assess demonstration	S

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Personal Protective Equipment (PPE) (cont'd)</b>	2. Explain the importance of PPE in defense of perceived and unrecognized risk.		K
	1. Identify and explain meaning of safety signs utilized in the workplace.	Class discussion/oral assessment/test	K
2. Explain the importance of Safety Data Sheets (SDS) and how to use these to identify types of hazardous chemicals.	K		
<b>Hazard Communications (Right to Know)</b>	3. Explain the need for procedures regarding the transportation of hazardous materials.		K
	4. Explain the importance of reporting a release of hazardous materials.		K
	5. Explain the importance of appropriate materials handling to avoid incident.		K
	6. Explain how to determine the cleaning techniques of spilled materials.		K
<b>Specialized work procedures</b>	1. Explain hazardous energy in the workplace. (electrical, hydraulic, pneumatic).	Scenario	K
	2. Explain the importance of Lockout/Tagout procedures.		K
	3. Identify hazards associated with confined space entry.		K
	4. Explain the precautions taken when working at heights.		K
	5. Explain the dangers associated with hoisting and lifting.		K
	6. Demonstrate how to complete and route Work permits.		S

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Fire safety</b>	1. Explain how to use a fire extinguisher.		K
	2. Identify the various types of fire extinguishers and for which type of fire each is used.		K
	3. Determine if a fire extinguisher is ready for use.		K
<b>Job safety analysis</b>	1. Define, identify, and demonstrate JSA.		K/S
	2. Explain your role in JSA.		K
<b>Emergency Response</b>	1. Explain the importance of planning for emergencies and the potential risks. <ul style="list-style-type: none"> <li>a. Bloodborne pathogens</li> <li>b. Adverse weather</li> <li>c. Wildlife, insects, and snakes</li> <li>d. Occupational health</li> <li>e. General overview</li> <li>f. Industrial hygiene roles/responsibilities</li> </ul>		K
	2. Explain the various alarms and muster stations (location specific).		K
	3. Explain how your physical capacity might influence your ability to respond to an emergency (fit for duty).		K
<b>Wellsite Environmental Protection</b>	1. Explain your role in wellsite environmental protection (waste management, SPCC, storm water).		K
<b>Regulations and compliance</b>	1. Explain how regulations affect operations. <ul style="list-style-type: none"> <li>a. Marine debris</li> <li>b. Waste management/disposal of waste materials</li> <li>c. Leaks, spills, releases</li> <li>d. HAZWOPER</li> </ul>		K
<b>Security</b>	1. Explain security process prior to worksite entry.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Working Offshore: Transportation</b>	1. Explain the difference in requirements for offshore versus onshore arrival. <ul style="list-style-type: none"> <li>a. Helicopter transportation (e.g., IADC’s HUET course)</li> <li>b. Boat transportation</li> <li>c. Swing ropes</li> <li>d. Personnel baskets</li> </ul>		K
<b>Working Offshore: Water safety</b>	1. Explain various water safety requirements. <ul style="list-style-type: none"> <li>a. PFDs</li> <li>b. Survival craft</li> <li>c. Standby rescue vessel</li> <li>d. Man overboard response</li> <li>e. Emergency escape routes</li> </ul>		K
<b>Excavation</b>	1. Explain basic trenching and shoring.		K
	2. Explain safety when working around pits and ponds.		K
	3. Explain the importance of “One Call” – Call before you dig (establishing underground lines or obstacles).		K
<b>Situational Awareness</b>	1. Identify types of incidents (drops, struck by, pinch points, etc.) <ul style="list-style-type: none"> <li>a. Hands and feet placement</li> <li>b. Use of hands-free devices</li> <li>c. Recognizing your blind spots</li> <li>d. Working around heavy equipment</li> </ul>		K

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**4.6 Industrial Practices (Hands on Practical Exercises) – 16 hours minimum**

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Standard operating procedures</b>	1. Explain and demonstrate the importance of Standard Operating Procedures (SOPs).		K/S
<b>Quality assurance</b>	1. Identify and explain Quality Assurance and describe its value.		K
<b>Planning work activities</b>	1. Discuss, assess, comply with, and participate in Job Safety Analysis (JSA).		S
	2. Discuss, assess, comply with, and participate in Pre-job planning activities and Planning Work Activities.		S
	3. Recognize a Pre-job Planning Activity and a Planning Work Activity.		K
	4. Locate, identify and understand company policies.		K
	5. Locate, identify, and understand Oilfield Original Equipment Manufacturers (OEM) procedures and technical data.		K
	6. Demonstrate knowledge of Industry Standard Practices as it applies to the oil and gas industry culture.		K
	7. Identify hazardous and non-hazardous work zones.		K
	8. Identify simultaneous operations on job site and demonstrate ability to safely navigate and work in this environment.		S
	9. Identify and define safety guards and controls on job site.		S

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
	10. Locate, identify and demonstrate knowledge of work permits.		S
<b>Tools</b>	1. Identify, differentiate, and discuss various industrial tools and their application.	Assess scenario-based demonstration.	K
	2. Demonstrate tool selection, inspection criteria, and proper use of tools for work to be performed.	Assess demonstration: measuring tools, cutting tools, hand tools, small power tools, and power source	S
	3. Demonstrate tool tethering.		S
	4. Demonstrate tool storage.		S
<b>Manually moving materials</b>	1. Identify equipment for manually moving materials (wheel barrows and hand truck/dollies).	Visual identification	K
	2. Demonstrate safe operating techniques for manual material moving equipment.	Assess demonstration	S
	3. Demonstrate safe loading techniques for manual material moving equipment.		S
<b>Chemical safety</b>	2. Demonstrate and apply an understanding of working safely with chemicals.	Assess demonstration	S
	1. Identify different types of chemicals.		S
	3. Demonstrate locating, reading and interpretation of the Safety Data Sheet (SDS).		S
	4. Identify chemical hazards and health concerns.		S
	5. Demonstrate chemical material storage and proper/accurate labeling.		S
	6. Demonstrate proper PPE usage and location of first aid for different chemicals.		S
	7. Describe “Standard Operating Procedures” for mixing chemicals.		K
<b>Making connections and flanges</b>	1. Explain and differentiate common connections and flanges used on oil and gas industry job sites.	Written assessment	K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Making connections and flanges (cont'd)</b>	2. Demonstrate procedures when making-up and breaking-out flanges and connections.	Visual identification	K
	3. Identify ratings and paring of materials and equipment.	Assess demonstration	K
	4. Understand and apply piping pressure and ratings.	Visual identification	S
	5. Identify different types of hoses (chiksans, air, suction, co-flex).	Written assessment	K
	6. Demonstration techniques for connecting hoses.	Visual identification	S
	7. Demonstrate techniques for securing lines.	Assess demonstration	S
	<b>Maintenance</b>	1. Identify, describe, and demonstrate types of preventative maintenance.	Visual identification / Assess demonstration
<b>Fire extinguisher operation</b>	1. Explain fire extinguisher operation.	Assessment would be written test and hands-on application of knowledge through demonstration.	K
	2. Identify each type of extinguisher for each type of fire.		K
	3. Demonstrate locating of extinguishers.		S
	4. Demonstrate knowledge and use of each type of extinguisher.		S
	5. Demonstrate care and storage of each type of extinguisher.		S

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**4.7 Rigging/Mechanical Lifting Awareness (IADC certification issued) \* – 8 hours**

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Rigging safety and vocabulary</b>	1. Explain the importance of designating one person to give correct hand signals and responding appropriately to those hand signals.		K
	2. Identify the appropriate personal protective equipment required for crane/lifting operations.		K
	3. Explain your Stop Work Authority when you observe an unsafe act during lifting operations.		K
	4. Explain why personnel should observe and report any fluid leaks from the crane that could be contaminating the work environment and affecting safe operations.		K
<b>Crane emergency procedures</b>	1. Explain the importance of closing out hazardous work activities before evacuating the area for an emergency or drill.		K
	2. Demonstrate the ability to secure the current work area or operation before evacuating during an emergency or drill.		S
<b>Rigging hardware</b>	1. Describe the storage requirements for all rigging hardware (rigging/slings/shackles, etc.).		K
	2. Explain how the sling capacity changes when using different sling configurations.		K
	3. Locate the manufacturer’s guidelines, as applicable, for rigging hardware.		S
	4. Explain how to interpret manufacturer’s guidelines for rigging hardware.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Rigging hardware (cont'd)</b>	5. Describe the proper installation and rigging of all permanent and temporary lifting points (anchor points, pad eyes, etc.).		K
	6. Describe the proper use of tag lines attached to loads, including proper positioning and quantity.		K
	7. Demonstrate the proper use of tag lines attached to loads including proper positioning.		S
	8. Describe and explain sling manufacturers' recommendations for safe slinging configurations.		K
<b>Rigging hardware inspection and maintenance</b>	1. Identify appropriate tools and materials for the purpose of performing preventive maintenance and minor adjustments.		K
	2. Explain procedures to follow when defective rigging hardware is identified.		K
	3. Explain the lifting gear color-coding system and how records are kept for each item.		K
	4. Demonstrate proper application, use, and inspection of chains.		K/S
	5. Demonstrate proper application, use, and inspection of wire rope slings.		K/S
	6. Demonstrate proper application, use, and inspection of chain falls.		K/S
	7. Demonstrate proper application, use, and inspection of come-alongs.		K/S
	8. Demonstrate proper application, use, and inspection of web slings.		K/S
	9. Demonstrate proper application, use, and inspection of cargo nets.		K/S

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Rigging hardware inspection and maintenance (cont'd)</b>	10. Demonstrate proper application, use, and inspection of pallet forks.		K/S
	11. Demonstrate the proper application, use, and inspection of personnel lifting baskets.		K/S
	12. Demonstrate proper application, use, and inspection of hook types.		K/S
	13. Demonstrate proper application, use, and inspection of shackles types.		K/S
	14. Demonstrate proper application, use, and inspection of eye bolt types.		K/S
	15. Demonstrate proper application, use, and inspection of master links.		K/S
	16. Demonstrate proper application, use, and inspection of hoist rings.		K/S
	17. Demonstrate proper application, use, and inspection of turnbuckles types.		K/S
	18. Demonstrate proper application, use, and inspection of spreader bars.		K/S
	19. Demonstrate proper application, use, and inspection of pad eyes.		K/S
	20. Demonstrate proper application, use, and inspection of wire rope clips.		K/S
	21. Demonstrate proper application, use, and inspection of chain binders.		K/S
	22. Demonstrate proper application, use, and inspection of drum lifters.		K/S
23. Demonstrate proper application, use, and inspection of plate clamps.		K/S	

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Rigging hardware inspection and maintenance (cont'd)</b>	24. Demonstrate ability to maintain and inspect hand and power tools in operationally safe condition, without any unauthorized modifications.		K/S
	25. Explain the hazards associated with using defective or modified hand or power tools.		K/S
<b>Hoist/Cranes</b>	1. Describe the type(s) of crane(s) by name and type, found on current location.		K
	2. Describe the lifting equipment available on current location.		K
	3. Demonstrate ability to follow the permit-to-work and lockout/tagout procedures required for crane operations.		K/S
	4. Demonstrate correct and safe use of taglines attached to loads, including proper positioning and quantity.		K/S
	5. Explain the use of push poles, if required by company policy.		K
	6. Demonstrate the ability to correctly and safely connect/disconnect loads.		K/S
	7. Demonstrate the ability to control an area where lifting operations are being carried out.		K/S
	8. Demonstrate the ability to select the appropriate rigging equipment for a specific job.		K/S
	9. Select correct slings, or other similar lifting devices, according to size, weight, and configuration.		K/S
	10. Demonstrate ability to use all rigging hitches (e.g., basket, choker, vertical, bridle) needed for the current job.		K/S

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Hoist/Cranes (cont'd)</b>	11. Explain the importance of the eye of a synthetic web and why it should never be used or forced over a hook or pin.		K
	12. Demonstrate the ability to correctly secure cargo in various conditions.		K/S
	13. Explain the different methods in which a sling(s) are rigged or attached to load.		K
	14. Explain how the tension or loading increases as sling angles decrease, especially the rapid increase in tension that occurs when slings are used below 30 degrees.		K
	15. Explain vertical and horizontal planes as they relate to rigging (e.g., how force is distributed based on the plane).		K
	16. Demonstrate the use of sling capacity tables.		K/S
	17. Explain center of gravity as it relates to rigging.		K
	18. Demonstrate the ability to find the center of gravity of a load.		K/S
	19. Demonstrate how to correctly rig a load according to its specific center of gravity.		K/S
	20. Determine and/or estimate weight of loads for the purpose of rigging safely.		K
	21. Explain why a wire rope hand-tucked splice should not be used in a single vertical lift.		K
	22. Explain the risk of using wire rope clips (i.e., clamps) to fabricate wire rope slings eyes.		K
	23. Explain why the hook should not be inserted into one of the chain links.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Hoist/Cranes (cont'd)</b>	24. Explain why the chain sling must never be used when twisted, knotted, or whenever the links bind and do not move freely.		K
	25. Demonstrate following the lift plan required for critical lift rigging tasks.		K/S
	26. Demonstrate adhering to the permit-to-work for routine and non-routine rigging tasks, if applicable.		K/S
	27. Explain why the eye of a wire rope sling should never be forced over a hook or pin.		K
	28. Explain the effect of beating the choker legs down.		K
	29. Explain the effect of bringing the legs of a vertical basket hitch inwards.		K
	30. Explain D/d ratio for wire rope sling.		K
	31. Explain the importance of using padding (protection over sharp edges).		K
	32. Locate company policies and procedures that apply to rigging.		K

\*Note: Course is currently being reviewed for certification by IADC.

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**4.8 Basic Electrical and Fluid Power Safety – 4 hours minimum**

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Electrical and power fluid safety</b>	1. Explain safety practices when using basic electric and fluid power of the oil and gas industry.		K
	2. Describe the techniques to safely isolate electrical and fluid power.		K
	3. Describe and demonstrate the skill utilized to validate and confirm the lack of electrical and fluid power and/or the source of electrical and fluid power.		K
	4. Describe and identify the hazards of electrical and fluid power.		K
	5. Identify and demonstrate safe electrical and fluid power practices.		K/S
	6. Explain and identify electrical and fluid power labeling, color coding and signage.		K
	7. Demonstrate knowledge of and apply the rules and regulations of electrical safety.		K/S

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4.9 Well Control Awareness (IADC certification issued) – 4 hours

Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Drilling a Hole</b>	1. Explain the reason(s) for drilling oil and gas wells (for example, to extract hydrocarbons).		K
	2. List common uses of hydrocarbons.		K
	3. Identify key characteristics of a hydrocarbon formation. (For example, reservoir structure, porosity, permeability, trapping mechanisms, formation fluids).		K
	4. Define hydrocarbon, reservoir, porosity, and permeability.		K
	5. Describe the basic process of drilling an oil or gas well.		K
	6. Identify common equipment used in drilling a well, and tell the primary purpose of each piece of equipment.		K
	7. Explain why casing and cement are used in drilling a well.		K
	8. Identify the typical drilling environments/rig locations (for example, onshore, offshore—shallow water, offshore—deep water, offshore—Arctic).		K
	9. List the typical types of completions.		K
	10. Tell what it means to bring a well “on-stream.”		K
	11. List the main steps in bringing a well on-stream and testing.		K
<b>Controlling Pressure</b>	1. Define “pressure” and “formation fluid pressure.”		K
	2. Describe normal, abnormal, and subnormal pressure.		K

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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Controlling Pressure (cont'd)</b>	3. Explain why knowing formation fluid pressure is important.		K
	4. State why it is important to maintaining control of the well (for example, to prevent loss of life, containment, or infrastructure; to reduce risk to personnel or environment).		K
	5. Define “kick” and “blowout.”		K
	6. Describe “primary well control” and “secondary well control.”		K
<b>Purpose of Drilling Fluid</b>	1. Describe the basic functions of drilling fluid.		K
	2. List the main components of drilling fluid.		K
	3. Explain the purpose of weighting material.		K
	4. List the main types of weighting material.		K
<b>Purpose of the Blowout Preventer</b>	1. Describe a typical BOP stack and its purpose (i.e., to shut-in the well, circulate out the kick).		K
	2. List the main components of a BOP (Annular, Rams and Stack Valves, String Valves, Manifolds, and Choke).		K
	3. Describe how a BOP functions.		K
	4. Describe the basic controls used to operate a BOP (i.e., control panel).		K
<b>Kick Prevention</b>	1. Explain the importance of well planning for drilling and completion, well programs, daily programs, written procedures (i.e., they contribute to maximizing “primary” control).		K
	2. Explain why a kick should be prevented.		K
	3. List common kick prevention practices employed during drilling and completion of a well.		K

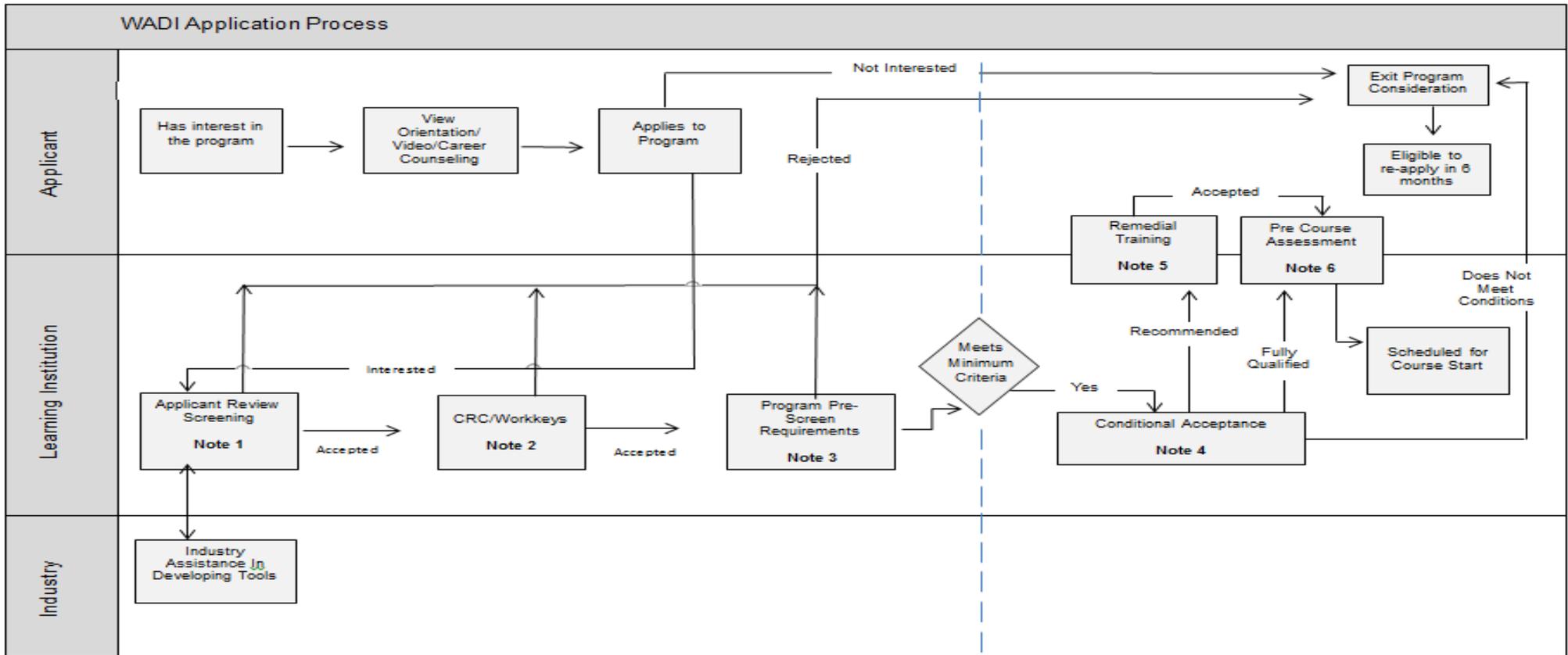
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Topics	Learning Objectives	Learning Assessment Guidelines	Knowledge or Skill based
<b>Kick Monitoring and Detection</b>	1. List key instruments used to monitor the well for kicks (i.e., Flow Rate and Pit Level gauges).		K
	2. Explain the roles and responsibilities of selected rig crew in preventing kicks and blowouts (e.g., Drillers, Assistant Drillers, Derrickman, Floorhand, Mud Engineers, Mud Loggers, Toolpusher, Company Representatives, Cementers, Drilling Engineers, Geologists, etc.)		K
<b>Shut-In Procedure (Surface and Subsea)</b>	1. Explain the purpose of the shut-in procedure and describe a typical shut-in procedure.		K
<b>Well Control Methods</b>	1. List the basic well control procedures (i.e., Driller’s Method and Wait and Weight Method).		K
	2. Compare and contrast the Driller’s and Wait and Weight Methods of well control.		K

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**Appendix A**



**Note 1:** By means of personal contact i.e. phone, in person, web conference software. Industry may assist.

**Note 2:** May include other aptitude testing.

**Note 3:** Valid Govt. issued ID, Driving Record Check, Fitness (insurable, if possessing a valid license), HS/GED verification, eligible to permanently work in the U.S.

**Note 4:** Drug Screen, Criminal Background Screen, Fit to Train (To meet the program requirements; additional standards may apply at time of hire), Recognition of work limitations.

**Note 5:** If recommended training is determined from the aptitude testing, it will be completed prior to full acceptance.

**Note 6:** Personality Type, Learning Style, Integrity Test (optional)

**Note 7:** This is a recommended order for evaluating candidates for program acceptance. The order may be changed as long as all components are covered and documented.

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### Appendix B

#### Pre-Screen Interview Question Guide

##### **Awareness of Industry and Safety Culture:**

1. Explain your knowledge and impressions of the oil and gas industry.
  - a. Do you have family, friends, or acquaintances that have worked in the industry?
2. Safety is paramount in the oil and gas industry. Describe a time when you have incorporated safety into your workplace or personal life.

##### **Personal Work Characteristics:**

3. How would others describe your work-ethic and motivation? How do you get things done?
4. What is your proudest achievement?
5. What are your hobbies, or other activities outside of work?
6. Please rate your technical aptitude—in other words, how good are you at understanding, operating or repairing mechanical, hydraulic, or electrical systems and equipment?
7. Tell me about a time you have operated a tractor, fork lift, commercial lawn mower, or similar type of equipment. If you have not ever done so, is that of interest to you?
8. Describe a time you had a conflict with someone you worked or lived with. How did you resolve it?

##### **Team Work Value Added:**

9. Describe an experience where you worked on a team. What caused that team to be a success (or failure?)
10. In team situations, what roles have you played? (coach, leader, participated, supported, etc.)
11. Describe why you are a good candidate for the program.

##### **Motivation:**

12. Why are you interested in working in the oil and gas industry?
13. What do you expect to get out of being in an oil and gas program?

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**Work Conditions:**

14. Are you willing to wear personal protective equipment (“PPE”) such as gloves, safety glasses, hard hats, etc. all day, even in heat or seemingly “safe” situations? Yes/No - Explain
15. Are you prone to motion sickness? (nausea due to being on a boat or in a vehicle) Yes/No - Explain
16. Are you willing to work at height in a harness and PPE? Heights range from 4ft. to 90ft above a deck or the ground — (the equivalent of up to a nine-story building). Yes/No - Explain
17. Are you willing to follow work and safety orders from supervisors and authorized co-workers? Yes/No - Explain
18. Are you willing to work outside in all types of weather conditions? (rain, heat, freezing, wind, etc.) Yes/No - Explain
19. Are you willing to work a 12-hour shift? (for example: 6:00 AM to 6:00 PM, or 6:00 PM to 6:00 AM)? Yes/No - Explain
20. Are you willing to work a rotational schedule? Yes/No - Explain [Work rotation varies in the industry. Rotational schedules are typically even days “on” (working) and “off” (at home). Rotations are usually 7, 14, 21 or 28 days “on” and 7, 14, 21 or 28 days “off”]
21. Are you willing to work away from home? Yes/No - Explain
22. Are you willing to work outside the United States? Yes/No - Explain
23. Are you willing to work offshore? [on a boat, rig or platform] Yes/No - Explain
24. Are you willing to live in close quarters with those you work with? (man camps, bunkhouses, ships quarters, etc.) Yes/No – Explain

## Introduction to Oil and Gas Training Program

### Program Admission Requirements

#### Physical Requirements

<b>Requirement:</b>
1. Examination by a Physician or other licensed medical provider
2. Fit to Train Physical Characteristics/Abilities Assessment <ol style="list-style-type: none"><li>Vision: Depth perception confirmed (Near, Distance)</li><li>Vision: Color distinctions between red and green signs and lights</li><li>Hearing: Ability to hear and distinguish emergency alarms and verbal commands; communication may be via person-to-person, field radio, headset, phone, P.A. announcement</li><li>Physical: Ability to discern hot and cold (temperature extremes)</li><li>Physical: Ability to lift 50 pounds (dead-lift)</li><li>Physical: Ability to drag 165 pounds (body drag) for a distance of 10 feet</li><li>*Physical: Ability and willingness to climb (ladders and/or stairs) 50 feet and work at heights</li></ol>
* Note: Specific employers may have additional functional capacity requirements.
* Note: Refer to U.S. DOT standards or similar standards.

#### Drug Screen Requirements

<b>Requirement:</b>
1. 10-panel Drug Screen Passed
*Note: This type of work is safety sensitive and although drugs may be legal in some states, an employer may exclude specific substances.
*Note: Some employers may do an additional drug and/or alcohol screen upon hire.

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Criminal Background Review and Scoring Rubric (0-50 points)

Scored Item: Check Only One	
<input type="checkbox"/>	Clear of felony and misdemeanor convictions: 50 points
<input type="checkbox"/>	Misdemeanors Class C (one non-driving) greater than 3 years: 30 points
<input type="checkbox"/>	Misdemeanors Class C (one non-driving) within 3 years: 25 points
<input type="checkbox"/>	Misdemeanors Class B (one non-driving): 15 points
<input type="checkbox"/>	DWI/DUI or drug-related conviction greater than 3 years: 10 points
<input type="checkbox"/>	DWI/DUI or drug-related conviction within last 3 years: 0 points
<input type="checkbox"/>	Misdemeanor Class A: 0 points
<input type="checkbox"/>	Felony conviction: 0 points
<p>*Note: Criminal Background rating system is used for enrollment ranking based on limited classroom capacity but does not eliminate an individual from acceptance into a program.</p> <p>*Note: Specific employers may use different criminal background requirements for hire.</p>	

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WorkKeys Requirements

<b>Requirement:</b>
1. Applied Math = 3
2. Graphic Literacy = 3
3. Work Place Documents = 3
4. Applied Technology = 4
5. (Bronze level minimum)
<b>Other Optional Tests:</b>
1. Observation
2. Teamwork
3. Listening
4. Writing
5. Aptitude
<b>*Note:</b> May fast-track veterans with ASVAB scores (taken in the past 10 years)