STEM Teacher Roundtable – Dallas

Brookhaven College

Monday, March 4th
STEM In the Petroleum Industry
Exploration and Drilling
Onshore and Offshore
Gas Processing and Gas Gathering
High School Graduate

- Craft or Trade School
  - Some Examples (Industrial Crafts, Electrical, Mechanical, PLC Programming, Plant and Pipeline System Operator)
  - 2 Year Degree, Solid Pay and Benefits

- College
  - Examples (Teaching, Medical, Engineering, Environmental, Financial, Sales and many more Opportunities)
  - 4 Year Degree, Solid Pay and Benefits

- U.S. Military
  - Usually a 4 year commitment with great School/Training opportunities to use during and support you after you are discharged.
  - Solid Benefits and Retirement Options
Texas Independent Producers & Royalty Owners Association (TIPRO)

The U.S. oil and gas industry employed 880,681 professionals in 2018, up 5.4 percent from the previous year.

In 2018, the U.S. oil and gas industry paid a national annual wage averaging $112,712 – more than double average private-sector wages.

U.S. oil and gas industry’s $99 billion payroll for 2018 was 6 percent higher than the previous year’s figure.

The domestic oil and gas industry purchased more than $530 billion in U.S. goods and services last year.

Karr Ingham - Petroleum Industry Economist

Texas upstream employment saw substantial increases in 2018.

According to the Texas Alliance of Energy Producers’ Texas Petro Index, jobs in oil and gas extraction increased by an average of 3.5 percent from 2017 to 2018 while jobs in oil and gas support services increased by an average of 21.3 percent.
Texas Independent Producers & Royalty Owners Association (TIPRO)

The top state in terms of oil and gas employment in 2018 was Texas.

Estimated 352,371 jobs and accounting for 40 percent of all oil and gas jobs nationwide during the period.

Texas’ added 26,706 oil and gas jobs last year.

The largest gain for any state.

The states in the top five for oil and gas employment growth during 2018 included:

• Oklahoma – 5,266 new jobs
• New Mexico – 3,626
• North Dakota – 2,808
• Colorado – 2,282

“The Texas oil and gas industry has remained a cornerstone of the economy providing high-paying career opportunities, as well as significant taxes and royalty payments made to state, local and federal government entities,”
Opportunities
Although the oil industry is already the top job creating sector in the U.S., it also offers Americans higher wages and salaries compared to other industries.

The average domestic salary for exploration and production jobs is an estimated $96,844, more than double the average salary for other U.S. occupations outside of the oil and gas industry.

While a wide-array of employment opportunities are being created throughout the industry, engineering jobs are the most demanded positions in oil and gas.

Petroleum engineering jobs are expected to increase by 21 percent from 2012 to 2022 – a rate that greatly outpaces the average job growth for all other occupations.

Petroleum engineering also tops the list of highest paying college majors, offering an average starting salary of $89,000 and a mid-career salary of $159,900.

According to a report by CNNMoney, in 2013 Petroleum Geologists were the second highest paid skilled workers in the U.S. with a median salary of $183,000. Reservoir Engineers were the third highest paid employees with a median salary of $179,000.
Quotes

Chris Sharron, global talent acquisition manager for Anadarko Petroleum Corporation.

“Anadarko Petroleum’s hiring from 2017 to 2018 more than doubled.

“We definitely saw hiring start to pick up in 2018 … there was a real shift in moving toward more technical positions like data science, data engineering and data analytics.”

“We also saw a lot of hiring closer to the wellhead – production engineers, operators, mechanics, etc. – to support production.”

John Rudolph, president of Honeywell Process Solutions. As the industry evolves, so does its workforce and not all of it is about software code,. The machines are not replacing human beings, rather human beings— with a different skill-set—are making the oil and gas sector achieve efficiencies via new technology that it has not known before."
Quotes

Recruiters with a global footprint are reporting subtle shifts in job specifications across the supply chain pointing to a more meaningful embrace of digital skills, not just word processing skills, ranging from coding specialists to drone operators.

Dr. Angela Strank, Chief Scientist at BP - the rebooting of sector skillset, or the quest for digitally savvy engineers, geologists and scientists, is bringing about another positive change—that of a gender diverse and younger workforce.

"Industry 4.0 is attracting millennials to science and engineering career pathways, and is improving gender diversity.

Industry 4.0 is a name given to the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things, cloud computing and cognitive computing.

We’re hiring on a 50:50 male to female ratio and recognize the value of such an exercise. I believe a diverse workforce is always more innovative. This industry is all about innovation and will be better for it."
Tamara Holmgren – Projects and modifications manager for the Eastern Hemisphere at BP plc.

Holmgren manages multi-discipline teams for the construction of petrochemical plants across the world.

“For this senior engineer and advocate for women in STEM, oil and gas wasn’t always on her radar. Holmgren on how she got introduced into oil and gas – she calls it “serendipity” – and what advice she would offer to other women who are looking to break into the industry.

“Careers advice at school was limited and I ended up starting an engineering career almost by happy accident! Like many people, when I left school, I wasn’t sure what I wanted to do.”

“After working in a monotonous, unsatisfying data entry role for a year, with no prospect of challenge or career advancement, my mother saw an advertisement in a local paper for an apprenticeship in engineering for an oil and gas contractor and encouraged me to apply.”

“It was an industry I knew nothing about, but I thought it sounded fascinating.”
Quotes

“While the number of women involved in oil and gas has remained stagnant in the past couple of decades, their numbers have more than doubled in recent years, and in some cases, outpace the number of men filling oil and gas jobs.”

“In the first quarter of 2013, women filled roughly 46 percent of the 3,900 newly created oil and gas jobs.

There were approximately 33,900 female employees in the oil and gas workforce in 2017 according to the Bureau of Labor Statistics.”

“The increased involvement and encouragement of women filling more oil and gas jobs should be a celebration for anyone that considers themselves to be a champion of progress, diversity and innovation.”
Indeed Posted Positions

Associate Lab Technician / Oilfield Cementing Company

Field Trainee, Key Energy Services  Crane, TX CDL Class B license for driving rig. Minimum of one (1) year basic oilfield servicing experience. High school diploma, GED or equivalent..

Technical Plant Operator; Innospec Oilfield Services  Pleasanton, TX

Pressure Testing Technician; Sioux Energy Services, LLC; Williston, ND; $70,000 - $100,000 a year

Gas Compressor Technician; TOPS INC; Midland, TX 79707; $24 - $35 an hour

ENTRY LEVEL**Field Engineer Associate; DFG Energy LLC; Plano, TX

Now Hiring: Oilfield Vacuum Truck Drivers; Forge Oilfield Services; Stockdale, TX 78160; $70,000 - $100,000 a year
What We Do

➢ Gathering, Compressing, Treating, Processing, And Selling Natural Gas

➢ Storing, Fractionating, Treating, Transporting, And Selling NGL’s & NGL Products.

➢ Including Services To LPG Exporters

➢ Gathering, Storing, And Terminaling Crude Oil

➢ Storing, Terminaling, And Selling Refined Petroleum Products
Benefits Coverage Overview

- **Medical Plan Coverage**
  - BlueCross BlueShield TX
  - United Health Care
- **Prescription Drug Coverage**
- **Vision Coverage**
- **Dental Coverage**
- **Flexible Spending Accounts**
- **Health Savings Account Offered**

- **Life Insurance Coverage**
  - Basic Life and AD&D Insurance Business Travel Accident
- **Supplemental Life Insurance available (paid by employee)**
- **Disability Coverage**
  - Short-term Disability
  - Long-term Disability available (paid by employee)
• Benefits Coverage Overview

401(k) Profit Sharing Plan – Employer Contributions

MATCHING CONTRIBUTION:
Employer matches employee contribution dollar-for-dollar up to 5%

BASE CONTRIBUTION:
Employer contributes 3% of your pay into the plan, regardless of employee participation
Career Opportunities

Organizational Growth

As of Q3 of 2018 over 2,000 employees in N. America

- **Total Open positions: 145**
- **Total Hires in 2018: 140+**

**Current Employment Opportunities**
- Gas Plant Operators
- Field Operations Technicians
- I/E Technicians
- Maintenance Technicians
- Developmental Technicians
- Measurement Technicians
- Gas Testing Technicians
- Plant Administration
- Various Engineering & Construction Positions
- Driver/ Transportation Positions

**Developmental Technician Program**

- Formal training program that provides on the job training for entry-level candidates to obtain the skill-set to advance in various disciplines within plant operations, liquids measurement, and field maintenance functions.

- Program provides technicians with cross-training experience.

- Progression and growth opportunities upon completion.
Skills Needed in the Oil / Gas (Petroleum) Industry

Soft Skills
• Leadership
• Critical Thinking and Problem Solving
• Collaboration and Teamwork
• Global Mindset

Technical Skills
• Data analysis
• Mathematical
• Computer software skills Word processing, data management, spreadsheet
• Instrumentation/Automation/Electrician

Job Stability in the Oil and Gas Industry
CR: Oil and gas employment fluctuates based on supply and demand. It’s extremely important to stay abreast of technology and acquire new skills throughout one’s career to remain relevant and in demand.

“Options will always be open for those who pursue lifelong learning and earn credentials in our or any industry.”
VOCATIONAL COLLEGE: ENERGY SERVICES PROGRAMS

AUTOMATION TECHNICIAN (600 HOURS)
The Automaton Technician program is intended to deliver a fundamental understanding of electricity and automation procedures and practices. The program prepares students for careers in Automation to meet the demanding requirements for safety and reliability in product production.

Students will learn electrical theory and applications, programing, communication and networking relative to automation controls used in the Automation industry. This is a hybrid program with scheduled lab and lecture times.

OIL & GAS TECHNICIAN (260 HOURS)
The Oil and Gas Technician program is designed to meet the needs of the oil and gas industry. The program provides the training, identified by local industry, to work in the oil and gas related fields.

The training combines both the technical skills and the necessary soft skills to succeed as an Oil and Gas Technician. This is a hybrid program with scheduled lab and lecture times.