Department of Petroleum Engineering

Petroleum Data Analytics Minor

Career Opportunities
Industry wants engineers who can handle the vast streams of data and, more importantly, derive useful business insights into operations and economics. As new and improved computer applications make the processing of large amounts of data more effective for companies, they need engineers who can collect, collate, analyze and understand the various types of data used in this industry.

Minor Overview
The purpose of this minor is to enhance your data analysis skills. This will show potential opportunities of data, give you the skillset to manage and analyze the data, and use your knowledge of petroleum engineering to make petroleum resource acquisition more economical, safe, and environmentally friendly.

By the end of the minor program, students will be able to:
• Collect and pre-process typical petroleum data and to rearrange for use in analysis
• Apply standard probability and statistics methodology to various data constructs
• Analyze data to determine which various regression and prediction analytics would be applicable and to use that analysis process
• Build system algorithms from data information insight
• Use various data analytics analysis and visualization software for the petroleum industry

Data Sources & Uses
Drilling: Drilling rig surface and subsurface data is giving phenomenal insights into the drilling process.
Completions: Fracture stimulation data can show the progress and success of a fracture stage.
Production: Understanding the nuances of flow volume, phase, and velocity can point to production enhancement.
Reservoir Engineering: Pressure transients can be analyzed to determine reservoir characteristics and future reservoir development.

Contact Terri Snyder at tnsnyder@mines.edu or 303-273-3827 or Dr. Bill Eustes at aeustes@mines.edu for more information and full course requirements.