Master's Degree in Petroleum Engineering: Field Analysis and Operations Management

1 Year Online, 9 courses, 36 Credits, Standard for U.S. Masters Degree

The Master's Degree in Petroleum Engineering with a focus on Field Analysis and Operations Management is tailored to meet the evolving needs of employers in the oil and gas industry. Rather than concentrating solely on drilling, this 9-course program emphasizes practical back-office skills such as production analysis, reservoir performance interpretation, economic evaluation, regulatory compliance, and digital workflows. Students will gain the technical and analytical expertise needed to interpret field data, support operational decisions, and improve asset performance. Graduates will be well-prepared for roles in production optimization, asset management, field reporting, and engineering support services. **Courses may be substituted or changed at any time, as curriculums undergo continued revision and updating**.

Petroleum Operations and Asset Management Overview of upstream petroleum operations, field development planning, and lifecycle asset management strategies. 4 Credits.
Production Data Analysis and Reporting Methods for analyzing well production data, decline curve analysis, and generating actionable field reports. 4 Credits.
Reservoir Monitoring and Performance Evaluation Covers techniques for tracking reservoir behavior using pressure, production, and surveillance data. 4 Credits.
Well Testing and Diagnostics Principles of well test interpretation, pressure transient analysis, and identifying operational anomalies. 4 Credits.
Oilfield Economics and Decision Analysis Economic modeling, cash flow forecasting, and risk-based decision making in field development and operations. 4 Credits.
Petroleum Software Applications and Digital Tools Hands-on training in commonly used software such as ARIES, PEEP, OFM, and Spotfire for technical analysis and reporting. 4 Credits.
Artificial Lift and Production Optimization Study of ESPs, rod pumps, gas lift, and surface facilities with a focus on maintaining and improving output. 4 Credits.
Petrophysics and Formation Evaluation Introduction to log analysis, formation testing, and fluid interpretation for back-office support and quality control. 4 Credits.
Field Surveillance and Operations Support Coordination of field operations, communication between field staff and engineering teams, and daily production surveillance. Includes **Regulatory Compliance and Environmental Oversight-** Understanding of permitting, reporting obligations, environmental safeguards, and agency coordination. 4 Credits.