TECHNICAL EDUCATION ACADEMY

School of Engineering

COURSE PROGRAMME

000712

Sedimentology in Oil and Gas

The Sedimentology in Oil and Gas training programme is a comprehensive, 5-day course designed to equip professionals with in-depth knowledge of sedimentology and its critical applications in the oil and gas industry.



Learn from the Best in the Business!

Course overview

Duration: 5 days / 40 hours · Intermediate level

Why take this course

The Sedimentology in Oil and Gas training programme is a comprehensive, 5-day course designed to equip professionals with in-depth knowledge of sedimentology and its critical applications in the oil and gas industry. This programme bridges foundational geological concepts with advanced sedimentological techniques, providing participants with the skills needed to tackle complex challenges in reservoir characterization, exploration, and production.

Participants will explore the processes of erosion, deposition, and diagenesis, learning to distinguish between clastic and carbonate environments and their associated sedimentary structures. The course delves into the intricacies of sedimentological facies analysis, basin evolution, and the role of sedimentology in hydrocarbon generation, migration, and trapping. Advanced modules focus on integrating sedimentological data into reservoir modeling, emphasizing the importance of facies upscaling and interdisciplinary teamwork in creating accurate, actionable geological models.

Through a blend of lectures, practical exercises, and real-world case studies, this training empowers geoscientists, reservoir engineers, and technical specialists to apply sedimentological insights in optimizing reservoir performance. Whether interpreting core samples, analyzing well logs, or developing models, participants will leave with a robust toolkit to enhance their decision-making and drive success in the dynamic energy sector.

Who it is for and how it helps

This course is designed for following professionals in the oil and gas industry:

- Geologists and sedimentologists in the oil and gas industry
- Reservoir engineers and petroleum engineers involved in exploration and development
- Geoscientists focusing on basin analysis and reservoir modeling
- Technical specialists working in core analysis, petrography, or well logging
- Professionals involved in petroleum systems and play assessments
- Graduate-level students or early-career professionals seeking advanced knowledge in sedimentology

What you will learn

- Identify and differentiate between clastic and carbonate rock types and their depositional environments
- Analyze sedimentary structures and interpret their implications for reservoir behavior
- Understand the role of sedimentology in basin formation, hydrocarbon generation, and migration
- Integrate sedimentological data from cores, logs, and mapping to build reservoir models
- Evaluate the impact of fault sealing and thief zones on petroleum systems
- Assess sedimentological controls on reservoir porosity, permeability, and anisotropy

Course overview — continued

- Apply sedimentological concepts to identify and predict hydrocarbon traps and seals
- Develop and upscale facies models for use in reservoir characterization and simulation
- Collaborate effectively within multidisciplinary teams to build sedimentology-informed reservoir models
- Apply industry-standard tools and methods to interpret sedimentological data for exploration and production

Pre-course requirements

- Basic knowledge of geology, including sedimentary rock classification and depositional processes
- Familiarity with oil and gas exploration and production workflows
- Understanding of core analysis and well logging fundamentals (recommended but not mandatory)
- Technical background in geoscience, petroleum engineering, or related disciplines
- Proficiency in English for technical instruction and materials

Programme instructor



Fadhil Ameen

Distinguished Iraqi geologist with over 40 years of academic, research, and consultancy experience in stratigraphy, sedimentology, petroleum geology, and basin analysis. Served as a Professor of Geology at the University of Sulaimani (1992–2025), contributing extensively to higher education, research development, and geological field programs in the Kurdistan Region and Iraq.

Recognized for his pioneering role in establishing the first geological surveys in the Kurdistan Region (1991–1992) and for supervising a large number of MSc and PhD theses in sequence stratigraphy, biostratigraphy, and petroleum systems. His academic influence extends to the design and delivery of advanced MSc and PhD courses in geology, as well as field-based training programs that integrate theoretical knowledge with applied geological practice.

An active researcher, authored or co-authored over 100 scientific publications, including articles in leading international journals such as Journal of African Earth Sciences, Marine and Petroleum Geology, Arabian Journal of Geosciences, and Journal of Petroleum Exploration and Production Technology. His recent research (2021–2025) focuses on sequence stratigraphy, paleoenvironmental reconstruction, and biostratigraphic correlation across Iraq's Mesozoic and Cenozoic formations.

Beyond academia, provided consultancy services for numerous international oil and gas companies, including Total, Gazprom, Western Zagros, Heritage, Sterling, Niko, and Oil Search, specializing in stratigraphic interpretation, well correlation, and basin evolution studies. Also served as a consultant to the FAO (United Nations) on geological and hydrogeological projects in Iraq.

Serving as President of the Geological Society of Kurdistan (1994–2001) and Vice President (1992–1994).

Member of the AAPG, EAGE, Union of Academicians in Kurdistan, and the Kurdistan Teachers Society.

Regular participant and contributor to international conferences and workshops, including the EGU (Vienna 2024), GeoCologne (2022), AAPG and EAGE annual meetings, GeoArabia, and multiple Geo-Kurdistan conferences, presenting more than 30 research papers internationally and over 70 at regional and national events.

Key Expertise:

Sequence Stratigraphy and Basin Analysis
Sedimentology and Depositional Environments
Biostratigraphy and Paleoecology
Petroleum Geology and Reservoir Characterization

Fadhil Ameen — continued

Geological Mapping and Field Survey Design

Academic Leadership, Research Supervision, and Training

Participant ratings

Programme evaluation based on participant feedback

Overall programme rating — 3.8 / 5

Clarity of learning objectives	**3.6 / 5**
Confidence in applying knowledge and skills	**3.3 / 5**
Achievement of learning objectives	**3.7 / 5**
Relevance of content to job tasks	**3.5 / 5**
Suitability of difficulty for the level of preparation	**3.4 / 5**
Increase in knowledge	**3.6 / 5**
Skills development	**3.7 / 5**
Willingness to recommend the programme to colleagues	**3.8 / 5**

15 responses

Joining the programme

Contact the Academy and quote course code 000712 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

Read the pre-course requirements in this programme before enrolling.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

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