



AGR PETROLEUM SERVICES ACADEMY

ABOUT AGR PETROLEUM SERVICES

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AGR PETROLEUM SERVICES ACADEMY

*AGR Petroleum Services is proud to present a series of courses tailored to match specific requirements for our customers in the petroleum industry. The subjects span from **geology** and **geophysics** to **petroleum economics**.*

Our courses are designed for people working in oil companies, oil service companies or in institutions related to the petroleum industry. The series of courses presented in this course list require only limited previous knowledge of the subject. All courses are taught by practising geoscientists or engineers, and are linked to common work processes from the North Sea.

There will be a maximum of 15 attendees in each course allowing everybody to participate with questions and in discussions. We believe these courses represent a cost effective way of enhancing the multi-disciplinary skills amongst the staff in your organisation.

A description of the individual courses is given on the following pages. For more information about our global training services and course overview visit:

<http://www.agr.com/Our-Services/Petroleum-Services/Training-Services/>

AGR Petroleum Services delivers reservoir, well, and integrated field management services to the upstream oil and gas industry. We employ strategic vision together with traditional engineering and geosciences skills to support international petroleum companies across the complete asset lifecycle. We add value to our customers through our expertise, innovation and commitment.

For more information about AGR Petroleum Services Capabilities visit:

<http://www.agr.com/upload/Petroleum%20services/AGR%20Petroleum%20Services%20presentation.pdf>

Contact details:

AGR Petroleum Services

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www.agr.com

The following courses are offered:

Subject	Duration (days)	Date	Location	Cost (nok)	Lecturer
Risk Analysis	1,5	16-17 Mar 7-8 Sep	Oslo	3000	Eivind Damsleth
Petroleum Economics	1,5	17-18 Mar 9-10 Sep	Oslo	3000	Eivind Damsleth
Geophysics	3	4-6 May	Oslo	9000	John Erick Battie
Petrophysics	2	12-13 May	Oslo	6000	Trude R. Myrvold
Production Geology	3	8-10 Jun	Oslo	9000	Runar Gundesø et.al.
Core Description	3	25-26 May	Stavanger	10 000	Howri Masurbeg
Reservoir Engineering	3	27-29 Apr	Oslo	9000	Gudmund Olsen
Production Technology	2	30-31 Mar	Oslo	6000	Arne Eek
Reserves Evaluation & Reporting	1	2 Sep	Oslo	3000	Mahmood Akbar

The courses will be held in a class room and a few practical exercises will be presented for the attendants to enhance their understanding.

The maximum numbers of attendees are 15 for each course on a first come, first served basis. Some of these courses may be repeated if there is a sufficient demand. If there are less than 5 registrations 2 weeks before the course start-up, the course will be cancelled.

If you have any questions, or would like to sign-up please contact:

	Registration to	Further information from	
Name	Anne Blutecher Holter	Runar Gundesø	Gudmund Olsen
Office	+47 2406 1141	+47 2406 1053	+47 2406 1134
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Please send the following information together with your registration:

Course title:.....
 Name:.....
 Company:.....
 E-mail:.....
 Phone/mobile/.....
 Invoice address:
 Preferred language Norwegian/English?.....

Title: **INTRODUCTION TO GEOPHYSICS**

Duration / Date: 3 days, 4 – 6 May 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: New hires / Graduates
Geologists with limited geophysical background
Petroleum Engineers
Petrophysicists
Support staff

Course concept: Lectures and practical exercises

Lecturer: John Erick Battie

Course content: **Introduction to Acquisition and Processing**

- Seismic reflection theory
- Principles of seismic acquisition
- Basic theory and application of processing
- Time migration

Introduction to Interpretation and the Time->Depth domain

- Basic seismic interpretation
- Data artefacts
- Seismic resolution (vertical and horizontal)
- Tying seismic to well data
- 2D vs 3D seismic
- Interpreting and mapping a simple geological structure
- Depth migration
- Velocity model and depth conversion

Applied geophysical techniques

- Seismic attribute mapping
- Seismic inversion and its application
- AVO case study
- Borehole seismic (VSP)
- 4D seismic
- 4C seismic (shear wave seismic)
- Electromagnetic fields



AGR PETROLEUM SERVICES ACADEMY

Title: INTRODUCTION TO PETROPHYSICS

Duration / Date: 2 days, 12 – 13 May 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: Geologists
Geophysicists
Petroleum Engineers
New hires / Graduates
Support staff

Course concept: Lectures and practical exercises

Lecturer: Trude Rønnes Myrvold

Course content: Evaluation of log and core data and its applications into petroleum exploration and reservoir modelling

Open hole log analysis

- Review of frequently used logging tools
- Data preparation
- Lithology and porosity estimations
- Water saturation
- Fluid contacts

Core analysis

- Routine core analysis
- Special Core analysis
- Log and core data integration

Application of petrophysical analysis

- Exploration
- Data input to reservoir models

Title: **INTRODUCTION TO PRODUCTION GEOLOGY**

Duration / Date: 3 days, 8 – 10 June 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: New hires / Graduates
Geophysicists
Petroleum Engineers
Petrophysicists
Support staff

Course concept: Lectures and practical exercises

Lecturers: Howri Masurbeg, Camilla Fjellheim, Runar Gundesø

Course content: **Introduction to Sedimentology and Stratigraphy**

- Stratigraphy - definition and applications.
- Review of various depositional environments
- How to establish a depositional model

Introduction to Structural Geology

- Structural styles
- Tectonics at regional scale
- Tectonics at reservoir scale
- Fault seal

Reservoir modelling

- Structural modelling
- Stratigraphical modelling
- Integration of sedimentological and petrophysics to reservoir property models
- Permeability on various scales
- Practical advice to the work process



AGR PETROLEUM SERVICES ACADEMY

Title: INTRODUCTION TO RESERVOIR ENGINEERING

Duration / Date: 3 days, 27 – 29 April 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: New hires / Graduates
Geologists
Geophysicists
Petrophysicists
Support staff

Course concept: Lectures and practical exercises

Lecturer: Gudmund Olsen

Course content: Focuses on building and maintenance of the reservoir model (static and dynamic) and illustrates the key interfaces between the reservoir engineering and geoscience disciplines.

Introduction to Static Reservoir modelling

- Construction of 3D grid
- Reservoir property models including permeability on various scales

Developing a dynamic reservoir model

- Principles for reservoir simulation
- Grid parameters and other input data to the model
- Application of well test data and history matching

Depletion plan and reservoir management

- Production strategy and design premises
- Production forecasting
- EOR techniques



AGR PETROLEUM SERVICES ACADEMY

Title: INTRODUCTION TO PRODUCTION TECHNOLOGY

Duration / Date: 2 days, 30 – 31 March 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: New hires / Graduates
Reservoir Engineers
Geoscientists
Petrophysicists
Support staff

Course concept: Lectures and practical exercises

Lecturer: Arne Eek

Course content: Introduction to the most common subjects within production technology and how to secure maximum oil production through optimal well design and efficient well interventions.

Introduction to well design

- Formation damage
- Flow assurance (wax, scale, asphaltenes ...)
- Sand control
- Artificial lift
- Well completion techniques

Production optimisation and well intervention

- Water and gas injection
- Hydraulic fracturing
- Squeeze treatments
- Daily production optimisation



AGR PETROLEUM SERVICES ACADEMY

Title: RESERVES EVALUATION AND REPORTING

Duration / Date: 1 day, 2 September 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: Reservoir Engineers
Geoscientists
Asset Managers
Commercial staff

Course concept: Lectures and practical exercises

Lecturer: Mahmood Akbar

Course content: The objective is to familiarise the participants with the most common reserve classification systems and how to perform adequate and efficient reserve estimates and reporting.

Reserves

- Definitions
- Classification systems (NPD, SPE-PRMS, SEC)
- Handling of uncertainty
- Probabilistic vs. deterministic approaches
- Reserve audits
- Portfolio Management

Resources

- Definitions
- Classification systems (NPD, SPE-PRMS)

Title: **SEDIMENTOLOGICAL CORE DESCRIPTION AND RESERVOIR PROPERTIES**

Duration / Date: 2 days, 25 – 26 May 2009

Location: Energiveien 22, Tananger, Stavanger

Designed for: Geologists
Reservoir Engineers
Petrophysicists

Course concept: Lectures and practical exercises

Lecturer: Howri Mansurbeg

Course content: This two day course will provide hands on experience of how the core description is conducted. Detailed core description is performed to characterize the different depositional facies, which includes a description of lithologies, fabrics, sedimentary structures, bedding thickness, and other important features. The vertical succession texture and sedimentary structures help define the depositional facies of the vertical sequence encountered by the well.

The first day (in AGR offices in Stavanger), you will be introduced to the basic procedures/techniques used in the core description by the means of lectures and exercises. The second day, you will be guided by AGR's experienced sedimentologist to conduct a real core description in the core store. The practical part on day 2 will be conducted at RESLAB in Stavanger. Selected siliciclastic sequences from the Norwegian Sea area will be used as an example.



AGR PETROLEUM SERVICES ACADEMY

Title: **PETROLEUM ECONOMICS**

Duration / Date: 1.5 day, 16-17 March 2009 **Full!**
8 - 9 September 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: Everyone wanting to know how to make economic evaluation of petroleum assets.

Course concept: Lectures and practical exercises

Lecturer: Eivind Damsleth

Course content: The objective for this course is to give geoscientists, engineers or others practical skills required to perform economic evaluations on:

- Prospects
- Field development
- IOR projects
- Any other incremental investments



AGR PETROLEUM SERVICES ACADEMY

Title: **RISK ANALYSIS**

Duration / Date: 1.5 day, 17 - 18 March 2009 **Full!**
8 - 9 September 2009

Location: Karenslyst allé 4, Skøyen, Oslo

Designed for: Petroleum Engineers
Geoscientists
Commercial analysts
Facility engineers

Course concept: Lectures and practical exercises

Lecturer: Eivind Damsleth

Course content: The objective for this course is to give geoscientists, engineers or others practical skills to make recommendations and decisions under uncertainty.

The following topics will be addressed:

- Basic statistics
- Identify relevant information and parameters
- Estimate their uncertainties
- Express uncertainties in suitable form
- Analyse uncertainties
- Calculate outcomes and make recommendations