

Module Title Oilfield Chemicals Keywords Analysis Of Crude Oil, Surfactants, Scale Inhibition and Removal, Corrosion, Oilfield Additives	Reference AS4052 SCQF SCQF Level 10 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved August 2007 Amended May 2011 Version No. 2
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This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

Students must be familiar with the basic principles of chromatography, spectroscopy and electrochemistry.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To enable students to evaluate the range, application and methods of analysis of chemicals used in oil exploration and production.

Learning Outcomes for Module

Indicative Student Workload

<i>Contact Hours</i>	Full Time
Laboratory Work	6
Lectures	30
Tutorials	4

Directed Study

Directed Study	50
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Private Study

Private Study	60
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Mode of Delivery

The course is delivered mostly by formal lectures with some external specialist speakers. Laboratory work is included.

Assessment Plan

On completion of this module, students are expected to be able to:

1. Discuss the properties and application of a range of chemicals used in oil and gas production.
2. Discuss and critically compare analytical procedures used for monitoring of production chemicals.
3. Apply a variety of analytical techniques to a range of oilfield samples.

Indicative Module Content

Constitution and properties of oil and natural gas, crude oil and surfactant chemistry, scale formation, inhibition and removal, corrosion & corrosion control, water injection chemicals, anti-foams, gas hydrate inhibition, antibacterial chemicals, environmental considerations. Analytical methods applied to the monitoring of oils and production chemicals.

	Learning Outcomes Assessed
Component 1	1,2,3

Component 1 is a closed book examination.

Indicative Bibliography

1. FRENIER, W., ZIAUDDIN, M., *Formation, Removal and Inhibition of Inorganic Scale in the Oilfield Environment* . Current Edition. SPE.
2. KELLAND, M., *Production Chemicals for the Oil and Gas Industry*. Current Edition. CRC Press
3. FINK, J.K., *Petroleum Engineer's Guide to Oil Field Chemicals and Fluids*. Current Edition. Elsevier.