

Liverpool John Moores University

Title: FORENSIC CHEMISTRY
Status: Definitive
Code: **4001FSBMOL** (101537)
Version Start Date: 01-08-2011

Owning School/Faculty: Pharmacy & Biomolecular Sciences
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
Amanda Boddis	Y
Jason Birkett	

Academic Level: FHEQ4 **Credit Value:** 12.00 **Total Delivered Hours:** 30.00
Total Learning Hours: 120 **Private Study:** 90

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	14.000
Practical	15.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	coursework	40.0	
Exam	AS2	Exam	60.0	1.00

Aims

To provide a basic knowledge of chemistry and chemical analysis important in forensic science

Learning Outcomes

After completing the module the student should be able to:

- 1 Perform a range of Forensic chemical tests and analyse the results obtained
- 2 Discuss the use of those tests within forensic analysis
- 3 Demonstrate a knowledge of the chemistry underpinning forensic chemical analysis

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Forensic Chemistry	1	
Portfolio		
EXAM	2	3

Outline Syllabus

Polymers, natural and synthetic

Colour chemistry

Chemistry of Combustion

Spectroscopy, the Beer-Lambert law and limitations

Polarity and its affect on chemical analysis

Basic chemical analysis techniques for example:- TLC, colour tests, Viscosity, melting point determination

Learning Activities

Lectures and practical sessions

References

Course Material	Book
Author	Bell, S.
Publishing Year	2006
Title	Forensic Chemistry
Subtitle	
Edition	1st edition
Publisher	Pearson
ISBN	0131478354

Course Material	Book
Author	Higson, S.P.J
Publishing Year	2005
Title	Analytical Chemistry
Subtitle	
Edition	1st edition

Publisher	Oxford University Press
ISBN	0198502893

Course Material	Book
Author	. Flanagan, R.J., Taylor, A., Watson, I.D., Whelpton R.
Publishing Year	2007
Title	Fundamentals of Analytical Toxicology
Subtitle	
Edition	1st edition
Publisher	Wiley
ISBN	978047031935

Course Material	Book
Author	Saferstein, R.
Publishing Year	2007
Title	Criminalistics
Subtitle	An introduction to forensic science
Edition	9th edition
Publisher	Pearson- prentice Hall
ISBN	

Notes

This module aims to provide core material in chemistry relevant to forensic analysis and sufficient for higher level study of this subject area

Forensic Chemistry. Chemists in the Field. Jared Roop Criminalist specializing in toxicology, Missouri State Highway Patrol. On an average day, forensic chemists apply knowledge from diverse disciplines such as chemistry, biology, materials science, and genetics to analyze evidence found at crime scenes or in the bodies of crime suspects. Forensic chemists often don't know the nature of the sample before they analyze it. Forensic chemistry is the application of chemistry to law enforcement or the failure of products or processes. Many different analytical methods may be used to reveal what chemical changes occurred during an incident, and so help reconstruct the sequence of events. Methods. Forensic chemistry Forensic chemistry is the application of chemistry to law enforcement or the failure of products or processes. Many different analytical. Forensic chemistry is the application of chemistry to law enforcement or the failure of products or processes. Many different analytical methods may be used to reveal what chemical changes occurred during an incident, and so help reconstruct the sequence of events. Additional recommended knowledge. What Do Forensic Chemists Do? Forensic chemistry encompasses organic and inorganic analysis, toxicology, arson investigation, and serology. Each method of analysis uses specialized techniques and instrumentation. The process may be as simple as setting up a density gradient column to compare soil samples or as complicated as using a mass spectrometer or neutron activation analysis to characterize an unknown substance.