

## Liverpool John Moores University

Title: ADVANCED FORENSIC METHODS  
Status: Definitive but changes made  
Code: **6003FSBMOL** (101551)  
Version Start Date: 01-08-2014

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

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**Academic Level:** FHEQ6      **Credit Value:** 24.00      **Total Delivered Hours:** 48.00

**Total Learning Hours:** 240      **Private Study:** 192

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	26.000
Practical	12.000
Workshop	10.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	present	Expert witness Statement	20.0	
Portfolio	portfolio	portfolio of evidence analysis and in class test	60.0	
Practice	courtroom	Court Room Presentation.	20.0	

### Aims

*To provide students with a thorough knowledge of advanced crime scene investigation including 360 degree photography, fire investigation and others as applicable. Introduce new and novel research in forensic science in areas such as fingerprinting and ballistics and have practical knowledge of the use of statistical methods for evaluating forensic evidence. Court room skills.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Apply frequentist and Bayesian statistics to various types of evidence
- 2 Critically evaluate current and potential methods of crime scene processing and analysis, recording all aspects in a manner in keeping with current good practice
- 3 Submit reports interpreting a range of forensic analyses in a manner suitable for legal proceedings and present these in (mock) court
- 4 Critically review current literature covering a range of forensic science areas

## Learning Outcomes of Assessments

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

expert witness presentation	1	3	
Portfolio	1	2	4
court room presentation	3		

## Outline Syllabus

*Statistical tests appropriate to forensic science including case studies and different evidence types.*

*Recent research and advances in a number of areas within forensic science- for example fingerprinting, Ballistics, drug analysis. Appropriate practical techniques and sessions to enhance this learning.*

*Advanced crime scene analysis including photography, use of 360 degree cameras and equipment, fire and homicide analysis, use of other enhancement procedures. Court room skills including expert witness statements and court room presentations.*

## Learning Activities

Lectures, Workshops, practicals, mock court room scene, self study.

## References

<b>Course Material</b>	Book
<b>Author</b>	Adam, C
<b>Publishing Year</b>	2010
<b>Title</b>	Essential Mathematics and Statistics for Forensic Science

<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	John Wiley & Sons
<b>ISBN</b>	0470742534

<b>Course Material</b>	Book
<b>Author</b>	Lucy, D
<b>Publishing Year</b>	2005
<b>Title</b>	Introduction to statistics for Forensic Scientists
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Wiley
<b>ISBN</b>	0470022019

<b>Course Material</b>	Book
<b>Author</b>	James,S.H., and Norbury, J.J
<b>Publishing Year</b>	2005
<b>Title</b>	Forensic science
<b>Subtitle</b>	An introduction to scientific and investigative techniques
<b>Edition</b>	2nd
<b>Publisher</b>	CRC press
<b>ISBN</b>	0849327474

<b>Course Material</b>	Book
<b>Author</b>	Fraser, J. & Williams, R.
<b>Publishing Year</b>	2009
<b>Title</b>	handbook of Forensic Science
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Willan
<b>ISBN</b>	9781843923114

<b>Course Material</b>	Book
<b>Author</b>	Jackson,A and Jackson J.
<b>Publishing Year</b>	2011
<b>Title</b>	Forensic Science
<b>Subtitle</b>	
<b>Edition</b>	3rd
<b>Publisher</b>	Prentice Hall
<b>ISBN</b>	9780273738404

<b>Course Material</b>	Book
<b>Author</b>	Langford, A. et al
<b>Publishing Year</b>	
<b>Title</b>	practical skills in Forensic Science
<b>Subtitle</b>	
<b>Edition</b>	

<b>Publisher</b>	Prentice Hall
<b>ISBN</b>	

<b>Course Material</b>	Journal / Article
<b>Author</b>	
<b>Publishing Year</b>	
<b>Title</b>	Journal of Forensic Identification
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Internation Association for Identification
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Ashbaugh,D.
<b>Publishing Year</b>	
<b>Title</b>	Quantitative-Qualitative friction ridge analysis
<b>Subtitle</b>	An introduction to basic and advanced ridgeology
<b>Edition</b>	
<b>Publisher</b>	CRC press
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Slapper,G. and Kelly, D.
<b>Publishing Year</b>	
<b>Title</b>	The English Legal System
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Routledge
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	DeHaan, J.
<b>Publishing Year</b>	
<b>Title</b>	Kirk's fire Investigation
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Brady
<b>ISBN</b>	

## Notes

This module looks at advanced level crime scene analysis and recent advances in analysis techniques applicable to forensic science such as fingerprints. It extends the basic statistical concepts and methods previously introduced to the level required by the professional forensic scientist. Skills developed during this module include: analysing and solving problems, teamwork, initiative, creativity, written and oral

communication, numerical reasoning, personal planning and organisation, information and communication technology, as well as subject-specific skills. A number of developing forensic science areas will be discussed in relation to the current literature.