

Liverpool John Moores University

Title: FORENSIC BIOLOGY
Status: Definitive
Code: **6002CHMBIO** (101281)
Version Start Date: 01-08-2010

Owning School/Faculty: Natural Sciences & Psychology
Teaching School/Faculty: Natural Sciences & Psychology

Team	Leader
Alan Gunn	Y
Graham Sherwood	

Academic Level: FHEQ6 **Credit Value:** 12.00 **Total Delivered Hours:** 35.50
Total Learning Hours: 120 **Private Study:** 84

Delivery Options

Course typically offered: Summer

Component	Contact Hours
Lecture	19.000
Practical	6.000
Workshop	9.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	exam	Examination	60.0	1.50
Report	report	Critical laboratory report	40.0	

Aims

To critically review how biological evidence can contribute to a wide range of forensic investigations.

Learning Outcomes

After completing the module the student should be able to:

- 1 Evaluate the factors that influence the decay of human remains in a forensic context.
- 2 Critically evaluate how biological evidence can contribute to forensic investigations.
- 3 Critically evaluate the collection and importance of DNA-based evidence in forensic applications.
- 4 Objectively analyse forensic data using appropriate statistical/analytical techniques and present the findings in the form of an article for a scientific journal.

Learning Outcomes of Assessments

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

EXAM	1	2	3
Practical report	4		

Outline Syllabus

Use of flora and fauna in forensic science: bacteria and viruses, diatoms, pollen, invertebrates, vertebrates.

Factors affecting the decomposition of human remains. Determination of the time since death from physical, physiological and biological information.

Wound analysis and determining the cause of death.

Case studies - the applications to forensic science, data interpretation, the role of the forensic scientist.

Collection of DNA-based evidence. The applications and limitations associated with PCR technology, DNA fingerprinting, and STR markers. The need for laboratory validation and how to avoid contamination. The use of sequence analysis for species identification in identifying the illegal trade in protected species and the sale of adulterated food.

Learning Activities

The main topics will be introduced in a series of lectures, practicals and workshops. A range of practical techniques will be introduced covering the collection and interpretation of forensic evidence obtained from microorganisms, plants and animals.

References

Course Material	Book
Author	Gunn, A.

Publishing Year	2009
Title	Forensic Biology.
Subtitle	
Edition	2nd edition
Publisher	Wiley
ISBN	9780470758038

Course Material	Book
Author	Stoermer, E.F. & Smol, J.P.
Publishing Year	2001
Title	The Diatoms: Applications for the Earth and Environmental Sciences
Subtitle	
Edition	
Publisher	Cambridge University Press
ISBN	0521004128

Course Material	Book
Author	Jackson, A.R.W. & Jackson, J.M.
Publishing Year	2008
Title	Forensic Science
Subtitle	
Edition	2nd edition
Publisher	Pearson
ISBN	9780131998803

Notes

This module is designed to introduce students to the applications of biological techniques in forensic science. By the end of the module they should be able to use data obtained by these techniques in forensic interpretation. This module is only open to students from TAR College.