Liverpool John Moores University

Title: Applied Biomedical Technology
Status: Definitive
Code: **7012BMBMOL**   (117835)
Version Start Date: 01-08-2011

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

Team	emplid	Leader
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Academic Level:	FHEQ7	**Credit Value:**	20.00	**Total Delivered Hours:**	36.00
Total Learning Hours:	200	**Private Study:**	164		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	30.000
Off Site	3.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1		50.0	3.00
Report	AS2		50.0	

Aims

The content of the module will be in two areas and the focus will be to encourage discussion between the students and speakers: 1. To provide background

information on new and developing technologies in biomedical science. 2. Automation in modern biomedical laboratories with the emphasis on instrument procurement and its impact on quality management.

Learning Outcomes

After completing the module the student should be able to:

ABT0 1	Demonstrate a systematic understanding of the technologies relevant to biomedical science
ABT0 2	Demonstrate a critical awareness of current and future developments in technological aspects of biomedical science
ABT0 3	Summarise and critically evaluate quality management issues in biomedical laboratories
ABT0 4	Debate the impact of automation on the organisation of a modern biomedical laboratory

Learning Outcomes of Assessments

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

Exam	AB T0 1	AB T0 2
report1	AB T0 3	AB T0 4

Outline Syllabus

This module will focus on selected advanced technologies relevant to a career in biomedical science. Technologies pertinent to medical diagnosis will include liquid chromatography, cell and tissue imaging, immune and molecular techniques. This will be supplemented by professionally-orientated work in which the impact of automation in biomedical laboratories will be analysed.
It is envisaged that for each session there will be an introduction to the topic by an academic member of staff followed by input from regional companies or practising professional biomedical scientists. This will culminate with problem-solving exercises, given to individuals or groups. Solutions to the exercises will be presented to the class as a whole class, followed by discussions.

Learning Activities

During each session-students will be divided into action sets and asked to consider a problem which will presented to the rest of thre class followed by a discussion with the other groups and facilitator. This help enforce the learning aims from the taught sessions.

References

Course Material	Book
Author	M. Hannon-Fletcher, P. Maxwell
Publishing Year	2010
Title	Advanced Techniques in Diagnostic Cellular Pathology
Subtitle	
Edition	
Publisher	Wiley,
ISBN	978-0-470-51597-6

Course Material	Book
Author	Michael W. Dong
Publishing Year	
Title	Modern HPLC for the Practicing Scientist"
Subtitle	
Edition	
Publisher	
ISBN	ISBN: 978-0-471-7278

Notes

Material delivered through a number of key lectures giving background to many advanced methlogies and issues relating to automation in a modern biomedical laboratory. The key area will be analytical techniques such as UPLC and LC-MS, Immunological methods including flow cytometry, imaging and diagnostic genetic techniques. The second part of the module will focus on automation and its impact on QA ands QC in the laboratory