

Warning: An incomplete or missing proforma may have resulted from system verification processing

Title: Biomedical Issues and Microbiology
 Status: Definitive
 Code: **4016BMBMLO** (117406)
 Version Start Date: 01-08-2016

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

Team	Leader
Pat Barry	Y
Jari Louhelainen	
Katie Evans	
Gordon Lowe	
Anne Humphreys	
Janice Harland	
Glyn Hobbs	
George Sharples	

Academic Level: FHEQ4 **Credit Value:** 24 **Total Delivered Hours:** 68

Total Learning Hours: 240 **Private Study:** 172

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	52
Practical	12
Workshop	3

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam	60	1
Practice	Practical	Microbiology Practical	20	
Report	essay	Written Assignment	20	

Aims

To introduce the work of clinical laboratories and recent developments of relevance to biomedical scientists and also to foster course identity within students. To provide a broad spectrum of knowledge about microorganisms and their activities which will provide a foundation for modules at levels 2 and 3.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the organisation of the clinical laboratory services in the UK and be acquainted with career opportunities and recent developments in the biomedical sciences
- 2 Describe patterns of disease epidemics and give specific accounts of medical laboratory science practice in detection and control of disease Identifying environmental, socio-economic and cultural factors affecting communities.
- 3 Describe of some aspects of the legal regulation of medicine, healthcare delivery and medical research, including medical ethics and animal experimentation
- 4 Discuss the important morphological features of the major types of microorganisms; bacteria, fungi, protists and viruses.
- 5 Understand the basic methods for cultivation, observation, enumeration and identification of microorganisms, including aseptic techniques.
- 6 Discuss the physical and chemical requirements for growth and understand how to assess microbial growth.

Learning Outcomes of Assessments

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

Exam	1	3	4	5	6
Microbiology Practical	4	5	6		
Written assignment	2				

Outline Syllabus

The role of professional bodies and HPC registration.

The nature and organisation of work carried out in clinical laboratories.

Recent developments in biomedical sciences.

The role of biomedical laboratories in relation to specific health issues (e.g. AIDS, E. Coli 0157, coronary heart disease, cancers).

Social, economic, environmental and cultural factors which enhance or discriminate against health.

Principles and practice of screening tests in the control of disease, and monitoring of disease during epidemics.

Medical Ethics, local Ethical Review Committees, legal regulation.

Animal experimentation, Home Office Licences, legal implications, ethical review.

Position of microorganisms in the natural world with emphasis on bacteria, fungi and viruses.

Structural characteristics and growth requirements of the major microbial groups.

Microbial growth: Assessment of growth, cell and population growth, growth curve for bacteria.

Microbiological methods: Microscopy, aseptic technique, sterilization and disinfection.

Selective isolation, use of selective media, enrichment culture, identification.

Microbial pathogens and processes.

Virology: Virus diseases of man including cancer, modes of virus transmission, virus replication, virus infection cycle.

Learning Activities

Lectures, practical, workshop

Notes

To introduce the work of clinical laboratories and recent developments of relevance to biomedical scientists and also to foster course identity within students. To provide a broad spectrum of knowledge about microorganisms and their activities which will provide a foundation for modules at levels 2 and 3.