

Liverpool John Moores University

Title: PHARMACEUTICAL MICROBIOLOGY
Status: Definitive
Code: **4000DFPHAR** (113279)
Version Start Date: 01-08-2014

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

Team	Leader
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Academic Level: FHEQ4 **Credit Value:** 12.00 **Total Delivered Hours:** 34.00

Total Learning Hours: 120 **Private Study:** 86

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	15.000
Practical	15.000
Workshop	2.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	PRAC TEST	Practical Assisgnment Test 1 + 2	20.0	3.00
Exam	FINAL EXAM	MCQ 2 HRS	80.0	2.00

Aims

To illustrate to the student the practical and theoretical concepts of microbiology applicable to the pharmaceutical sciences.

To demonstrate those microorganisms which are significant with respect to spoilage of pharmaceuticals.

To distinguish those bacteria, fungi and viruses which are medically important.

To inculcate, in the student the ability to gather, evaluate and communicate scientific information

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the basic structure, characterisation and pathogenicity of microorganisms (bacteria, fungi and viruses).
- 2 Demonstrate basic microbial techniques including Gram staining and microscopy.
- 3 Understand influence of environmental factors on bacterial growth and calculate bacterial enumeration.

Learning Outcomes of Assessments

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

CW	2	
EXAM	1	3

Outline Syllabus

Classification of microorganisms (bacteria, fungi, yeasts and viruses).

Morphology and staining of pharmaceutically important bacteria, fungi (yeasts and dermatophytes and dimorphic species).

Nature of cell walls, capsules, flagella etc.

Nutrition and metabolism of bacteria related to methods and techniques of isolation, cultivation and identification.

Complex and chemically-defined media. Their typical composition and uses. Media suitable for the growth of anaerobic bacteria, yeasts and moulds. Cultivation methods for anaerobic bacteria.

Bacterial growth and growth kinetics.

Bacterial endospores and heat resistance. Sporulation and germination.

Enumeration of bacteria.

Mycology.

Viruses.

Medical importance of selected microorganisms.

Learning Activities

Lectures, labs and tutorials designed to facilitate students to meet module aims and

objectives.

References

Course Material	Book
Author	SP. Denyer , N. A. Hodges, S P. Gorman
Publishing Year	2004
Title	Hugo and Russell's Pharmaceutical Microbiology
Subtitle	
Edition	7th
Publisher	Wiley Publications
ISBN	9780632064670

Course Material	Book
Author	Prescott, L.M., Hartley, J.P. and Klein, D
Publishing Year	2007
Title	Microbiology
Subtitle	
Edition	7th
Publisher	McGraw Hill
ISBN	9780072992915

Course Material	Book
Author	BROCK, T. D.
Publishing Year	2008
Title	BROCK BIOLOGY OF MICROORGANISMS
Subtitle	
Edition	12th
Publisher	PRENTICE-HALL
ISBN	9780132324601

Notes

This module will introduce the student to basic microbiology essential for applications in the pharmaceutical sciences.