

## Liverpool John Moores University

Title: MICROBIAL TECHNOLOGY  
Status: Definitive  
Code: **6104BCBMOL** (122496)  
Version Start Date: 01-08-2021

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

| Team            | Leader |
|-----------------|--------|
| Glyn Hobbs      | Y      |
| Darren Sexton   |        |
| Katie Evans     |        |
| George Sharples |        |

**Academic Level:** FHEQ6      **Credit Value:** 20      **Total Delivered Hours:** 58  
**Total Learning Hours:** 200      **Private Study:** 142

### Delivery Options

Course typically offered: Semester 2

| Component | Contact Hours |
|-----------|---------------|
| Lecture   | 25            |
| Practical | 20            |
| Workshop  | 10            |

**Grading Basis:** 40 %

### Assessment Details

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|----------|-------------------|-------------|---------------|---------------|
| Exam     | ASS1              | Exam        | 60            | 3             |
| Report   | ASS2              | Full Report | 40            |               |

### Aims

*To provide an understanding of the microbial principles that underpin advanced microbiological technology*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an ability to analyse complex data sets from a range of bioinformatics sources.
- 2 Design a microbial process to produce a desired product
- 3 Exhibit a clear understanding of the mechanisms and associated molecular entities that confer antibiotic resistance in pathogenic bacteria.

## Learning Outcomes of Assessments

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

|             |   |   |
|-------------|---|---|
| Exam        | 2 | 3 |
| Full report | 1 |   |

## Outline Syllabus

*Antibiotic production, new generation sequencing, bioremediation, antibiotic/antiviral resistance and surveillance, rapid methods, recombinant products, imaging techniques, flow cytometry, current microbial processes, phage therapy.*

## Learning Activities

Delivery of theoretical information will be via lectures but these will be supported with workshops particularly in the area of bioinformatics. Practical sessions will be used to provide skills in advanced microbial culture (fermentation), population analysis (flow cytometry) and fluorescent microscopy.

## Notes

This course will build upon core knowledge from levels 4 and 5 in microbiology. It will provide training and assessment in areas including bioinformatics, new generation sequencing and its applications, antibiotic production, imaging technology, antibiotic resistance, phage therapy and will include the application of microbial processes to bioremediation and also product formation.