Liverpool John Moores University

Title:	RESEARCH METHODS
Status:	Definitive
Code:	**7000BTBMOL** (101525)
Version Start Date:	01-08-2012
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Pharmacy & Biomolecular Sciences

Team	Leader
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Academic Level:	FHEQ7	**Credit Value:**	10.00	**Total Delivered Hours:**	20.00
Total Learning Hours:	100	**Private Study:**	80		

Delivery Options
Course typically offered: Non Standard Year Long

Component	Contact Hours
Lecture	2.000
Practical	4.000
Tutorial	6.000
Workshop	8.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	Library Exercise	10.0	
Portfolio	AS2	Health & Safety	10.0	
Portfolio	AS3	Statistical/Data Analysis	10.0	
Portfolio	AS4	Preparation of poster/paper	20.0	
Portfolio	AS5	Experimental design	25.0	

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS6	Bioinformatic Exercise	25.0	

Aims

To support the student in developing the practical and academic skills required to undertake research within the area of Biotechnology.

Learning Outcomes

After completing the module the student should be able to:

1 consider research design and the thesis process.
2 find and evaluate scientific literature relevant to any research project.
3 analyse data derived from experimental findings.
4 evaluate the health and safety risks and complete the necessary documentation for any laboratory based activity.
5 apply their theoretical knowledge to select and use the tools for bioinformatic analysis.

Learning Outcomes of Assessments

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

Library	2
Health and safety	4
Stats	3
Poster and Paper	2
Experimental design	1
Bioinformatics	5

Outline Syllabus

The research process and a critical review of the steps involved.
Using a range of information links to support and influence research design/publication.
Quantitative and qualitative methodology.
Methods for communicating information to the scientific community.
Theory and practical skills essential for bioinformatic analysis.

Learning Activities

Lecture, workshops, tutorials,Practicals,seminars.

References

Course Material	Journal / Article
Author	Verran, J.
Publishing Year	1993
Title	Poster design by Microbiology students.
Subtitle	
Edition	
Publisher	Journal of Biological Education 27 (4) 291-294
ISBN	

Course Material	Book
Author	Lesk, A.M.
Publishing Year	2008
Title	Introduction to Bioinformatics
Subtitle	
Edition	
Publisher	Oxford University Press
ISBN	9780199208043

Course Material	Book
Author	Benyon, R.J
Publishing Year	1993
Title	Postgraduate study in the biological sciences
Subtitle	A researcher's companion
Edition	
Publisher	Portland Press
ISBN	1 855780097

Course Material	Book
Author	Day, R.A. and Gastel, B.
Publishing Year	2006
Title	How to write and publish a scientific paper
Subtitle	
Edition	
Publisher	Cambridge
ISBN	9780521671675

Notes

This module will give students the opportunity to learn research methods relevant to Biotechnology. The development and further improvement of oral and written

presentation skills is also an important aim of this module.