Liverpool John Moores University

Title:	RESEARCH SKILLS AND EMPLOYABILITY
Status:	Definitive
Code:	**5201NATSCI** (122060)
Version Start Date:	01-08-2021
Owning School/Faculty:	Biological and Environmental Sciences
Teaching School/Faculty:	Biological and Environmental Sciences

Team	Leader
Will Swaney	Y
Susanne Zajitschek	
Jon Bielby	
Ross Macleod	
Julia Nowack	
Torsten Wronski	
Craig Wilding	
Robbie Rae	
Lucia Galvez Bravo	
Carlo Meloro	
Sarah Dalrymple	
Emily Bethell	
Richard Brown	
Nicola Koyama	

Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	53
Total Learning Hours:	200	**Private Study:**	147		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	10
Online	16
Tutorial	5
Workshop	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Test	OnlineTest	PC-based work	50	
Portfolio	Portfolio	Critical writing	50	

Aims

To increase understanding of the statistical analysis of data and the use of up to date statistical software and tools.
To have a clear understanding of graduate jobs opportunities and be able to prepare a career plan.

Learning Outcomes

After completing the module the student should be able to:

1 Select an appropriate study design for a given scientific study
2 Choose appropriate methods to statistically analyse data
3 Interpret analysis produced by a computer-based statistical package
4 Apply the practices of reflection, analysis and review in relation to career management and personal development and identify and explore a range of suitable careers open to them following the completion of their degree
5 Demonstrate and develop knowledge and understanding about an organisation/sector being considered as an employment option.
6 Demonstrate an understanding of the skills, attributes and experiences required for a career in the scientific sector or an alternative graduate role/sector

Learning Outcomes of Assessments

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

Stats Workshop	1	2	3
Employability Portfolio	4	5	6

Outline Syllabus

Principles of experimental design; Data analysis: Practical aspects of data analysis; transformation of data to meet assumptions. One and two way analysis of variance and associated post-hoc tests e.g. Tukey test. Non-parametric equivalents of ANOVA, e.g. Kruskal Wallis. Testing for associations using correlations. Modelling Linear relationships using regression.
Employability and professional skills for science graduates, including career planning, CV preparation, job applications, project management and enterprise skills. Self-reflection on professional motivations and aspirations. Researching job sectors and organisations, job requirements and career progression including management roles. Mapping skills, knowledge and experience onto career plans and identifying areas for improvement/development, including specific post-graduate study/training

courses as appropriate.

Learning Activities

The module is delivered through lectures, online lectures, workshops, tutorials and directed study. The statistical lectures and workshops extend knowledge of research design and statistical techniques suitable for the analysis of data from field and laboratory practicals and projects using up to date statistical software and tools. Preparation of a career plan involves researching possible career paths and engaging in self-reflection, alongside lectures delivered by the LJMU careers team. A strong emphasis is put on self-directed study and the development of graduate skills for employability.

Notes

This module covers all aspects of handling and analysing scientific data and the development of employability/graduate skills.
It considers the fundamentals of analysing and interpreting scientific data using examples relevant to all biosciences. Additionally, it will allow student to prepare a better career plan in science as well as become self-aware of employability skills.