MPPLS002 **2021/22**

NCUK
THE UNIVERSITY CONSORTIUM

LIFE SCIENCES

MASTER'S PREPARATION (MP)

SYLLABUS OVERVIEW

Module Code	MPLS003
Module Name	Life Sciences
Programme Name	Master's Preparation Programme
Delivery period	⇒ Master's Preparation Enhanced: three 10-week terms. ⇒ Master's Preparation: two, 10-week terms.
Recommended minimum teaching hours	⇒ Master's Preparation Enhanced: 108 hours over three terms. ⇒ Master's Preparation: 54 hours over two terms.
Recommended minimum independent study hours	Between 54-108 hours dependant on programme entry.

AIMS

The Life Sciences syllabus aims to develop the critical, analytical and communication skills necessary to study life sciences at postgraduate level in a Western higher education institute. It also seeks to allow students to gain more experience and knowledge of the life sciences by using different methods of learning and assessment for postgraduate study, improve written and oral communication skills needed for further study of life sciences and allow students to critically evaluate published literature and data to support independent research.

TOPICS OF STUDY

- ⇒ Philosophy of Science
- ⇒ The Role of the Research Scientist
- ⇒ Experimental Design, Data Collection and Interpretation
- ⇒ Reporting Scientific Information.
- ⇒ Independent Learning and Communication.
- ⇒ Pathogenesis and Microbial Infection
- ⇒ The Importance of the Pharmaceutical Companies/Industry
- ⇒ Common Diseases and their Impact on Global Issues
- ⇒ Health and the Environment
- ⇒ Lifestyle and Health
- ⇒ Genetically Modified Organisms: The Arguments For and Against
- ⇒ Biotechnology
- ⇒ Ethics
- ⇒ Evolution of Life
- ⇒ Pollution and Disease
- ⇒ The biology of Climate Change

ASSESSMENT

The assessment for the module is formative and is comprised of both coursework and examination. The Life Sciences lecturer will set all assessments.

PREPARATORY TERM

Individual Essay	**Duration/Word Count**	1,500 words
	Total Marks	100
	Rubric	An essay looking at one aspect of the content from the preparatory term.
	Contribution to Overall Grade	35%

Group Presentation and Report	**Duration/Word Count**	15-minute presentation / 1,000-word report
	Total Marks	100
	Rubric	Groups of 2-4 students should work together to: ⇒ Critically evaluate a life sciences journal article. ⇒ Deliver a presentation of the major findings from the critical evaluation. ⇒ Submit a written report of 1,000 words (+/- 10%).
	Contribution to Overall Grade	30% (*15% Group Presentation / 15% Report)*

Examination	**Duration/Word Count**	N/A
	Total Marks	100
	Rubric	This should consist of one or two questions based on the syllabus content.
	Contribution to Overall Grade	35%

CORE TERM

Literature Review	**Duration/Word Count**	N/A
	Total Marks	100
	Rubric	Each student should be given a topic in the life sciences and will research information relating to the topic using a number of different primary source materials, such as journal articles. Each student will then write an individual literature review of the topic, taking in the major findings of their research.
	Contribution to Overall Grade	50%

Analysis and Presentation	**Duration/Word Count**	10 minutes
	Total Marks	100
	Rubric	Students will be given a magazine or newspaper article and be asked to pick out and comment on the major points of the article. Students should prepare a 10-minute presentation to the student group.
	Contribution to Overall Grade	20%

Examination	**Duration/Word Count**	N/A
	Total Marks	100
	Rubric	Students should answer one question from a choice of two or three. Questions should enable students to discuss a topic.
	Contribution to Overall Grade	30%

LEARNING OUTCOMES

Preparatory Term

On successful completion of this term, a student will be able to:

LO1	Demonstrate the basic skills required to study life sciences at Master's level in a Western higher education environment.
LO2	Demonstrate knowledge of current issues related to the life sciences.
LO3	Explain the importance of pure and applied research in the life sciences.
LO4	Explain the role of research and dissemination of information in the life sciences through publications, public lectures and other forms of media.
LO5	Demonstrate the importance of critical thinking in the life sciences to enable the application of theories and practices to the subject.
LO6	Demonstrate the principles and importance of experimental design and the analysis and interpretation of results in the life sciences and know when results and conclusions are valid.
LO7	Describe the principles and importance of peer review and of communicating and publishing scientific data.

Core Term

On successful completion of this term, a student will be able to:

LO1	Explain the key concepts and theories relating to major topics in the life sciences, such as microbial infection and vaccination.
LO2	Evaluate the importance of emerging diseases and their impact.
LO3	Discuss the major mortality and morbidity-causing diseases worldwide.
LO4	Analyse and evaluate the important connections between lifestyle and health.
LO5	Discuss the role of molecular technology (including DNA recombinant techniques) in the modern life sciences.
LO6	Explain some of the ethical issues in the life sciences.