

Liverpool John Moores University

Title: DIVERSITY AND EVOLUTION OF LIFE
Status: Definitive
Code: **5204NATSCI** (122064)
Version Start Date: 01-08-2021

Owning School/Faculty: Biological and Environmental Sciences
Teaching School/Faculty: Biological and Environmental Sciences

Team	Leader
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Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 58

Total Learning Hours: 200 **Private Study:** 142

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	30
Practical	20
Workshop	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Practical	Practical Write-Up	50	
Exam	Exam	Exam	50	2

Aims

To provide an introduction to the diversity of life on Earth. To explain origin and evolution of major taxonomic groups including prokaryotes and eukaryotes. To explain key evolutionary events such as transition from anaerobic to aerobic life, symbiosis and evolution of the eukaryotic cell, origin of multicellularity, colonization of land and air.

Learning Outcomes

After completing the module the student should be able to:

- 1 Give an account of the main biological characteristics and features of the major taxonomic groups.
- 2 Evaluate the phenotypic and molecular techniques by which living organisms are identified and species relationships determined.
- 3 Discuss key events in the evolution of life.

Learning Outcomes of Assessments

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

Practical Write-Up	1	2	
Exam essay style questions	1	2	3

Outline Syllabus

Key evolutionary events including, a comparison of prokaryotic and eukaryotic organisms, the transition of anaerobic to aerobic life, evolution of multicellularity, symbiosis and endosymbiosis and the colonisation of the land and air by all major taxonomic groups. Principals of taxonomy and systematics adaptations and characteristic features of the major groups. Speciation, micro and macro evolution and the evolution of genomes. The applications of classical and molecular phylogenetics in modern taxonomical classification.

Learning Activities

The module will be delivered through a combination of lectures, practicals and workshops.

Notes

Rules of nomenclature and principles of taxonomy and systematics. Phenotypic and molecular phylogenetic relationships and biology of the major groups. Evolution of structures and features. Key evolutionary events such as transition from anaerobic to aerobic life, symbiosis and evolution of the eukaryotic cell, evolution of multicellularity, colonization of land and air.

