PRIFYSGOL glyndŵr UNIVERSITY

MODULE SPECIFICATION FORM

Module Title: Introduction to Biosciences	Level: 3	Credit Value: 20

Module code: LND301	Cost Centre: GAHT	JACS2 code: C100

Trimester(s) in which to be offered: 1	With effect from: September 2013

Office use only: To be completed by AQSU:	Date approved: August 2013 Date revised: - Version No: 1

Existing/New: New	Title of module being replaced (if any): N/A

Originating Department: Biology and Environment	Module Leader: D.Skydmore

Module duration (total hours): Scheduled learning & teaching hours Independent study hours	**200** 70 130	Status: core/option/elective (identify programme where appropriate):	Core

Programme(s) in which to be offered: BSc (Hons) Wildlife and Plant Biology (including Foundation Year) BSc (Hons) Equine Science and Welfare Management (including Foundation Year) FdSc Animal Studies (including Foundation Year)	Pre-requisites per programme (between levels): None

Module Aims:

1. To attain the basic knowledge in biological sciences of plant and animal structures and their functions.
2. To appreciate the fundamental biochemical processes in cells.
3. To be able to apply the principles of whole organism biology, cell biology and genetics to understanding the functioning of living organisms.

Intended Learning Outcomes

At the end of this module, students should be able to:

Knowledge and Understanding:

1. Describe the basic characteristics and anatomy of organisms and cells
2. Explain the mechanisms and role of principal metabolic processes
3. Explain and illustrate basic concepts of genetic as a basis for further study .

Transferable/Key Skills and other attributes:

1. Writing skills
2. Design analysis, and synthesis of scientific literature.

Assessment: please indicate the type(s) of assessment (eg examination, oral, coursework, project) and the weighting of each.

Assessment One: is by means of an in-course test covering outcomes 1, 2 and 3. The test is an unseen time-constrained one with a fixed number of questions.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting	Duration (if exam)	Word count (or equivalent if appropriate)
One	1,2,3	In-Class Test	100%	1.5hrs	

Learning and Teaching Strategies:

The module will be presented to students through a series of lectures and learning reinforced through module tutor guided and self-directed study.

Formative assessment involves tutorial questions and summative assessment is by an in-course test.

Syllabus outline:

Organisms
- Cell structure
- Basic organ function in vertebrates
- Introduction to plant structures

Biochemicals
- Proteins
- Enzymes
- Carbohydrates
- DNA, RNA – self-replicating molecules
- Transcription, translation, protein synthesis

Metabolic processes
- Respiration
- Photosynthesis
- Trans-membrane transport
- Digestion
- Disease
- Nutrition in plants and animals
- Hormonal regulation in plants and animals
- Limiting factors

Genetics
- Cell division
- Introduction to Mendelian genetics

Bibliography

Essential reading:

Clegg, C.J & MacKean, D.G. (2000) *Advanced Biology: Principles and Application.* Hodder Murray

Recommended reading:

Adds, J., Larkhom E., Miller, R. & Furness-Smith, M. (2004) *Genetics, Evolution and Biodiversity.* Nelson Thornes
Darwin, C. (1859) *On the origin of species*
Larkcom, E. Adds, J. & Miller, R. (2003) *Molecules and Cells*. Nelson Thornes Ltd