Liverpool John Moores University

Title:	KEY CONCEPTS IN SCIENCE
Status:	Definitive
Code:	**4002PSSC** (104411)
Version Start Date:	01-08-2016
Owning School/Faculty:	Education
Teaching School/Faculty:	Education

Team	Leader
Sean Doyle	Y

Academic Level:	FHEQ4	**Credit Value:**	36	**Total Delivered Hours:**	93
Total Learning Hours:	360	**Private Study:**	267		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	20
Off Site	15
Practical	30
Seminar	12
Tutorial	1
Workshop	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Exam	30	3
Report	AS2	Practical log book (2700 words equivalent)	30	
Report	AS3	Directed tasks associated with the content of the module (3200 words equivalent)	40	

Aims

This module will introduce fundamental principles of science relating to the living organism, the structure of matter and energy transfers and transformations.

Learning Outcomes

After completing the module the student should be able to:

1	Discuss, describe and explain basic principles of biology relating to living organisms cell structure and function, adaptation and the environment
2	Evaluate different models of the atom and use these to explain chemical structure, behaviour and properties of elements and their major compounds
3	Describe and apply the principles of thermodynamics equilibrium law, in predicting chemical behaviour and its relationship with kinetic effects
4	Explain how energy is converted from one form to another using examples of different forms of energy, describe various devices which convert energy and explain how they work
5	Apply Newton's laws of motion in explaining and predicting the effect of forces on objects
6	Demonstrate awareness of issues relating to the application of scientific principles in solving problems

Learning Outcomes of Assessments

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

EXAM	1	2	3	4	5	
Log Book	1	2	3	4	5	6
Directed Tasks	1	2	3	4	5	6

Outline Syllabus

Cell and organism theory
A generalised classification of the living organisms
The problems associated with the evolution of increased size and of life on land
Discussion of the similarities between e.g. digestive, respiratory and transport systems in animals and exchange and transport systems in plants in terms of the requirement for large surface areas in such

Learning Activities

Lectures, workshops, laboratory practicals and independent study

Notes

The module supports learning about elements of Science National Curriculum and

an audit of knowledge and understanding of this content will be maintained during the module.