

## Liverpool John Moores University

Title: CPD PLANETARY GEOLOGY  
Status: Definitive  
Code: **4010ASTRON** (101072)  
Version Start Date: 01-08-2011

Owning School/Faculty: Astrophysics Research Institute  
Teaching School/Faculty: Astrophysics Research Institute

Team	Leader
Andrew Newsam	Y
Toby Moore	
David Hyder	

**Academic Level:** FHEQ4      **Credit Value:** 12.00      **Total Delivered Hours:** 94.00  
**Total Learning Hours:** 120      **Private Study:** 26

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Online	8.000
Practical	80.000
Tutorial	6.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Practical exercises. The exercises are varied, spread through the course and draw from the material covered to date. These will consist of 3 projects and one assessed essay.	70.0	
Test	AS2	Multiple Choice Test	30.0	

### Aims

*This module is a standalone distance learning course suitable for students from any background. As such it requires no specialist mathematical or scientific skills, but students would benefit from having first taken ASTAS1017, The Wider Universe. This is a multimedia course using interactive CD-ROM and video material, and looks at our current understanding of planetary surfaces and interiors. Emphasis is placed on the types of observational and theoretical techniques used in determining the properties in modern astronomy.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Describe in broad terms the way our knowledge of the geology of the worlds in our Solar System has developed from pre-history to the present day.
- 2 Be confident with astronomical computing and the use of an internet browser.
- 3 Describe in broad terms our understanding of the range of geological processes found in our solar system.
- 4 Discuss how geological processes on other worlds can be both similar and different to those on Earth, and the reasons for this.

## **Learning Outcomes of Assessments**

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

Report	2	3	4	
Test	1	2	3	4

## **Outline Syllabus**

- (1) History of planetary geology*
- (2) Discovery of the properties of planets and moons in our solar system*
- (3) Star and planet formation*
- (4) Geology of terrestrial planets: Volcanism, mantle circulation, sources of volatiles, surface evolution, cryospheric evolution, climate changes, erosional processes and structures.*
- (5) Geology of the moons of the Jovian planets: Volcanism, mantle circulation, sources of volatiles, surface evolution, erosional processes and structures, fluid interior motions.*

## **Learning Activities**

CD-ROM notes, multiple choice questions and exercises, web resources and email interaction with tutors.

## **References**

<b>Course Material</b>	Book
<b>Author</b>	Kaufmann & Freedman
<b>Publishing Year</b>	2004
<b>Title</b>	Universe
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	W.H. Freeman
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Magazines such as
<b>Publishing Year</b>	0
<b>Title</b>	Astronomy Now, Astronomy, Sky & Telescope
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Patrick Moore
<b>Publishing Year</b>	0
<b>Title</b>	The Sky at Night
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	BBC Television
<b>ISBN</b>	

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## Notes

This module will give students a detailed understanding of all aspects of this complex and rapidly evolving field.