

## Liverpool John Moores University

Title: THE UNIVERSE THROUGH A LARGE TELESCOPE  
Status: Definitive  
Code: **4002ASTRON** (101060)  
Version Start Date: 01-08-2011

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

Team	Leader
Andrew Newsam	Y
Philip James	
David Hyder	

**Academic Level:** FHEQ4      **Credit Value:** 24.00      **Total Delivered Hours:** 240.00  
**Total Learning Hours:** 240      **Private Study:** 0

### Delivery Options

Course typically offered: Summer

Component	Contact Hours
Online	56.000
Practical	160.000
Seminar	12.000
Tutorial	12.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	AS1	Four computer practicals using internet databases	100.0	

### 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 ASTAS1037, Exploring the Universe or ASTAS1022, The Universe Through A Small Telescope. This is a multimedia*

*course using interactive CD-ROM and video material, and looks at our current understanding of the contents, structure, formation and evolution of the universe, from the Big Bang up to the present day. Emphasis is placed on the types of observational techniques used in determining the properties in modern astronomy.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Utilise the archives of large telescope scientific data.
- 2 Analyse and filter the archived data for use in answering a specific scientific question.
- 3 Write up an accurate and detailed report of a scientific investigation.

## **Learning Outcomes of Assessments**

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

CW	1	2	3
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## **Outline Syllabus**

1. *Radiation.*
2. *Telescopes.*
3. *Radio Astronomy.*
4. *Detectors.*
5. *Spectroscopy.*
6. *Spectroscopic Method.*
7. *Advanced Spectroscopy*
8. *Interferometry.*
9. *Adaptive Optics.*

## **Learning Activities**

CD-ROM notes, accessing the archives, web resources, practical exercises and

associated research including email interaction with tutors.

## **References**

## **Notes**

This module will give students a detailed understanding of this complex and rapidly evolving area of astronomy.