

Liverpool John Moores University

Title: MATTER AND WAVES
Status: Definitive
Code: **3001BELEN** (101127)
Version Start Date: 01-08-2011

Owning School/Faculty: Arts, Professional and Social Studies
Teaching School/Faculty: Bellerby's College - Brighton

Team	Leader
Jarmila Hickman	Y

Academic Level: FHEQ3
Credit Value: 12.00
Total Delivered Hours: 68.50
Total Learning Hours: 120
Private Study: 51

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	55.000
Practical	11.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Coursework: Practical tasks and assessments	25.0	
Exam	AS2	Module Examination	75.0	2.50

Aims

To prepare students for Engineering degree courses with a basic knowledge of atomic physics, materials, heat and gases and oscillations and waves.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the main ideas and methods of the physics involved and apply these to solve problems.
- 2 Describe phenomena in terms of geometrical, pictorial and mathematical models.
- 3 Demonstrate an appreciation of the theoretical structure of the subject by applying this to the techniques of experimental physics.
- 4 Explain how the physics involved may be used in everyday life to solve practical problems.
- 5 Use data in a consistent set of units.

Learning Outcomes of Assessments

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

report	3	5		
EXAM	1	2	4	5

Outline Syllabus

1. *Waves, including properties, sound, reflection and refraction, electromagnetic waves and photo-electric effect.*
2. *Matter, looking at materials, heat and gases and the structure of the atom.*

Learning Activities

Tutor-led lessons to small classes, practical tasks and assessments, regular formative assignments, class tests and terminal module examination.

References

Course Material	Book
Author	Adams and Allday
Publishing Year	2000
Title	Advanced Physics
Subtitle	
Edition	
Publisher	OUP Oxford
ISBN	9780199146802

Course Material	Book
Author	Akrill, Bennet and Millar
Publishing Year	2000
Title	Practice in Physics
Subtitle	
Edition	3rd Edition

Publisher	Hodder Murray
ISBN	9780340758137

Course Material	Book
Author	Nelkon and Parker
Publishing Year	1995
Title	A Level Physics
Subtitle	
Edition	
Publisher	Heinemann
ISBN	9780435923037

Notes

Module aims to prepare students for Engineering course at university. It provides basic knowledge in key areas and theoretical materials and an opportunity to test these in laboratory based practical tasks, while developing essential practical skills.