

Summary Information

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|----------------------------|---------------------------------|
| Module Code | 3511USST |
| Formal Module Title | Introductory Foundation Physics |
| Owning School | Engineering |
| Career | Undergraduate |
| Credits | 20 |
| Academic level | FHEQ Level 3 |
| Grading Schema | 40 |

Module Contacts

Module Leader

| Contact Name | Applies to all offerings | Offerings |
|-----------------|--------------------------|-----------|
| Dante Matellini | Yes | N/A |

Module Team Member

| Contact Name | Applies to all offerings | Offerings |
|--------------|--------------------------|-----------|
|--------------|--------------------------|-----------|

Partner Module Team

| Contact Name | Applies to all offerings | Offerings |
|--------------|--------------------------|-----------|
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Teaching Responsibility

| LJMU Schools involved in Delivery |
|-----------------------------------|
| LJMU Partner Taught |

Partner Teaching Institution

| Institution Name |
|---|
| University of Shanghai For Science and Technology |

Learning Methods

| Learning Method Type | Hours |
|----------------------|-------|
| Lecture | 33 |
| Tutorial | 22 |

Module Offering(s)

| Offering Code | Location | Start Month | Duration |
|---------------|----------|-------------|----------|
| SEP-PAR | PAR | September | 12 Weeks |

Aims and Outcomes

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|-------------|--|
| Aims | The aim of this module is to provide students who may not have studied A-level physics with the prerequisite basic knowledge of electricity, mechanics, materials and waves which is required to go on to study for an engineering or technology degree. |
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Learning Outcomes

After completing the module the student should be able to:

| Code | Description |
|------|--|
| MLO1 | Describe the structure of an atom and explain how that relates to electrical and mechanical properties. |
| MLO2 | Explain the behaviour of simple resistive circuits and apply the equations which characterise them. |
| MLO3 | Apply knowledge of force and motion to analyse the behaviour of simple mechanical systems. |
| MLO4 | Demonstrate an understanding of the thermal properties of a simple system. |
| MLO5 | Describe the general properties of longitudinal and transverse waves in different media, and apply the governing equations to simple applications. |

Module Content

Outline Syllabus

Units, measurement and analysis
Scalars and vectors
Atomic structure
Materials
Kinematics
Force
Friction
Energy
Energy conservation
Temperature, material expansion, mechanical equivalent of heat
Calorimetry, phase, heat transfer
Simple Harmonic Motion
Waves and interference
Circular motion
Electric charge, current and potential difference, energy, ohms law, power
Kirchhoff's Laws, resistor circuits, impedance matching, power transfer
Conductors, Insulators and Semiconductors, structure, characteristics and devices

Module Overview

Additional Information

This module looks at the fundamentals of Physics, using the maths developed during the Foundation Mathematics modules.

Assessments

| Assignment Category | Assessment Name | Weight | Exam/Test Length (hours) | Learning Outcome Mapping |
|---------------------|-----------------|--------|--------------------------|------------------------------|
| Test | On-line tests | 50 | 0 | MLO1, MLO2, MLO3, MLO4, MLO5 |
| Exam | Exam | 50 | 2 | MLO1, MLO2, MLO3, MLO4, MLO5 |