

Summary Information

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| Module Code | 3101CIT |
| Formal Module Title | Engineering and Technology Practice |
| Owning School | Engineering |
| Career | Undergraduate |
| Credits | 20 |
| Academic level | FHEQ Level 3 |
| Grading Schema | 40 |

Teaching Responsibility

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

Partner Teaching Institution

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| Institution Name |
| Changshu Institute of Technology |

Learning Methods

| Learning Method Type | Hours |
|----------------------|-------|
| Lecture | 8 |
| Practical | 24 |

Module Offering(s)

| Display Name | Location | Start Month | Duration Number Duration Unit |
|--------------|----------|-------------|-------------------------------|
| SEP-PAR | PAR | September | 28 Weeks |

Aims and Outcomes

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| Aims | This module aims to develop the practical skills of students by applying what they learn in their mathematics and physics modules. It will provide an experience of experimental planning, execution and report writing, as well as activities aimed at developing problem solving skills. It also embeds the study skills which are required for students to become effective and independent learners. |
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After completing the module the student should be able to:

Learning Outcomes

| Code | Number | Description |
|------|--------|------------------------------------------------------------------------------------------------------------|
| MLO1 | 1 | Identify common electronic products and electronic circuits. |
| MLO2 | 2 | Know how to do circuit simulation design. |
| MLO3 | 3 | Perform circuit building and complete test verification. |
| MLO4 | 4 | Describe the task objectives, design ideas, implementation process and results, and summarize and explain. |

Module Content

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| Outline Syllabus | 1. Delay LED lamp • Preliminary identification, differentiation and use of electronic components; • Basic operating methods of experimental instruments; • The first order RC circuit used in the delay circuit operator; • Design a Delay LED lamp by the first order RC circuit and LED driving circuit; 2. Multivibrator • Triode ON-OFF control function; • The basic principle of Multivibrator; • Design a flashing lamp circuit by Triode; 3. 555 timer • The basic principle of 555 timer; • Design a flashing lamp circuit by 555 timer 4. Touch LED lamp • Design a touch LED lamp circuit by Triode; • Design a touch LED lamp circuit by 555 timer 5. Light control LED lamp • Photo-resistor characteristics and principles • Design a light control LED lamp 6. Human induction LED lamp • The basic principle of ultrasonic distance measurement • The basic principle of infrared sensor distance measurement • Design a human induction LED lamp |
| Module Overview | |
| Additional Information | Teaching should reflect the teaching and practice of the cross, to help students step by step to master the skills. Teaching arrangements should be unified theory and experimental courses. Four contact Hours for a teaching activity is appropriate. Reports are 2000 words maximum word count. |

Assessments

| Assignment Category | Assessment Name | Weight | Exam/Test Length (hours) | Module Learning Outcome Mapping |
|---------------------|-----------------|--------|--------------------------|---------------------------------|
| Portfolio | Practical | 100 | 0 | MLO1, MLO2, MLO3, MLO4 |

Module Contacts

Module Leader

| Contact Name | Applies to all offerings | Offerings |
|-----------------|--------------------------|-----------|
| Clifford Mayhew | Yes | N/A |

Partner Module Team

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