

Module Specifications

Year/Level: 4  
Programme: Mechanical & Mechatronics

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| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Engineering Mathematics                        | Module Code: | 4FTC2025 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to further knowledge and understanding of the fundamental mathematical techniques required for engineering applications, understand how to solve different types of differential equations and some of their applications in engineering problems, understanding the concept of eigenvalues and related linear algebra concepts, and develop the mathematical concepts required to support other modules in the engineering programmes. |                                                |              |          |           |    |
| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Introduction to Design                         | Module Code: | 4FTC2026 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to acquire skills in using and applying a CAD system; produce and interpret engineering drawings in accordance with recognized standards, conventions and accepted practices; understand and apply the process of design to engineering problems.                                                                                                                                                                                       |                                                |              |          |           |    |
| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Digital Electronics                            | Module Code: | 4FTC2027 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to... This module provides a sound knowledge of the principles, design, implementation and use of digital electronic circuits and devices.                                                                                                                                                                                                                                                                                              |                                                |              |          |           |    |
| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Introduction to Electronic Systems             | Module Code: | 4FTC2028 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to... acquire an introductory understanding of the scientific principles underpinning electrical and electronic systems; acquire an introductory understanding of electrical and electronic circuits and components; gain an insight into selected software based circuit simulation tools.                                                                                                                                             |                                                |              |          |           |    |
| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Computer Programming for Electronics Engineers | Module Code: | 4FTC2029 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to... gain an insight into stored program concepts and structured program design methodology.                                                                                                                                                                                                                                                                                                                                           |                                                |              |          |           |    |
| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Introduction to Manufacturing Technology       | Module Code: | 4FTC2030 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to... acquire basic engineering workshop practice in CNC, fabrication and machining ; be aware of the influence of production processes on product design and manufacture; understand and apply the engineering processes creating machined parts.                                                                                                                                                                                      |                                                |              |          |           |    |
| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Fluid Mechanics & Thermodynamics               | Module Code: | 4FTC2031 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to know the fundamental concepts and definitions in Fluid Mechanics and Thermodynamics and understand the application of the principles of Mechanics to Fluids.                                                                                                                                                                                                                                                                         |                                                |              |          |           |    |
| Module:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Mechanical Science                             | Module Code: | 4FTC2032 | Credits:  | 15 |
| Module Description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |              |          | Mandatory |    |
| The aims of this module are to enable students to... develop an understanding of the principles of mechanics and application of the basic principles of structural; analysis in determining the behaviour of simple structures and mechanisms; develop an understanding of fundamental principles of forces in equilibrium.                                                                                                                                                            |                                                |              |          |           |    |