

## Mathematics, Physics and Electrical Engineering Modules for 2025/2026

| Code                   | Module Name                                  | Semester/Year Long | Special Requirements | Credits | Subject                           |
|------------------------|----------------------------------------------|--------------------|----------------------|---------|-----------------------------------|
| <b>Level 5</b>         |                                              |                    |                      |         |                                   |
| <a href="#">KD5065</a> | Programming and digital systems              | Semester 1         |                      | 20      | Electrical Engineering            |
| <a href="#">KD5066</a> | Communication Systems                        | Semester 1         |                      | 20      | Electrical Engineering            |
| <a href="#">KC5002</a> | Advanced Engineering Mathematics             | Semester 1         |                      | 20      | Mathematics                       |
| <a href="#">KC5008</a> | Ordinary and Partial differential equations  | Semester 1         |                      | 20      | Mathematics                       |
| <a href="#">KL5004</a> | Complex Variables                            | Semester 1         |                      | 20      | Mathematics                       |
| <a href="#">KL5005</a> | Statistical modelling and Data Visualisation | Semester 1         |                      | 20      | Mathematics                       |
| <a href="#">KC5028</a> | Advanced Mathematics for Physics             | Semester 1         |                      | 20      | Physics/Physics with Astrophysics |
| <a href="#">KD5081</a> | Theory, Computation and Experiment           | Semester 1         |                      | 20      | Physics/Physics with Astrophysics |
| <a href="#">KD5083</a> | Semiconductor Physics                        | Semester 1         |                      | 20      | Physics/Physics with Astrophysics |
| <a href="#">KD5067</a> | Power, Machines and Renewable Energy         | Semester 2         |                      | 20      | Electrical Engineering            |
| <a href="#">KD5064</a> | Analog and Instrumentation                   | Semester 2         |                      | 20      | Electrical Engineering            |
| <a href="#">KD5080</a> | Electrical Product Development               | Semester 2         |                      | 20      | Electrical Engineering            |
| <a href="#">KC5000</a> | Further Computational Mathematics            | Semester 2         |                      | 20      | Mathematics                       |
| <a href="#">KC5001</a> | Applied Statistical Methods                  | Semester 2         |                      | 20      | Mathematics                       |
| <a href="#">KC5009</a> | Vector Calculus and further dynamics         | Semester 2         |                      | 20      | Mathematics                       |
| <a href="#">KC5029</a> | Space-time and Electromagnetism              | Semester 2         |                      | 20      | Physics/Physics with Astrophysics |
| <a href="#">KD5082</a> | Quantum Universe                             | Semester 2         |                      | 20      | Physics/Physics with Astrophysics |

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|------------------------|--------------------------------------------------|------------|--|----|----------------------------------------------------------|
| <a href="#">KD5084</a> | Thermal and Nuclear Energy                       | Semester 2 |  | 20 | Physics/Physics with Astrophysics                        |
| <b>Level 6</b>         |                                                  |            |  |    |                                                          |
| <a href="#">KD6026</a> | Digital Signal Processing                        | Semester 1 |  | 20 | Electrical Engineering                                   |
| <a href="#">KD6010</a> | Power systems                                    | Semester 1 |  | 20 | Electrical Engineering                                   |
| <a href="#">KD6027</a> | Embedded Systems                                 | Semester 1 |  | 20 | Electrical Engineering                                   |
| <a href="#">KD6029</a> | Wireless and RF systems Design                   | Semester 1 |  | 20 | Electrical Engineering                                   |
| KD6069                 | Smart Energy Systems                             | Semester 1 |  | 20 | Electrical Engineering                                   |
| <a href="#">KC6029</a> | Advanced statistical methods                     | Semester 1 |  | 20 | Mathematics                                              |
| <a href="#">KL6002</a> | Methods of Applied Maths                         | Semester 1 |  | 20 | Mathematics                                              |
| <a href="#">KE6030</a> | Geophysical Dynamics                             | Semester 1 |  | 20 | Mathematics                                              |
| <a href="#">KL6000</a> | Data Science                                     | Semester 1 |  | 20 | Mathematics                                              |
| <a href="#">KC6033</a> | Solar Physics                                    | Semester 1 |  | 20 | Physics/Physics with Astrophysics                        |
| <a href="#">KD6041</a> | Quantum Devices                                  | Semester 1 |  | 20 | Physics/Physics with Astrophysics                        |
| <a href="#">KD6042</a> | Advanced Photovoltaics                           | Semester 1 |  | 20 | Physics/Physics with Astrophysics                        |
| <a href="#">KD6025</a> | Design and Manufacture Analysis                  | Semester 2 |  | 20 | Electrical Engineering                                   |
| <a href="#">KD6028</a> | Digital System Design and Implementation         | Semester 2 |  | 20 | Electrical Engineering                                   |
| <a href="#">KD6030</a> | Optical Communication and System Design          | Semester 2 |  | 20 | Electrical Engineering                                   |
| KD6068                 | Satellite Systems and Space Environment          | Semester 2 |  | 20 | Electrical Engineering                                   |
| <a href="#">KD6031</a> | Instrumentation and Control of Dynamical Systems | Semester 2 |  | 20 | Electrical Engineering/Physics/Physics with Astrophysics |
| <a href="#">KL6068</a> | Satellite Systems and Space Environment          | Semester 2 |  | 20 | Electrical Engineering                                   |
| <a href="#">KC6001</a> | Financial Mathematics                            | Semester 2 |  | 20 | Mathematics                                              |

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|------------------------|-----------------------------------------|------------|--|----|-----------------------------------|
| <a href="#">KC6030</a> | Medical Statistics                      | Semester 2 |  | 20 | Mathematics                       |
| <a href="#">KC6027</a> | Fluid Dynamics                          | Semester 2 |  | 20 | Mathematics                       |
| <a href="#">KC6028</a> | Dynamical Systems                       | Semester 2 |  | 20 | Mathematics                       |
| <a href="#">KC6032</a> | Cosmology and Stellar Evolution         | Semester 2 |  | 20 | Physics/Physics with Astrophysics |
| <a href="#">KC6027</a> | Fluid Dynamics                          | Semester 2 |  | 20 | Physics/Physics with Astrophysics |
| <a href="#">KC6028</a> | Dynamical Systems                       | Semester 2 |  | 20 | Physics/Physics with Astrophysics |
| <a href="#">KD6030</a> | Optical Communication and System Design | Semester 2 |  | 20 | Physics/Physics with Astrophysics |
| <a href="#">KL6068</a> | Satellite Systems and Space Environment | Semester 2 |  | 20 | Physics/Physics with Astrophysics |