

## Mathematics, Physics and Electrical Engineering Modules for 2019/2020

| Subject                | Module Code | Module Name                              | Study Period | Level | UK Credits | ECTS | Previous knowledge/skills/background required for applicants?    | Other module details which applicants should be aware of:  |
|------------------------|-------------|--|--------------|-------|------------|------|--|--|
| Physics                | KD5083      | Semiconductor Physics                    | Semester 1   | 5     | 20         | 10   | Good maths background  |  |
| Physics                | KD5081      | Theory, Computation & experiment         | Semester 1   | 5     | 20         | 10   | Good maths background  | This is a reasonably practical module involving laboratory experiments (50%) and computational work (50%). |
| Physics                | KD5082      | Quantum Universe                         | Semester 2   | 5     | 20         | 10   | Mathematics to level of introductory calculus and linear algebra |  |
| Physics                | KD5084      | Thermal and Nuclear Energy               | Semester 2   | 5     | 20         | 10   | Mathematics to level of introductory calculus                    |  |
| Physics                | KD5083      | Semiconductor Physics                    | Semester 2   | 5     | 20         | 10   | Good maths background  |  |
| Mathematics            | KC5028      | Advances Maths for Physics               | Semester 1   | 5     | 20         | 10   | Introductory mathematics   |  |
| Mathematics            | KC5029      | Space-Time and Electromagnetism          | Semester 2   | 5     | 20         | 10   | Intermediate maths   |  |
| Electrical Engineering | KD5064      | Analogue Electronics and Instrumentation | Semester 1   | 5     | 20         | 10   | Some knowledge of Electrical Engineering - ideally               |  |

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|                        |        |  |            |   |    |    |   |  |
|------------------------|--------|--|------------|---|----|----|---|--|
|                        |        |  |            |   |    |    | completed one or more years of degree in Elec Eng. or allied subject  |  |
| Electrical Engineering | KD5066 | Communications Systems                     | Semester 1 | 5 | 20 | 10 | Some knowledge of Electrical Engineering - ideally completed one or more years of degree in Elec Eng. or allied subject |  |
| Electrical Engineering | KD6001 | Embedded Systems (level-6 BEng EDE top-up) | Semester 1 | 6 | 20 | 10 | Needs knowledge of Electrical Engineering from previous years   |  |
| Electrical Engineering | KD5065 | C programming and Digital Systems          | Semester 2 | 5 | 20 | 10 | Some knowledge of Electrical Engineering - ideally completed one or more years of degree in Elec Eng. or allied subject |  |

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|                        |        |  |            |   |    |    |   |
|------------------------|--------|--|------------|---|----|----|---|
| Electrical Engineering | KD5080 | Electrical Product Development         | Semester 2 | 5 | 20 | 10 | Some knowledge of Electrical Engineering - ideally completed one or more years of degree in Elec Eng. or allied subject |
| Electrical Engineering | KD5067 | Power Machines and Renewable Energy    | Semester 2 | 5 | 20 | 10 | Some knowledge of Electrical Engineering - ideally completed one or more years of degree in Elec Eng. or allied subject |
| Electrical Engineering | KD6002 | Electronic System Design               | Semester 2 | 6 | 20 | 10 | Needs knowledge of Electrical Engineering from previous years   |
| Electrical Engineering | KF6047 | Principles of Mobile Wireless Networks | Semester 2 | 6 | 20 | 10 | Needs knowledge of Electrical Engineering from previous years   |