



ales

of Electrical

Recommended Prerequisites in EE Program (3640)

BE in Electrical Engineering (3640) – New program structure from Year 2006 – Recommended EE Program

| Year 1 – Session 1 | | | | | |
|---------------------------|--|--|----------|-------|------------------|
| MATH1131 or MATH1141 | Mathematics 1A or Higher Mathematics 1A | | 6 hrs/wk | 6 uoc | Offered in S1/S2 |
| PHYS1131 | Higher Physics 1A | | 6 hrs/wk | 6 uoc | Offered in S1/S2 |
| COMP1911 or COMP1917 | Computing 1 or Higher Computing 1 | | 6 hrs/wk | 6 uoc | Offered in S1/S2 |
| ENGG1000 | Introduction to Engineering Design and Innovation | | 6 hrs/wk | 6 uoc | Offered in S1/S2 |

| Year 1 – Session 2 | | | | | |
|---------------------------|--|-------------------------------------|----------|-------|----------------------------|
| MATH1231 or MATH1241 | Mathematics 1B or Higher Mathematics 1B | Pre-requisite: MATH1131 or MATH1141 | 6 hrs/wk | 6 uoc | Offered in S2/Ssummer |
| PHYS1231 | Higher Physics 1B | Pre-requisite: PHYS1131 | 6 hrs/wk | 6 uoc | Offered in S2/Summer |
| COMP1921 or COMP1927 | Data Structures and Algorithms or Higher Data Structures & Algorithms | Pre-requisite: COMP1911 or COMP1917 | 6 hrs/wk | 6 uoc | Offered in S2/Summer |
| ELEC1112 | Electrical Circuits | | 6 hrs/wk | 6 uoc | Offered in S1/S2/Summer |

| Year 2 – Session 1 | | | | | |
|---------------------------|---------------------------|---|----------|-------|-------------------------|
| MATH2069 | Mathematics 2A | Pre-requisite: MATH1231 | 6 hrs/wk | 6 uoc | Offered in S1 |
| ELEC2141 | Digital Circuit Design | Pre-requisite: ELEC1111 | 6 hrs/wk | 6 uoc | Offered in S1 |
| ELEC2134 | Circuits and Signals | Pre-requisite: MATH1231 or MATH1241 Co-requisite: ELEC1111 | 6 hrs/wk | 6 uoc | Offered in S1/Summer |
| GENxxxxx | General Education courses | | | 6 uoc | |

| Year 2 – Session 2 | | | | | |
|---------------------------|-------------------------|--------------------------------------|----------|-------|---------------|
| MATH2099 | Mathematics 2B | Pre-requisite: MATH1231 | 6 hrs/wk | 6 uoc | Offered in S2 |
| ELEC2142 | Embedded Systems Design | Pre-requisite: ELEC2141 and COMP1921 | 6 hrs/wk | 6 uoc | Offered in S2 |

| | | | | | |
|----------|---------------------------|-------------------------|----------|-------|----------------------|
| ELEC2133 | Analogue Electronics | Pre-requisite: ELEC2134 | 6 hrs/wk | 6 uoc | Offered in S2/Summer |
| GENE1111 | General Education courses | | | 6 uoc | |

Year 3 – Session 1

| | | | | | |
|----------|--|--------------------------------------|----------|-------|----------------------|
| ELEC3115 | Electromagnetic Engineering | Pre-requisite: PHYS1231 and MATH2069 | 5 hrs/wk | 6 uoc | Offered in S1 |
| ELEC3106 | Electronics | Pre-requisite: ELEC2133 and ELEC2141 | 5 hrs/wk | 6 uoc | Offered in S1 |
| ELEC3104 | Digital Signal Processing | Pre-requisite: ELEC2134 | 5 hrs/wk | 6 uoc | Offered in S1/Summer |
| Elective | L3 Elective course (see the L3 list below) | | 5 hrs/wk | 6 uoc | |

Year 3 – Session 2

| | | | | | |
|----------|--|--------------------------------------|----------|-------|---------------|
| ELEC3105 | Electrical Energy | Pre-requisite: ELEC3115 and ELEC2134 | 5 hrs/wk | 6 uoc | Offered in S2 |
| ELEC3114 | Control Systems | Pre-requisite: ELEC2134 | 5 hrs/wk | 6 uoc | Offered in S2 |
| ELEC3117 | Electrical Engineering Design | Pre-requisite: ELEC2133 | 5 hrs/wk | 6 uoc | Offered in S2 |
| Elective | L3 Elective course (see the L3 list below) | | 5 hrs/wk | 6 uoc | |

L3 Elective courses list

| | | | | | |
|----------|--|-------------------------------------|----------|-------|-------------------|
| ELEC3145 | Real Time Instrumentation | Pre-requisite: COMP1911 & ELEC2134 | 5 hrs/wk | 6 uoc | Offered in S2 |
| ELEC2146 | Engineering Modelling and Simulation (subject to approval) | Pre-requisite: COMP1911 & ELEC2134 | | 6 uoc | Offered in S2 |
| ELEC3111 | Distributed Energy Generation | Pre-requisite: ELEC2134 | 5 hrs/wk | 6 uoc | Offered in S1 |
| COMP2041 | Software Construction (subject to approval) | Pre-requisite: COMP1921 or COMP1927 | 5 hrs/wk | 6 uoc | Offered in S1 & 2 |

| | | | | | |
|----------------|--|-------------------------|----------|-------|---------------|
| ELEC4621 | Advanced Digital Signal Processing | Pre-requisite: ELEC3104 | 4 hrs/wk | 6 uoc | Offered in S1 |
| ELEC4622 | Multimedia Signal Processing | Pre-requisite: ELEC3104 | 4 hrs/wk | 6 uoc | Offered in S2 |
| ELEC4623 | Biomedical Instrumentation, Measurement and Design | Pre-requisite: ELEC3104 | 4 hrs/wk | 6 uoc | Offered in S2 |
| Group 4 | Systems and Control | | | | |
| ELEC4631 | Continuous-Time Control System Design | Pre-requisite: ELEC3114 | 4 hrs/wk | 6 uoc | Offered in S1 |
| ELEC4632 | Computer Control Systems | Pre-requisite: ELEC3114 | 4 hrs/wk | 6 uoc | Offered in S2 |
| ELEC4633 | Real Time Engineering | Pre-requisite: ELEC3114 | 4 hrs/wk | 6 uoc | Offered in S1 |
| Group 5 | Data and Mobile Communications | | | | |
| TELE4651 | Wireless Communication Technologies | Pre-requisite: TELE3113 | 4 hrs/wk | 6 uoc | Offered in S2 |
| TELE4652 | Mobile and Satellite Communication Systems | Pre-requisite: TELE3113 | 4 hrs/wk | 6 uoc | Offered in S2 |
| TELE4653 | Digital Modulation and Coding | Pre-requisite: TELE3113 | 4 hrs/wk | 6 uoc | Offered in S1 |
| TELE4642 | Network Performance | Pre-requisite: TELE3118 | 4 hrs/wk | 6 uoc | Offered in S1 |
| Group 6 | Photonics | | | | |
| PHTN4661 | Optical Circuits and Fibres | Pre-requisite: ELEC3115 | 4 hrs/wk | 6 uoc | Offered in S1 |
| PHTN4662 | Photonic Networks | Pre-requisite: TELE3113 | 4 hrs/wk | 6 uoc | Offered in S2 |
| Group 7 | Business Administration | | | | |
| ELEC4445 | Entrepreneurial Engineering | Pre-requisite: 132 uoc | 4 hrs/wk | 6 uoc | Offered in S2 |

Notes:

- x This model allows students to take two L3 electives and four L4 electives, thus providing the depth and breadth required for an Electrical Engineering Degree.
- x L3 courses may be drawn from other schools and faculties as well as Telecommunications and Photonic Engineering core courses.
- x L4 electives are provided from the six disciplines within the School.
- x One L3 course may be substituted by a L2 elective.

Rules governing substitutions, pre-requisites and student exchanges

To suit the special abilities or needs of individual students a limited number of course substitutions are permitted within each program. Any such substitution must have prior approval of the Head of School.

- f* Substitutions must be of at least the same length and level as the prescribed course.
- f* Core courses may not be substituted with other courses.

- f* Substitution is not normally permitted if it unduly restricts the range of courses studied to only one area of specialisation.
- f* Progression to 'next level' courses is not permitted without satisfying the nominated pre-requisites.
- f* In the case of a combined degree program, accreditation of any course in more than one program is not permitted.
- f* Prior School consent is required for any accredited substitution. This includes any courses taken from other schools at the student's own initiative.
- f* Substitution is not normally permitted in the first two years of the program.
- f* Substitution of one postgraduate course within the School is permitted, provided a similar course is not offered at the undergraduate level.
- f* Student exchanges are permitted, and students are encouraged to organise their exchange in the second session of their third year in order to simplify the process of accrediting substitutions.

Rules Governing Elective Courses

Transfer from Other Programs/Advanced Standing Students/Mid-Year Entry

The introduction of year 1 (L1), year 3 (L3) and year 4 (L4) electives accommodates students who are transferring from another program, are advanced standing or are in mid-year entry, as it allows them to complete required number of units of credit within the stipulated time of the normal program.