

(For students admitted in 2014-15 under the 4-year degree)

BEng in Electronic Engineering

In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 6 credits of these courses to count towards both Requirements.

Major Requirements

Credit(s)

Engineering Fundamental Course(s)

| | | | |
|-----------|--------|--|------|
| ELEC/MATH | | Note: (ELEC 2600 <u>OR</u> ELEC 2600H) <u>OR</u> MATH 2011 <u>OR</u> MATH 2111 <u>OR</u> MATH 2351 (3 courses out of 5) | 9-10 |
| ELEC | 2600 | Probability and Random Processes in Engineering | 4 |
| ELEC | 2600H | Honors Probability and Random Processes in Engineering | 4 |
| MATH | 2011 | Introduction to Multivariable Calculus | 3 |
| MATH | 2111 | Matrix Algebra and Applications | 3 |
| MATH | 2351 | Introduction to Differential Equations | 3 |
| COMP | | Note: COMP 1021 <u>OR</u> COMP 1022P <u>OR</u> COMP 1022Q | 3 |
| COMP | 1021 | Introduction to Computer Science | 3 |
| COMP | 1022P | Introduction to Computing with Java | 3 |
| COMP | 1022Q | Introduction to Computing with Excel VBA | 3 |
| ENGG | 1010 | Academic Orientation | 0 |
| LANG | 2030 | Technical Communication I | 3 |
| MATH | | Note: [(MATH 1013 <u>OR</u> MATH 1023) <u>AND</u> (MATH 1014 <u>OR</u> MATH 1024)] <u>OR</u> [MATH 1020] | 4-6 |
| MATH | 1013 | Calculus IB | 3 |
| MATH | 1014 | Calculus II | 3 |
| MATH | 1020 | Accelerated Calculus | 4 |
| MATH | 1023 | Honors Calculus I | 3 |
| MATH | 1024 | Honors Calculus II | 3 |
| PHYS | | Note: PHYS 1112 <u>OR</u> PHYS 1312 | 3 |
| PHYS | 1112 | General Physics I with Calculus | 3 |
| PHYS | 1312 | Honors General Physics I | 3 |
| PHYS | | Note: PHYS 1114 <u>OR</u> PHYS 1154 <u>OR</u> PHYS 1314 | 2-3 |
| PHYS | 1114 | General Physics II | 3 |
| PHYS | 1154** | Accelerated General Physics II | 2 |
| PHYS | 1314 | Honors General Physics II | 3 |
| SENG | | Engineering Introduction course (If the students take an introduction course included in their major, this course can be counted towards their major requirement.) | 3-4 |

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|------|------|--|---|
| ELEC | 1100 | Introduction to Electro-Robot Design | 4 |
| ELEC | 1200 | A System View of Communications: from Signals to Packets | 4 |
| CENG | 1000 | Introduction to Chemical and Biomolecular Engineering | 3 |
| CIVL | 1100 | Discovering Civil and Environmental Engineering | 3 |
| COMP | 1021 | Introduction to Computer Science | 3 |
| IELM | 2010 | Industrial Engineering and Modern Logistics | 3 |
| IELM | 2200 | Engineering Management | 3 |
| MECH | 1901 | Automotive Engineering | 3 |
| MECH | 1902 | Energy Systems in a Sustainable World | 3 |
| MECH | 1905 | Buildings for Contemporary Living | 3 |
| MECH | 1906 | Mechanical Engineering for Modern Life | 3 |

Required Course(s)

| | | | |
|------|-------|---|---|
| ELEC | 1100 | Introduction to Electro-Robot Design | 4 |
| ELEC | 1200 | A System View of Communications: from Signals to Packets | 4 |
| ELEC | 1991 | Industrial Experience (Electronic Engineering) | 0 |
| ELEC | | Note: ELEC 2100 <u>OR</u> ELEC 2100H | 4 |
| ELEC | 2100 | Signals and Systems | 4 |
| ELEC | 2100H | Honors Signals and Systems | 4 |
| ELEC | 2200 | Digital Circuits and Systems | 4 |
| ELEC | 2300 | Computer Organization | 4 |
| ELEC | 2400 | Electronic Circuits | 4 |
| ELEC | 2910 | Academic and Professional Development I | 0 |
| ELEC | 3910 | Academic and Professional Development II | 0 |
| ELEC | | Note: ELEC 4900 <u>OR</u> ELEC 4901 (Students taking the Research Option must take ELEC 4901) | 6 |
| ELEC | 4900 | Final Year Design Project | 6 |
| ELEC | 4901 | Final Year Thesis | 6 |
| ENGG | 2010 | Engineering Seminar Series | 0 |
| LANG | 4031 | Technical Communication II for ECE & CPEG | 3 |

Elective(s)

| | | | |
|------|------|---|----|
| ELEC | | ELEC 4000-level Electives (Any 2 courses of the subject and level as specified) | 6 |
| ELEC | | Area Courses (3 courses from the specified elective list) | 12 |
| ELEC | 3100 | Signal Processing and Communications | 4 |
| ELEC | 3200 | System Modeling, Analysis and Control | 4 |
| ELEC | 3300 | Introduction to Embedded Systems | 4 |
| ELEC | 3400 | Introduction to Integrated Circuits and Systems | 4 |
| ELEC | 3500 | Microelectronic Devices and Technology | 4 |
| ELEC | 3600 | Electromagnetics: From Wireless to Photonic Applications | 4 |

Student may opt to graduate with or without an option. Students who take an option **MUST** complete all requirements specified in addition to the major requirements.

Option(s)

Research Option

Students in the Research Option should also take ELEC 4901 as specified in the major requirements.

Required Course(s)

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| ELEC | 5900 | Modern Engineering Research Methodologies | 1 |
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Elective Course(s)

| | | | |
|------|------|--|---|
| | | Advanced Elective Courses approved by advisor (at least one UROP course taken prior to the commencement of Final Year Thesis, and one PG-level course) | 6 |
| UROP | 1000 | Undergraduate Research Opportunities | 0 |
| UROP | 1100 | Undergraduate Research Opportunities Series 1 | 1 |
| UROP | 2100 | Undergraduate Research Opportunities Series 2 | 1 |
| UROP | 3100 | Undergraduate Research Opportunities Series 3 | 1 |

**Remarks on course(s):

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| - | PHYS 1154: | The course was last offered in 2013-14 and was deleted subsequently. |
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