### Bachelor of Electrical & Electronic Engineering (Honours) / Bachelor of Science

**Program Plan**

#### Commencing in Semester 1

**Start Date:** 2019 to 2020

**Location:** Callaghan

#### Program Option:

This Program Plan is an enrolment guide to ensure you are on track to graduate. If at any time you wish to vary from this program plan seek advice from your Program Advisor to ensure you remain on track.

- **Program Handbook**
- **Course Handbook**

#### Program Handbook

- **Name:**
- **Student No.:**

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#### Year 1

**Semester 1**

- **ENGG1500** Introduction to Professional Engineering
  - **Core**

- **ENGG1003** Introduction to Procedural Programming
  - **Core**

- **MATH1110** Mathematics for Engineering, Science and Technology 1
  - **Core**

- **PHYS1210** Advanced Physics I
  - **Core**

**Semester 2**

- **ELEC1310** Introduction to Electrical Engineering
  - **Core**

- **ELEC1710** Digital and Computer Electronics 1
  - **Core**

- **MATH1120** Mathematics for Engineering, Science and Technology 2
  - **Core**

- **PHYS1220** Advanced Physics II
  - **Core**

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#### Year 2

**Semester 1**

- **ELEC2320** Electrical and Electronic Circuits
  - **Core**

- **ELEC2720** Introduction to Embedded Computing
  - **Core**

- **SCIE1001** Professional Scientific Thinking
  - **Core**

- **SCIE1002** Multidisciplinary Laboratories
  - **Core**

**Semester 2**

- **ELEC2132** Electric Energy Systems
  - **Core**

- **ELEC2430** Circuits and Signals
  - **Core**

- **MATH1210** Mathematics for Engineering, Science and Technology 2
  - **Core**

- **PHYS1220** Advanced Physics II
  - **Core**

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#### Year 3

**Semester 1**

- **ENGG2500** Sustainable Engineering Practice
  - **Core**

- **MATH2310** Calculus of Science and Engineering
  - **Core**

- **ELEC3130** Electric Machines and Power Systems
  - **Core**

- **PHYS2111** Classical Physics 1
  - **Compulsory**

**Semester 2**

- **ELEC2132** Electric Energy Systems
  - **Core**

- **ELEC2430** Circuits and Signals
  - **Core**

- **MATH2310** Calculus of Science and Engineering
  - **Core**

- **PHYS2111** Classical Physics 1
  - **Compulsory**

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#### Year 4

**Semester 1**

- **ENGG3500** Managing Engineering Projects
  - **Core**

- **PHYS2211** Modern Physics 1
  - **Compulsory**

- **DIRECTED** Electrical & Electronic Engineering Design and Practice
  - **Directed**

- **ELECTIVE**

**Semester 2**

- **ELEC3850** Electrical Engineering Design and Practice
  - **Core**

- **PHYS3211** Quantum Information Science
  - **Compulsory**

- **MATH3242** Complex Analysis
  - **Core**

- **DIRECTED** Electrical & Electronic Engineering Design and Practice
  - **Directed**

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#### Year 5

**Semester 1**

- **ELEC4840A** Final Year Engineering Project Part A
  - **Core**

- **ENGG3440** Linear Control and Estimation
  - **Core**

- **PHYS3112** Photonics
  - **Compulsory**

- **PHYS3111** Biophysics
  - **Compulsory**

**Semester 2**

- **ELEC4840B** Final Year Engineering Project Part B
  - **Core**

- **ENGG4500** Engineering Complexity
  - **Core**

- **ELECTIVE**

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If you have any questions visit **NEWCASTLE.EDU.AU/ASKUON**

Information correct as of November 2019 and subject to change

Program code: 40199

CRICOS Provider: 00109J
To be eligible to graduate make sure you have completed 400 units (10 units = 1 course unless otherwise specified) which meet the following criteria:

- Core and Compulsory courses – 360 units
- Directed courses – 20 units
- Electives – 20 units, visit the Program Handbook for more information
- It is also a requirement that students complete a total of 12 weeks of industrial experience.
- The duration of this program is 5 years full-time (40 units per semester) or part-time equivalent.
- The maximum time to complete this program is 12 years.

Some courses have assumed knowledge and/or requisites, please refer to the individual Course Handbook. Please refer to the Program Handbook for specific information on program structure. If you are intending varying from this program plan please seek advice from your Program Advisor.
DIRECTED COURSES

PHYSICS MAJOR
Complete 10 units from:
MATH3242: Complex Analysis
MATH3820: Numerical Methods

DIRECTED COURSES

ELECTRICAL & ELECTRONIC ENGINEERING
Complete 20 units from:
ELEC3160: Principles and Design of Off-Grid Power Systems
ELEC3251: Power Electronics and Renewable Energy Systems
ELEC3400: Signal Processing
ELEC3500: Telecommunications Networks
ELEC4100: Electrical Systems
ELEC4160: Advanced Drives and Power Electronics
ELEC4210: Electronics Design
ELEC4550: Wireless Communications
ELEC4720: Programmable Logic Design
ELEC4740: Internet of Things (replaces ELEC4700 in 2020)
ENGG4440: Nonlinear Control and Estimation