

BACHELOR OF ENGINEERING (HONOURS) IN ELECTRICAL AND COMMUNICATION ENGINEERING

**(4 YEARS DURATION WITH THE INCLUSION OF UP TO A ONE-YEAR
'DISCOVERY YEAR IN SEMESTERS 6 & 7)**

Introduction

In line with the ethos, vision and mission of Institut Teknologi Brunei [ITB] and the philosophy of MIB, all degree programmes offered by ITB aim to provide students with the skills and knowledge which will enable them to make practical and valuable contributions to national development. The programmes are designed so that graduates will be equipped to cope with the challenges of a rapidly changing work environment. Teaching and learning are based on a balanced combination of knowledge acquisition, hands-on practice and work experience. In addition, students will be able to develop the skills necessary to become effective technopreneurs and innovators and to respond to the changing environmental and socioeconomic needs of the nation.

Programme aims and objectives

The aims of the programme are to:

- provide student with opportunities to gain a thorough basic knowledge of current practice in the areas of electrical, electronic communication and computer engineering and to acquire specialised knowledge in areas relevant to the engineering community of Brunei Darussalam.
- develop in students an understanding of the fundamental principles of engineering which will enable them to respond positively to the demands created by future changes in technology.
- offer students intellectual and social challenges to promote the development of skills and personal qualities essential to the world of work.
- to build close relationship with engineering organisations to produce engineers of the right caliber.

Career paths

Electrical and communication engineering is a profession that uses science, technology, and problem-solving skills to design, construct, and maintain products, services, and information systems. An electrical and communication engineer will have a wide range of job opportunities such as design engineer, project engineer, research engineer, systems and design engineer, software engineer, to name the least.

Entry Requirements:

General Entry Requirements:

- At least a credit six in Malay Language at GCE Ordinary Level (*Applicable only to local Bruneian students applying for the award of Brunei Government Scholarships*).
- At least a credit six in Mathematics at GCE Ordinary Level.
- At least a credit six in English Language at GCE Ordinary Level or an IELTS score of 6.0 within the last two years or a TOEFL minimum overall score of 550 or its equivalent.

Programme Entry Requirements:

The minimum entry to the Year 1 of the programme is:

- A minimum of 220 points for 3 'A' level passes with Mathematics and Physics at grade C or higher, and a Science subject*
OR
- A minimum of 180 points for 2 'A' level passes in including Mathematics and Physics at grade C or higher
OR
- An International Baccalaureate score of 31 points with a minimum of 5 points in Physics and Mathematics at higher level
OR
- A relevant BTEC/BDTVEC Higher National Diploma or its equivalent with acceptable grades as specified by the faculty
OR
- Work experience and/or qualifications deemed to be equivalent to one of the above to be decided on a case by case basis by the faculty

Note: For Advanced Standing Entry to Year 2 of the Programme or Accreditation of Prior Learning, please contact the Electrical and Communication Engineering Programme Leader.

*Science subjects include Chemistry, Biology and Further Mathematics
Students will follow the ITB admission regulations.

BEng (Hons) Electrical and Communication Engineering

Programme structure

YEAR 1	SEMESTER 1 <ul style="list-style-type: none"> • Melayu Islam Beraja (MIB) • Introduction to Engineering Mathematics I • Introduction to Computing • Communication Skills for Engineers I • Electrical Principles • Workshop Skills 	SEMESTER 2 <ul style="list-style-type: none"> • Introduction to Engineering Mathematics II • Computer Programming • Communication Skills for Engineers II • Digital Electronics • Semiconductor Device Fundamentals
YEAR 2	SEMESTER 3 <ul style="list-style-type: none"> • Mathematics for Engineers I • Electrical Circuits • Digital Systems • Electronic Principles • Signals and Systems 	SEMESTER 4 <ul style="list-style-type: none"> • Mathematics for Engineers II • Electromagnetic fields and waves • Microcomputer Engineering • Electronic circuit Design • Control System
YEAR 3	SEMESTER 5 <u>Core (A):</u> <ul style="list-style-type: none"> • Embedded Systems • Digital Signal Processing • Team Design Project <u>Electives (either B or C):</u> <u>Communication (B):</u> <ul style="list-style-type: none"> • Data Communication • Communication Systems <u>Power (C):</u> <ul style="list-style-type: none"> • Electrical Machines I • Power System I 	SEMESTER 6 <ul style="list-style-type: none"> • Work Placement
YEAR 4	SEMESTER 7 <ul style="list-style-type: none"> • Project I • Engineering Management • Technopreneurship • Research Methodology • Non Programme Elective III* 	SEMESTER 8 <u>Core(A):</u> <ul style="list-style-type: none"> • Project II <u>Electives (either B or C):</u> <u>Communications (B):</u> <ul style="list-style-type: none"> • Personal and Mobile Communications • Microwave and Radar Communications • Fibre Optic Communications <u>Power (C) :</u> <ul style="list-style-type: none"> • Electrical Machines II • Power Systems II • Power Electronics and Drives

Disclaimer: ITB reserves the right to make any necessary changes to the programme without any prior notice.

Further Enquiries

For further information and details regarding the programme, please contact:

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