

Bachelor of Engineering (Hons) Electronic and Communications Engineering **KP/JPS(KA6300)09/10**

Electronic and Communications Engineering is a multi-disciplinary programme which combines knowledge of science and fundamentals in electronics with communications engineering principles. Students will have the ability to undertake problem identification, formulation and solution, and utilise a systems approach to design and evaluate operational performance. Industrial training and exposure are important components of the programme to equip graduates with the essential technical knowledge and skills required by a wide range of industries. Students will also be exposed to the essentials of management, business law and ethical engineering practices.

Programme Objectives

The Programme Objectives describe the career and professional accomplishments that the Electronic and Communications Engineering programme would prepares the graduates to achieve in a few years after their graduation. The graduates of Electronic and Communications Engineering Programme will:

1. Use the latest knowledge and techniques in design, developing, maintaining, servicing, sales and marketing, and research of electronic telecommunication and technologies.
2. Assume technical, managerial and ethical roles effectively in the organizations they work in.
3. Be involved in the affairs of professional institutions and keep abreast of the nation's needs and developments, and provide services to the engineering communities and the nation.

Programme Outcomes

Upon completing this programme, the student is expected to attain the following:

- i. Apply acquired fundamental knowledge of science and engineering;
- ii. Design and evaluate electronic and communication systems based on system approach;
- iii. Possess the relevant technical skills in electronic and communications engineering;
- iv. Identify, formulate and solve communication engineering problems;
- v. Communicate effectively with technical and non-technical people;
- vi. Be aware of the current good practices of electronic and communication engineering for sustainable development;
- vii. Demonstrate commitment to ethical and professional responsibilities;
- viii. Recognize that electronic communication is a fast evolving field and is committed to carry out life-long learning;
- ix. Function effectively as an individual and in a team;
- x. Be aware of a professional engineer's social, cultural, global and environmental responsibilities.

Careers

Graduates from this professional engineering programme may find employment in the electronic, communication and electrical industries. They may be assigned to work in a wide variety of areas such as design and manufacturing of electrical and electronic products, operation and maintenance, research and development, sales and marketing, consultancy and education. Besides, they can also serve in the popular telecommunication sector including cellular phone, radio and television, telephony and satellite communications.

Subjects

Year 1

Mathematics for Engineering I
Mathematics for Engineering II
Circuit Theory
Basic Electronics
Engineering Computing
Introduction to Electrical Machines and Power Systems
Programming Techniques
Digital Electronics
Signals, Circuits and Systems
Analogue Electronics
English for Engineering
Basic Economics, Accounting and Management

Year 2

Numerical Methods and Statistics
Analogue Communications
Introductory Electromagnetics
Microprocessor & Microcontroller Systems
Digital System Design
Electromagnetic Fields and Waves
Digital Communications
Process Control and Instrumentation
Communication Electronics
Information Theory and Coding
Digital Signal Processing
Multimedia Technology

Elective Engineering Subjects* (Choose 1 subject)

Solid State Electronics
Integrated Circuit Design

Year 3

Industrial Training
Control Systems
Data Communications & Networking
Engineer in Society

Elective Engineering Subjects* (Choose 3 subjects)

Optics and Optoelectronics
Microwave Communication Systems
Antenna Design
Random Variables and Stochastic Processes

Year 4

Project
Mobile and Satellite Communications
Electromagnetic Compatibility
Computer Architecture
Law for Engineers

Elective Engineering Subjects* (Choose 1 subject)

Quality and Reliability Engineering
Embedded System Design
Project Management

*Subject to change/availability

MQA Subjects

Bahasa Kebangsaan/Foreign Language
Pengajian Malaysia
Pendidikan Moral/Pengajian Islam

University Subjects

Co-Curriculum
Sun Zi's Art of War and Business Strategies