



**MAHSA**  
UNIVERSITY

Dual Award with



**a.r.u.** | Anglia Ruskin  
University

# BACHELOR OF ELECTRICAL & ELECTRONICS ENGINEERING WITH HONOURS

KPT/JPS ( R/523/6/0144 ) ( MQA/FA3660 ) 08 / 25

**FACULTY OF ENGINEERING  
AND BUILT ENVIRONMENT**

“

“Engineering is the professional art of applying science to the optimum conversion of the resources of nature to the uses of humankind.”

- ASCE

”

# OVERVIEW

MAHSA's Bachelor of Engineering (Hons) in Electrical and Electronic Engineering is a 4-year specialised undergraduate programme. This programme will prepare students for a wide range of careers in Electrical and Electronics, one of the major platforms of the world's biggest industries.

Students will learn about electronic components and electrical systems, communications systems and networks, power electronics, physical electronics, electrical science, engineering mathematics, computer and digital logic, circuit theory, circuit analysis and design, integrated circuit design, embedded systems, electric drive and electric power systems, digital electronics, microwave design, and radio frequency.

Upon completion of the programme, students will have empowered themselves with the knowledge

to succeed in an engineering career in any area which includes software development, project management, consultancy and programming, in any industry in the country or internationally.

The Bachelor of Engineering (Hons) in Electrical and Electronic Engineering is accredited by the Engineering Accreditation Council Malaysia (EAC) and Malaysian Qualifications Agency (MQA).

MAHSA University is a global partner with Anglia Ruskin University (A.R.U). Through this partnership, MAHSA offers programmes that are validated by A.R.U. A quality review committee, comprising academics from both institutions is established for quality assurance and the moderation of the standards of the programmes which includes curriculum and assessment.

## PROGRAMME STRUCTURE

### Year 1

- Circuit Analysis
- Engineering Mathematics 1 & 2
- Electrical and Electronic Engineering Lab
- Electrical and Electronic Engineering Principles
- Electronic Devices and Circuits
- Electronic Devices and Circuits Lab

- Engineering Materials
- Engineering Software and Applications
- Engineering Workshop and Materials Lab
- Introduction To C Programming
- Instrumentation and Measurement

### Year 2

- Analogue Electronics
- Analogue Electronics Lab
- Computer Architecture
- Digital Electronics
- Digital Electronics Lab
- Distribution Of Electrical Power
- Electrical Machines & Power System

- Electrical Machines Lab
- Electromagnetic Field Theory
- Engineering Mathematics 3
- Generation, Transmission and Distribution of Electrical Power
- Numerical and Statistical Techniques
- Utilization Of Electrical Energy

### Year 3

- Control Engineering
- Communication Engineering Systems
- Creativity and Innovation
- Digital Signal and Image Processing
- Engineer in Society
- **Industrial Training**
- Introduction to Management

- Microprocessor and Microcontrollers
- Microprocessor and Microcontroller Lab
- Multimedia Applications
- Power Electronics and Drives
- Power Electronics and Drives Lab
- Power System Analysis

### Year 4

- Capstone Design Project
- Elective 1, 2, 3, 4, 5 and 6
- Engineering Project Management
- Engineering Safety & Health
- Thesis 1 & 2

### General Modules

- Community Work
- Entrepreneurship
- Youth Development

### MALAYSIAN STUDENTS:

- Hubungan Etnik
- Tamadun Islam dan Tamadun Asia

### INTERNATIONAL STUDENTS:

- Bahasa Melayu Komunikasi 2
- Malaysia Studies

## Electives

### Electrical and Electronics

- AC Machines
- Analogue Integrated Circuits and Systems
- DC Machines
- Embedded Systems
- High Voltage Engineering
- Signal and Linear System
- Pattern Recognition and Neural Networks
- VLSI Design

### Electronics and Communication

- Analogue Communication
- Antenna Propagation
- Data Communication and Networks
- Digital Communication
- Embedded Systems
- Satellite and Mobile Communication
- Microwave and RF Communication
- Optical Communication and Networks

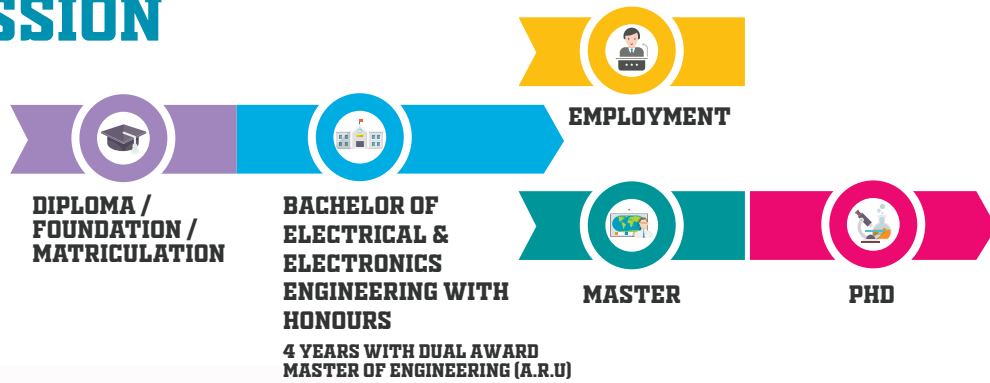
### Mechatronics

- Advance Robotics
- Fluids Mechanics
- Intermediate Robotics
- Mechanical Design
- Mechatronics System Design
- Statics and Dynamic
- Solid Mechanics
- Thermodynamics and Heat Transfer

### Medical Electronics

- Artificial Organs and Medical Optics
- Assist Devices
- Bio-chemistry
- Diagnostic and Therapeutic Equipment 1 & 2
- Human Anatomy Physiology
- Medical Instrumentation
- Radiological Equipment

# PROGRESSION PATHWAY



# ENTRY REQUIREMENTS

## ACADEMIC QUALIFICATION

## REQUIREMENTS

- |   |  |
|---|--|
| <p><b>Diploma / Matriculation / Foundation</b></p> <p><b>STPM</b></p> <p><b>A-Level</b></p> <p><b>UEC</b></p> <p><b>Other</b></p> <p><b>English Requirement</b></p> | <ul style="list-style-type: none"> <li>◆ Related field pass with min. CGPA 2.0.</li> <li>◆ Pass with min. Grade C and above in Mathematics and Physical Science.</li> <li>◆ Pass in two (2) subjects including Mathematics and any one (1) Physical Science subject.</li> <li>◆ Pass with Grade B in five (5) subjects including Mathematics and any one (1) Physical Science subject.</li> <li>◆ Recognised Malaysian qualifications or their equivalent</li> <li>◆ IELTS: 5.0   TOEFL: 500   MUET: BAND 2 (LOCAL), MUET: BAND 3 (INTERNATIONAL)</li> </ul> |
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# ACCREDITATION



# CAREER OPPORTUNITIES

- **Design Engineer** • Electrical Engineer
- Electronics Engineer • **Optical Engineer**
- **Power Engineer** • Power Plant Engineer
- Product Engineer • **QA/QC Engineer**
- **R&D Engineer** • Sales Engineer
- Support Engineer • **Transmission Engineer**





# MAHSA360

At MAHSA University, we provide our students with the opportunity to develop quality skills and understanding that go beyond their field of study which will prepare them for their next leap upon graduation.

MAHSA 360 is our specially designed ecosystem that works to ensure every student is nurtured and supported throughout their student journey.



## MAHSA'S PASSPORT TO SUCCESS



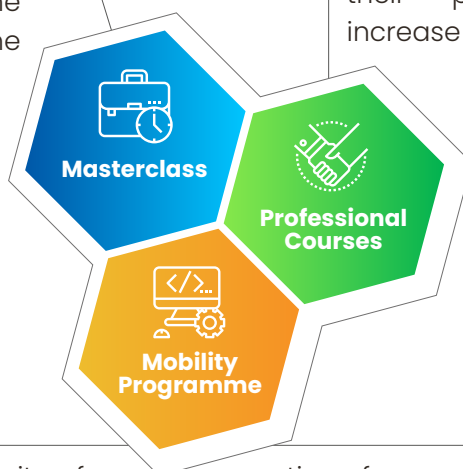
Professional Industry-Driven Education (P.R.I.D.E) is MAHSA University's specially designed education pathway that give students the best of both academic and professional certifications. Students have the opportunity to gain professional skills through various programmes from MAHSA's collaborations with internationally recognised professional bodies. P.R.I.D.E increases the employability rate of our fresh graduates and puts them on par with the rest in the professional world.

### MASTERCLASS

Students of this programme are eligible to gain add-on certification in Masterclasses. There are more than fifty Masterclasses to choose from, and all are designed to further enhance the student's employability, in line with the Industrial Revolution 4.0.

### PROFESSIONAL COURSES

Through MAHSA's collaboration with internationally recognised professional bodies, students will earn certifications that will enhance their professional skills and increase their employability rate.



### MOBILITY PROGRAMME

This is a unique opportunity for students to study abroad for up to one year. This programme lets students experience different cultures and

practices from around the world. Ask us about our university partners in over fifty different countries.

# MAHSA

U N I V E R S I T Y

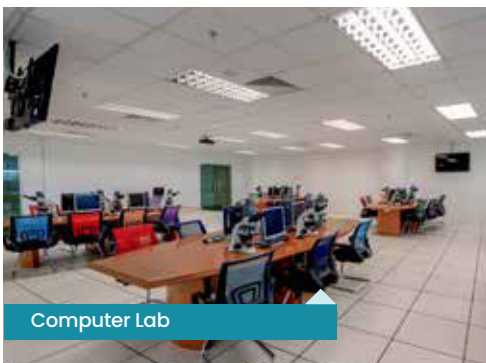
# BE MORE



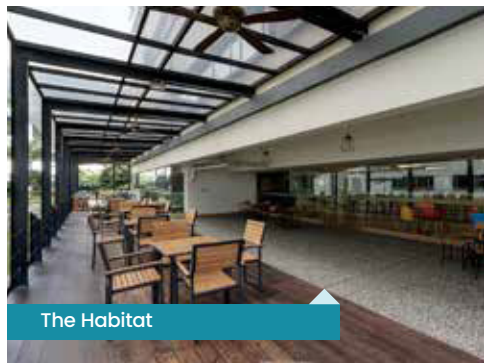
Analog Digital Lab



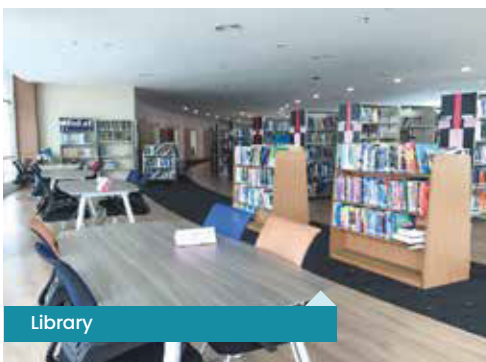
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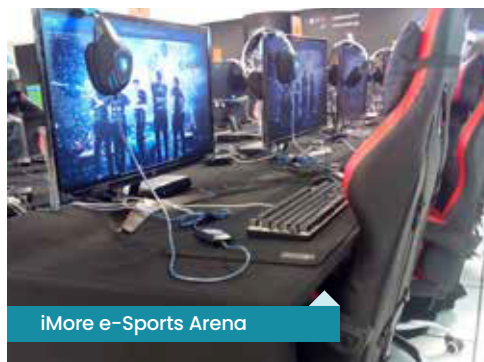
Computer Lab



The Habitat



Library




iMore e-Sports Arena

Contact us  
**1800 88 0300**

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