UTP
UNIVERSITI TEKNOLOGI PETRONAS

MSc in Electronic Systems Engineering

JPT/BPP(R3/523/7/0098)10/27
JPT/BPP(R-DL/0713/7/0006)04/29

Electronics to power Industry 4.0

The electronics and semiconductor industries build tightly integrated hardware and software systems to power artificial intelligence, autonomous robotic systems and wearables. These technologies are poised to reshape the 21st century economy and deliver the promise of a technology-enabled smart world. Electronics system engineers are at the heart of this technological revolution as the skilled artisans who create and build new architectures and infrastructures of nimble and flexible electronic systems - the talents who will be in high demand to unleash the potential of breakthrough technologies.

Our MSc in Electronics Systems Engineering is designed to meet the capability gap and talent shortage that presently hinders our transformation to embrace Industry 4.0. Co-designed with principal engineers from multinational chipmakers and leading firms in the oil & gas industry, our programme prepares students to pursue R&D-based innovation through UTP-exclusive courses in electronics design, sensor development and systems integration. UTP will train you to implement Industry 4.0 and master core technologies critical to industry advancement.

Be a part of the talent pipeline for electronic systems engineers!
Gain your competitive edge through UTP's cutting edge and industry-linked content.

Join a leading feeder university for the advanced electronics industry!

Connect with the latest industry thinking and trends in technology.

Develop a practical perspective of technology challenges and opportunities in industry.

Learn to leverage real industry data and findings from frontier research to provide cutting edge technology solutions.

Empowering Engineering Professionals for Industry 4.0 Transformation

Our programme is tailored for junior to mid-career engineering professionals to upgrade themselves in the latest technological developments to bridge the high technology gap and implement Industry 4.0 solutions. We are aligned with key local and international semiconductor industry players particularly around Malaysia's vibrant industrial hubs in Penang, Perak, Kuala Lumpur, Melaka and Johor. We will train you in advanced electronics sysyem design and development to power products and services that will lay the infrastructure for automation and execution of Industry 4.0

3 reasons to join MSc in Electronic Systems Engineering at UTP!

1

Stay Ahead in Industry 4.0 Innovations

The program equips working professionals with advanced knowledge in electronics system design and development, enabling them to bridge the technological gap and implement cutting-edge Industry 4.0 solutions. This ensures they remain competitive in a rapidly evolving technological landscape.

2

Strong Industry Collaboration and Exposure

Universiti Teknologi Petronas (UTP) is aligned with key local and international semiconductor industry players, particularly in Malaysia. Enrolling in this program provides opportunities for industry-relevant learning, collaboration, and career advancement.

3

Flexible Learning Tailored for Professionals

The program is designed to cater to junior to mid-career engineering professionals, providing a structured yet flexible learning experience that balances with work commitments

APPLY NOW

The industry is our classroom

1	**Programme jointly developed with engineering architects from multinational chipmakers and custodian engineers from major oil and gas firms.**
2	**Regular engagements with technology leaders and industry experts.**
3	**Industry-derived and industry supported assignments and research projects.**

Boost your career and leverage our vast network of industry partners

Benefit from our deep-tech collaborations with the industry. In addition to PETRONAS, we work closely with a wide range of local public-listed automation solutions tech companies and multinational chipmakers for curriculum development and internship placements.

Course Structure

Candidates are required to complete total of 41 credit hours. The programme's curriculum structure is as follows:

Category	Module	Credit Hour
Core	Advanced Mathematics for Systems Analysis & Design	3
	Advanced Embedded Systems	3
	Modern Communication & Network System	3
	VLSI Systems Design	3
	Advanced Digital Systems Design	3
Specialisation Electives (Choose 1 specialisation elective)	**Specialisation Elective A**	
	Instrumentation Engineering Design & Safety	3
	Advanced Process Control	3
	Metering Systems Technology	3
	Specialisation Elective B	
	Sensors & Systems	3
	Intelligent Systems	3
	Image Processing & Computer Vision	3
	Specialisation Elective C	
	Advanced Analog IC Design	3
	System Verification & Test Methodologies	3
	Low Power VLSI Systems	3
University Requirement	Data Analytics	3
	Project Management	2
National Requirements	Research Methodology	2
Project	R&D Project 1	3
	R&D Project 2	7
TOTAL		41

As per requirement by Malaysian Qualification Agency (MQA), candidates coming from non-discipline into MSc in Electronic Systems Engineering programme (such as sciences) have to take TWO pre-requisite courses before enrolling for the MSc programme. The two pre-requisite courses are (1) Microelectronic Physics & Devices and (2) Communication Systems

Mode of study

Conventional

ODL

Minimum **12 months**
Maximum **36 months**

Flexible arrangement for Full Time Open and Distance (ODL) Learning mode:

- 100% online with self-instructional materials (SIMS)
- 8 hours minimum of online live class session for each course per semester
- Classes after working hours/over the weekend
- Online open book final exam

Medium of Instruction

English

Intake

January/May/September

Entry requirements

Academic

1	Bachelor's Degree in a relevant field from a recognised university with a minimum CGPA of 2.50 or its equivalent OR;
2	2 Bachelor's Degree in a relevant field from a recognised university with a minimum CGPA of 2.00 - 2.49 or its equivalent will require 5 years of working experience and internal rigorous assessment.
3	Bachelor's Degree from different discipline, must undergo pre-requisite courses in Engineering or Engineering Technology.
4	No Bachelor's Degree? Apply with your working experience. Candidates who satisfy APEL A requirements are eligible to enrol. Scan the QR code to learn more.

APEL A

English language proficiency

International students are required to be proficient in written and spoken English with aminimum TOEFL score of 500 OR a minimum IELTS score of 5.0 or its equivalent.

Exemptions may be provided for candidates who are native English speakers or degree holders with English as the medium of instruction.

Graduation requirements

To graduate with an MSc in Electronic Systems Engineering degree, candidate is required to:

1	Obtain a minimum cumulative grade point average (CGPA) of 3.00
2	Satisfy all the requirements approved by UTP Senate
3	Fulfill the required credit hours and pass Research Methodology course

Tuition fees

	Local		International	
Application Fee	RM50		RM200 / USD50	
Registration as a student				
Bond	None		RM3,000	
Registration Fee	RM500		RM1,400	
Commitment Fee	RM500		RM800	
Total	RM1,000		RM5,200	
Commitment throughout studies				
Semester Fee	RM400		RM400	
Tuition Fee	Conventional	ODL	Conventional	ODL
	28,350	22,500	37,400	29,600

Rankings & ratings

2022 SETARA COMPETITIVE

(6 STAR) MyRA® MALAYSIA RESEARCH ASSESSMENT

THE World University Rankings 2025 WORLD TOP 250

RANKED 53 QS WORLD UNIVERSITY RANKINGS ASIA IN THE TOP 100 2025

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Admission Line :
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International candidates : +605 368 8364
Universiti Teknologi PETRONAS, 32610 Seri Iskandar, Perak Darul Ridzuan, Malaysia

For further details on the application, visit www.utp.edu.my

UTPOfficial

** As of January 2025*