ENGINEERING







66 Welcome to MMU!

We aspire to nurture futureready graduates to lead the digital future. Our cuttingedge programmes are designed to fulfil the needs of the industry and cater the demands of the future careers.

Education plays a pivotal role in shaping and nurturing the lives of young talents and minds With resilience, we embrace all the exciting changes and stride confidently into the digital frontiers. In MMU, we are committed to provide you the best learning experience and excellent service.

Join our community and explore the rewarding study experience with us!



Prof. Dato' Dr. Mazliham Mohd. Su'ud President/CEO Engineering

Engineering **PROSPECTUS**



ENGINEERING AT MMU

If you have your passion making engineering your career, MMU is the university for you.

Listed in the Top 200 QS Asia University Rankings since 2017, MMU offers fully-accredited and industry-sought-after engineering degrees that will allow you to make real and lasting impacts as an engineer of the future.

Throughout your journey with us, you will be empowered with knowledge and skills to become competent engineers with numerical and problem-solving skills. Our engineering programmes enhance your employability and prepare you for the world of cutting edge engineering and its applications.

Our industry-led curriculum and industry-based learning approach ensure that graduates gain not only technical expertise, but also relevant managerial and soft skills, enabling them to pursue non-engineering careers in fields as diverse as business and management, finance, IT, law, media and consulting.

You will be mentored by expert instructors who are able to share practical experience and valuable insights. Our programmes also give you the opportunity to study contemporary modules in artificial intelligence, blockchain, cybersecurity, data analytics, 5G, and Internet of Things (IoT). Our strong collaborations with global industry players will broaden your horizon and keep you ahead with current as well as future industry needs.

So, join us and be future-proofed!





World-class research & teaching facilities
One of the BEST teaching labs in private univers
Among the 1st in Malaysia to offer Nanotechno
More than 60% of teaching staff are PhD holder
97% of graduates secure employment within 6
Over 40% of MMU Engineering students secure
Partnerships with Global Industry Players – est Motorola, ZTE and Infineon
Accreditation & Recognition by Malaysia Qualif (EAC), Engineering Technology Accreditation Cou
Houses the ZTE-MMU Training Centre for 5G res East Asia
Our engineering programmes receive recognitio globally especially from Australia, Canada, Irelar



- sities
- ology
- rs and industry professionals
- months of graduation
- jobs **before** graduation
- tablishments such as Intel, Panasonic, Huawei,
- fications Agency (**MQA**), Engineering Accreditation Council uncil (ETAC) and Board of Engineers Malaysia (BEM)
- esearch and application which is one of its kind in South
- on from the Washington Accord and well-recognised Ind, Japan, South Korea, New Zealand, Russia, Singapore, South Africa, Sri Lanka, China, Turkey, the UK and the USA.

AN AWARD-WINNING UNIVERSITY WITH A GLOBAL OUTLOOK

- Be part of a globally ranked university that is listed in QS World University Rankings 2021 and THE World University Rankings 2021.
- Study alongside around 1,000 international students from 56 countries
- Experience the best and latest technologies from our collaborations with major ICT players such as ZTE, Huawei, Nokia, Intel, Microsoft, Cisco and Motorola.
- Gain opportunity to expand your study experience through our international linkages with Northumbria University, Western Sydney University, University of Southern Queensland, Auckland University of Technology, Hull University, Manchester Metropolitan University, and University of Essex.







Top 10 among Universities in Malaysia, 2021



MMU's IT graduates are the most preferred by Malaysian firms - Frost & Sullivan Asia Pacific (MDEC's Malaysian Digital Talent Study 2017 Final Findings)



Awarded Self-Accreditation Status, 2017 Malaysian Qualifications Agency (MQA)



Awarded the 5-Star Rating in the SETARA 2019 by the Ministry of Higher Education (MoHE)



Awarded Premier Digital Tech Institution (PDTI) Status since 2017 by Ministry of Higher Education (MOHE) and Malaysia Digital Economy Corporation (MDEC)



TOP MALAYSIAN UNIVERSITY*

> *Top 10 in **Times Higher** Education (THE) World University Rankings 2021 among all universities in Malavsia.

> > 10/ 10/23

Ground-breaking developments in engineering have revolutionised our lives. With exciting new areas as diverse as Telecommunications, Microelectronics, Nanotechnology, Multimedia, Optical Technologies, Robotics and Automation, Mechanical Technologies, 5G Technologies and the dynamics of social media, the career prospects for engineering graduates have never been better. Whatever field of interest you may have in engineering, a degree from the MMU will unlock your potential and kickstart your career as an engineer of the future.

AN ENTREPRENEURIAL UNIVERSITY WITH INDUSTRY-READY PROGRAMMES

Well-rounded Education

Be empowered with the fundamentals of your field of study that also incorporate entrepreneurial skills and expertise which are relevant to your respective industries and job markets.

Industry on Campus

Be connected and gain benefit from our state-of-the-art labs established by our industry collaboration with ZTE. Huawei, Microsoft, Intel and many more.

Ready for Industry

Be enthused with Start-up Schemes from the Entrepreneurship Development Centre (EDC) and nurture your entrepreneurship mindset.

A UNIVERSITY THAT **IS AN INDUSTRY** TRENDSETTER

- We offer programmes which are tailored to the industry's needs.
 Nearly 50% of our programmes are developed for fast growing
- industries.
- We produce graduates who are setting new standards in Malaysia's industries. Among our successful alumni are Mohd Nizam Abd Razak (the creator of BoBoiBoy, who has boosted the animation industry in Malaysia), Muhammad Usamah Zaid Yasin (Founder & Executive Director of Wau Animation that produces Ejen Ali), Tan Aik Keong (Director of Agmo Studio, a multi-award winning mobile app development company), Ko Chuan Zhen (CEO and co-founder of Plus Solar Systems, a multi-award winning clean energy company in Malaysia) and many more.



Engineering

A VIBRANT AND CONDUCIVE CAMPUS LIFE

Convenient and comfortable accommodation – on-campus and off-campus.

- Intelligent and high-tech labs.
- Digital libraries.
- Set studio and post-production suite.
- Over 100 clubs and societies.
- Extensive infrastructure campus-wide Wi-Fi, health clinics, mosques, 24-hour security, food & beverage outlets and more.
- Comprehensive Sports Centre track & field, indoor sports arena, gym as well as an olympic-sized swimming pool.











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This is an AR marker. Scan
the image to watch the video
/ or view 360 video.

MMU Alumni

MMU for me was not just about the technical courses and training I received in engineering; more than that, it was the experiences, friendships and character-building that have shaped me into who I am as a human being.

Dr. Koay Jun Yi Bachelor of Engineering (Hons.) Electronics Majoring in Telecommunications, 2004

Postdoctoral Fellow, Academia Sinica Institute of Astronomy and Astrophysics, Taiwan (Part of the international team that captured the first black hole image)

MMU Alumni

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MMU is where I dreamt of having my own business. I built the company together with my roomates in our hostel room and have now managed to expand it to what it is today. The exposure and hand-ons experience that MMU graduates have are much better than any other local university graduates.

Noor Helmi Nong Hadzmi Bachelor of Telecommunication Engineering, 2003

Founder/Chief Executive Officer IX Telecom





FACULTY OF ENGINEERING

Cyberjaya Campus

Located within Cyberjaya and

built on an 80-hectare plot of land, MMU Cyberjaya is equipped with various intelligent features such as multimedia learning facilities, intelligent building systems, a digital library, and an integrated campus management system

designed to nurture innovative graduates.



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Foundation in Engineering (R2/010/3/0087) 12/22 (A8671)

The one-year Foundation in Engineering programme is the preferred route for many Malaysians and international students to access engineering courses in Multimedia University. Set in a campus environment that enriches their preparation for degree studies, the programme's curriculum focuses on delivering preparatory engineering subjects to equip students with strong fundamentals in order to excel with confidence. In addition to analytical and technical knowledge, the programme also focuses on equipping students with critical thinking and interpersonal skills to succeed not only in the undergraduate studies, but more importantly, as independent life-long learners. After completion of the foundation programme, you can opt for a degree programme from either Faculty of Engineering (FOE) or Faculty of Engineering & Technology (FET).

PROGRAMME STRUCTURE FOR FOUNDATION IN ENGINEERING | FOE

Trimester 1	Trimester
 Basic Computing & Programming Pre-Calculus Trigonometry & Coordinate Geometry Mechanics Communicative English 	Calculus Electricity & Magnetism Chemistry Introduction to Business N Critical Thinking Essential English

Note: The above programme structure serves as a guide. Courses may differ according to intakes

Bachelor of Engineering (Hons.) (Electrical) (R2/522/6/0038) 06/26 (MQA/FA4863)

The B.Eng. (Hons.) Electrical programme is a four-year engineering course that prepares students with a broad foundation in a discipline that deals with the generation, transmission, and distribution of electricity. With the recent paradigm shift towards renewable and sustainable energy, the prospect for electrical engineers is even brighter. Additionally, electrical engineers are also responsible for the design of related devices such as transformers, generators, power electronics and electric motors. Students undertake fundamental engineering subjects such as mathematics, computing, electronics and circuit theory before progressing to core electrical subjects such as power generation, transmission and distribution, renewable energy, and energy conversion. Besides that, students are also equipped with knowledge on Artificial Intelligence (AI), Internet of Things (IoT), cybersecurity, robotics and automation, economics, accounting, management, law, and workplace communication. These skills are developed through a holistic combination of various forms of learning activities.

Career Prospects: Design Engineer, Project Engineer, Test Engineer, Protection Engineer, Power Engineer, Sales Engineer, High Voltage Engineer, Service Engineer, Electrical Production Engineer, Product Development Engineer, Electrical and Instrument Engineer, PCB Design Engineer, QC Engineer, Field Service Engineer, Electrical Engineering Manager, M&E Engineer, or Oil & Gas Process Engineer, etc.

PROGRAMME STRUCTURE

Year 1	Year 2	Year 3	Year 4
	CO	RE	
Engineering Mathematics I Electronics I Circuit Theory Field Theory Computer & Program Design Engineering Mathematics II Electronics II Instrumentation & Measurement Techniques Algorithms and Data Structures Digital Logic Design Electronics III	 Engineering Mathematics III Microcontroller and Microprocessor Systems Circuits and Signals Electromagnetic Theory Electrical Engineering Materials Power Transmission & Distribution Energy Conversion II Industrial Mathematics Control Theory 	 Analog and Digital Communications Power System Analysis Power Electronics Switchgear & Protection Electric Power Utilization & Installation Power System Operation and Control Capstone Project Industrial Training 	 Project Power Stations High Voltage Engineering Electrical Drives Renewable Energy Technology
	ELEC	TIVES	
	 Advanced Microprocessors Embedded IoT Systems and Applications 		 Robotics & Automation Digital Signal Processing Artificial Intelligence Systems & Applications Cybersecurity
	UNIVERSITY SUBJECTS AND N	IATA PELAJARAN UMUM (MPU)	
	 MPU-U1: TITAS (Local)/Bahasa Melayu Komunikasi 2 (International) Workplace Communications 	 Law for Engineers Engineer and Society MPU-U1: Hubungan Etnik (Local)/ Pengajian Malaysia 3 (International) Project Management 	 MPU-U2: Bahasa Kebangsaan A/ Foreign Language**/J2(FOM) Entrepreneurship in Cross Border E-Commerce/Business and Entrepreneurship in Malaysia MPU-U4: Co-Curriculum MPU-U3: Introduction to Multicultural Studies in Malaysia / Introduction to Malaysian Econom Islamic Institutions In Malaysia / Stress and Well-Being among Malaysians

** Subject to be offered by faculty.

2	Trimester 3
lanagement	 Introduction to Probability & Statistics Modern Physics & Thermodynamics Academic English

Bachelor of Engineering (Hons.) (Electronics) (R2/523/6/0167) 06/26 (MQA/FA4864)

The four-year B.Eng. (Hons.) Electronics programme focuses on applying theory and technology to solve real-world engineering problems. In this programme, students start off with fundamental subjects such as circuit and signal analysis, computer programming, control theory, and microprocessors. These subjects form the bedrock for more advanced and specialised topics ranging from analogue electronics, physical electronics, and semiconductor devices to embedded Internet of Things (IoT) systems, artificial intelligence (AI) systems & applications, cybersecurity, robotic & automation and electromagnetic interference.

Engineering knowledge is further supplemented with professional development modules such as workplace communications, management, accounting and engineering ethics. The programme is also designed to provide students with opportunities to undergo practical training in the electronics industry and to obtain research experience through undergraduate research projects.

Career Prospects: Application Engineer, Design Solution Engineer, Research & Development Engineer, Firmware/Embedded Software Engineer, Test Application Developer, Product Engineer, PCB Design Engineer, Process Engineer, System Integration Engineer, Computer System Architect, AI Engineer, IoT Specialist, System Test Engineer or Technical Marketing Engineer.

PROGRAMME STRUCTURE

Year 1	Year 2	Year 3	Year 4		
CORE					
Engineering Mathematics I Electronics I Circuit Theory Field Theory Computer & Program Design Engineering Mathematics II Electronics II Introduction to Machines and Power Systems Instrumentation & Measurement Techniques Algorithms and Data Structures Digital Logic Design Electronics II	 Engineering Mathematics III Circuits and Signals Electromagnetic Theory Microcontroller and Microprocessor Systems Physical Electronics Microelectronics Circuit Analysis and Design Electromagnetic Interference Computer Organization and Architecture Industrial Mathematics Control Theory 	 Analog and Digital Communications Digital System Power Electronics Integrated VLSI Systems Advanced Microprocessors Capstone Project Industrial Training 	 Project Digital Integrated Circuits Processing and Fabrication Technology Data Communications and Computer Networking 		
	ELEC	TIVES			
		 Embedded IoT Systems and Applications Semiconductor Devices Object Oriented Programming with C++ Artificial Intelligence Systems and Applications Robotics & Automation 	 Operating Systems Analog Integrated Circuits Advanced Object-Oriented Design with Java Software Engineering Mobile Application Development Parallel Processing and Programming VLSI System Design and Modelling Technique Digital Signal Processing Cybersecurity 		
	UNIVERSITY SUBJECTS AND M	ATA PELAJARAN UMUM (MPU)			
	 MPU-U1: TITAS (Local)/Bahasa Melayu Komunikasi 2 (International) Workplace Communications 	 Law for Engineers Engineer and Society MPU-U1: Hubungan Etnik (Local)/ Pengajian Malaysia 3 (International) Project Management 	 MPU-U4: Co-Curriculum MPU-U3: Introduction to Malaysian Economy/Islamic Institutions in Malaysia/Introduction to Multicultural Studies in Malaysia/ Stress and Well-Being among Malaysians MPU-U2: Bahasa Kebangsaan A/ Foreign Language**/U2(FOM) Entrepreneurship in Cross Border E-Commerce/Business and Entrepreneurship in Malaysia 		

Note: The above programme structure serves as a guide. Courses may differ according to intakes

** Subject to be offered by faculty.

Articulation Pathway:



Bachelor of Engineering (Hons.) (Electronics majoring in Telecommunications) (R2/523/6/0168) 06/26 (MQA/FA4865)

With graduates' employability in mind, this four-year programme is designed in consultation with industry experts, who contribute to the ongoing development of the programme, keeping it current and relevant to prepare you for an exciting career in telecommunications and computing. Combining fundamental theories with practical experience, our programme equips graduates with competency in the design, implementation, and management of communication systems for information processing and transmission, as well as creation of applications for mobile devices and Internet-based services.

The programme focuses on mobile communications and computing, beginning with intensive, broad-based coverage of engineering mathematics, electronics, circuit and signals, networking, computer and microprocessor systems, and power systems, followed by advanced modules such as industrial mathematics, digital signal processing, communication systems and networks, object-oriented programming, embedded Internet of Things (IoT) systems, artificial intelligence (AI) and cybersecurity. Together with non-technical subjects such as project management, workplace communications and law, as well as the opportunity to undergo industrial training, capstone and graduate projects cultivate graduates with employable skills to address the challenges of the 5G and big data era.

Career Prospects: Wireless System Engineer, Cellular Systems Engineer, AI Engineer, IoT Specialist, Big Data Engineer, Network Engineer, System Test Engineer, Hardware Development Engineer, Radio Frequency Design Engineer, Embedded Wireless Software Engineer, Mobile Applications Developer.

PROGRAMME STRUCTURE

Year 1	Year 2	Year 3	Year 4
	COI	RE	
Engineering Mathematics I Circuit Theory Electronics I Computer & Program Design Field Theory Electronics II Engineering Mathematics II Algorithms & Data Structures Introduction to Machines and Power Systems Instrumentation & Measurement Techniques Digital Logic Design Electronics III	 Engineering Mathematics III Microcontroller and Microprocessor Systems Circuits & Signals Electromagnetic Theory Fundamental of Wireless Communications Computer Organization & Architecture Information Theory and Error Coding Antenna & Propagation Industrial Mathematics Data Communications & Networking 	 Digital Communications Communications Networks Digital Signal Processing Embedded IoT Systems and Application Capstone Project Industrial Training 	 Project Analog Communications Advanced Networking Techniques Control Theory Optoelectronics & Optical Communications
	ELEC	TIVES	
		Elective 1 • Object Oriented Programming with C++ • Cybersecurity • Electromagnetic Interference • Mobile Application Development	Elective 2 Java Technology Random Signal and Network Analysis RF Measurement Techniques Al System & Application Power Electronics Elective 3 Parallel Processing and Programming VLSI System Design & Modeling Technique RF Circuit Design Satellite Communications
	UNIVERSITY SUBJECTS AND M	ATA PELAJARAN UMUM (MPU)	
	 MPU-U1: TITAS (Local)/Bahasa Melayu Komunikasi 2 (International) Workplace Communications 	 Law for Engineers Engineer and Society MPU-U1: Hubungan Etnik (Local)/ Pengajian Malaysia 3 (International) Project Management 	 MPU-U2: Bahasa Kebangsaan A/ Foreign Language**/U2(FOM) Entrepreneurship in Cross Border E-Commerce/Business and Entrepreneurship in Malaysia MPU-U4: Co-Curriculum MPU-U3: Introduction to Malaysia/ Islamic Institutions In Malaysia/Introduction to Multicultural Studies in Malaysia/ Stress and Well-Being among Malaysians

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

** Subject to be offered by faculty.

Bachelor of Engineering (Hons.) (Electronics majoring in Computer) (R2/523/6/0166) 06/26 (MQA/FA4866)

For students aiming towards a professional career in computer systems and information technology, this four-year computer engineering programme provides a complete undergraduate training in the design and development of both hardware and software aspects of computers and digital systems. The curriculum encompasses specialised training in computer organisation and architecture, data science, operating systems, data communications and networking, high performance computing, artificial intelligence, microprocessor system, computer security, virtual reality and object-oriented programming.

Not neglected are rigorous grounding in engineering fundamentals such as circuit and signal analysis, field theory, electronics, control theory, power systems, machines and engineering mathematics. Courses in management, economics, accounting and law are included to ensure that graduates are well rounded and marketable to future employers. Capping off the programme in the third and fourth years are the industrial training, capstone and graduate projects, which serve to cultivate skills and capabilities in research, system design, practical problem solving and project management.

Career Prospects: Computer Software Engineer, Cybersecurity Engineer, Computer Network Architect, Big Data and Cloud-based Computing Engineer, Internet of Things (IoT) Expert, Systems Architecture Designer, or Robotics and Automation Engineer.

PROGRAMME STRUCTURE

Year 1	Year 2	Year 3	Year 4
	COF	RE	
Engineering Mathematics I Electronics I Circuit Theory Field Theory Computer & Program Design Engineering Mathematics II Electronics II Introduction to Machines and Power Systems Instrumentation & Measurement Techniques Algorithms and Data Structures Digital Logic Design Electronics III	 Engineering Mathematics III Microcontroller and Microprocessor Systems Circuits and Signals Electromagnetic Theory Computer Organization and Architecture Database Systems Object Oriented Programming with C ++ Digital Signal Processing Industrial Mathematics Data Communications and Networking 	 Analog and Digital Communications Operating Systems Advanced Microprocessors Advanced Computer Architecture and Parallel Computing Cybersecurity Capstone Project Industrial Training 	 Project Multimedia Technology and Applications Control Theory Digital Computer Design
	ELEC	TIVES	
		 Compiler Construction Software Engineering Computer Graphics and Virtual Reality Artificial Intelligence Systems & Applications Power Electronics 	 Digital Image & Video Processing Advanced Object-oriented Design with Java Distributed Information Systems Embedded IoT Systems and Application Mobile Application Development Parallel Processing and Programming
	UNIVERSITY SUBJECTS AND M	ATA PELAJARAN UMUM (MPU)	
	 MPU-U1: TITAS (Local)/Bahasa Melayu Komunikasi 2 (International) Workplace Communications 	 Law for Engineers Engineer and Society MPU-U1: Hubungan Etnik (Local)/ Pengajian Malaysia 3 (International) Project Management 	 MPU-U2: Bahasa Kebangsaan A/ Foreign Language**/U2(FOM) Entrepreneurship in Cross Border E-Commerce/Business and Entrepreneurship in Malaysia MPU-U4: Co-Curriculum MPU-U3: Introduction to Malaysian Economy/Islamic Institutions In Malaysia/Introduction to Multicultural Studies in Malaysia/ Stress and Well-Being among Malaysians

Note: The above programme structure serves as a guide. Courses may differ according to intakes

** Subject to be offered by faculty.

Bachelor of Engineering (Hons.) (Electronics majoring in Nanotechnology) (R3/523/6/0016) 05/27 (MQA/FA3563)

For students planning for professional careers in the fields of microelectronics and nanoelectronics, the four-year nanotechnology programme provides a complete undergraduate training in electronics and nanoelectronics-related fields, such as nanomaterials, nanosciences, nanofabrication technology, nanoelectronic devices, MEMS/NEMS, and diagnostic technology.

In addition, students are also exposed to basic engineering training in circuit and signal analysis, field theory, electronics, control theory, digital logic, communications and engineering mathematics. To better prepare the students for a professional career in engineering, courses in management, economics, accounting and law are also included. This programme also provides students with industrial experience and research training by requiring them to complete industrial training and graduate projects.

Engineer, Process Engineer, Quality Control/Assurance Engineer, Failure Analysis Engineer, Field Application Engineer, Telecommunications Engineer, or R&D Engineer.

PROGRAMME STRUCTURE

Year 2	Year 3	Year 4
COI	RE	
 Engineering Mathematics III Microcontroller and Microprocessor Systems Circuits and Signals Electromagnetic Theory Solid State Electronics Computer Organization and Architecture Microelectronic Circuit Analysis and Design Industrial Mathematics Control Theory 	 Analog & Digital Communications Optoelectronics Devices Semiconductor Devices Advanced Fabrication Technology Nano-Science Capstone Project Industrial Training 	 Project Digital Integrated Circuits Diagnostic Technologies Nanoelectronic Materials and Devices N/MEMS Data Communications and Computer Networking
ELEC	TIVES	
		 Advanced Microprocessors Embedded IoT Systems and Application Cybersecurity Artificial Intelligence Systems & Applications Multimedia Technology & Applications Power Electronics
UNIVERSITY SUBJECTS AND M	ATA PELAJARAN UMUM (MPU)	
 MPU-U1: TITAS (Local)/Bahasa Melayu Komunikasi 2 (International Workplace Communications MPU-U4: Co-Curriculum 	 Law for Engineers Engineer and Society MPU-U1: Hubungan Etnik (Local)/ Pengajian Malaysia 3 (International) Project Management MPU-U2: Bahasa Kebangsaan A/ Foreign Language**/U2(FOM) 	 MPU-U3: Introduction to Malaysian Economy/Islamic Institutions I Malaysia/Introduction to Multicultural Studies in Malaysia/ Stress and Well-Being among Malaysians
	COL • Engineering Mathematics III • Microcontroller and Microprocessor Systems • Circuits and Signals • Electromagnetic Theory • Solid State Electronics • Computer Organization and Architecture • Microelectronic Circuit Analysis and Design • Industrial Mathematics • Control Theory ELEC UNIVERSITY SUBJECTS AND M • MPU-U1: TITAS (Local)/Bahasa Melayu Komunikasi 2 (International • Workplace Communications • MPU-U4: Co-Curriculum	 Engineering Mathematics III Microcontroller and Microprocessor Systems Circuits and Signals Electronicagnetic Theory Solid State Electronics Computer Organization and Architecture Microelectronic Circuit Analysis and Design Industrial Mathematics Control Theory ELECTIVES UNIVERSITY SUBJECTS AND MATA PELAJARAN UMUM (MPU) • MPU-U1: TITAS (Local)/Bahasa Melayu Komunikasi 2 (International) Workplace Communications MPU-U4: Co-Curriculum

** Subject to be offered by faculty.

Career Prospects: Research Engineer/Scientist, Test and Characterisation Engineer, Process and Device Engineer, Product Reliability Engineer, Electronics

FACULTY OF ENGINEERING & TECHNOLOGY

Melaka Campus



At the Faculty of Engineering & Technology, we inculcate a strong research culture and promote R&D collaborations with internal and external parties to enable learning innovation. We are creating a learned community that collects, preserves and disseminates knowledge in multimedia-related areas. 60% of our academic staff members are PhD holders. Our curriculum is consistently being improved after getting input from our industrial panel members. To-date we have close to 20 appointed industrial panel members from Huawei, ZTE, TMOne, MIMOS, Motorola, EDOTCO, +Solar, INTOTEST, AFA Technologies, INCHZ IOT, Honda Assembly, Lenga Palmoil, Steelcase Office Solutions, Noorisba Energy Coorperation, XEPA-Soul Pattison, WNA Consultant, BODIBASIXS MFG and many more. Our external examiners from renowned universities local and abroad are also constantly giving us feedback on best practices. All our programmes are recognised by accrediting bodies such as the Malaysian Qualifications Agency (MQA), Engineering Accreditation Council (EAC) and Engineering Technology Accreditation Council (ETAC). FET houses the ZTE-MMU Training Centre for 5G research and application which is one of its kind in South East Asia. The 5G-supported ZTE-MMU Training Centre will pave the way for more next generation mobile communication teaching and research activities to be conducted as well as build the pathway for more use case applications for IoT as well as smart manufacturing.

Foundation in Engineering (R2/010/3/0450) 03/22 (A7857)

The one-year Foundation in Engineering programme is the preferred route for many Malaysians and international students to access engineering courses in Multimedia University. Set in a campus environment that enriches their preparation for degree studies, the programme's curriculum focuses on delivering preparatory engineering subjects to equip students with strong fundamentals in order to excel with confidence. In addition to analytical and technical knowledge, the programme also focuses on equipping students with critical thinking and interpersonal skills to succeed not only in the undergraduate studies, but more importantly, as independent life-long learners. After completion of the foundation programme, students can opt to pursue with bachelor's degree programme from Faculty of Engineering & Technology (FET) in Melaka campus or Faculty of Engineering (FOE) in Cyberjaya campus.

PROGRAMME STRUCTURE FOR FOUNDATION IN ENGINEERING | FET

Trimester 1	Trimester 2	Trimester 3
Communicative English Algebra Mechanics Mechanics Laboratory Computer Applications and Programming General Chemistry Trigonometry and Geometry	 Essential English Electricity and Magnetism Electronics Laboratory Fundamentals of Business Management Critical Thinking Calculus 	 Academic English Modern Physics and Thermodynamics Introduction to Probability and Statistics

rves as a guide. Courses may differ acc



Diploma in Mechanical Engineering

(N/521/4/0184) 03/25 (MQA/PA13460)

This newly introduced programme is designed to meet the expectations and needs of the industry. One of the main reasons for this new course to be offered was the favourable market survey responses from industries on the employability of diploma graduates from the mechanical engineering field. Mechanical engineering is one of the top in-demand disciplines of engineering due to the graduates being versatile and knowledgeable in many different fields.

The diploma programme is designed to provide students not only with the necessary academic and technical understanding of the related mechanical engineering-related fields but also challenge the students to experience invaluable practical training in the industry. Students are given the opportunity to obtain valuable hands-on experience through lab experiments, group projects and in their final year projects.

Upon completion of this Diploma in Mechanical Engineering programme, students can opt to pursue further studies in the Mechanical Engineering degree programme offered by the Faculty of Engineering and Technology (FET) or to join the workforce in the industry as a qualified diploma graduate. The programme is also recognized by the Engineering Technology Accreditation Council (ETAC) under Board of Engineers Malaysia. Graduates of this programme will qualify to apply for Inspector of Works (IoW) from BEM.

Career Prospects: Mechanical Technician, Manufacturing/Process Engineering Assistant, Equipment Supervisor, Oil & Gas Supervisor, HVAC Supervisor, Energy Engineering Assistant, Automotive Technician, Machine Design Supervisor, Project Engineering Assistant, R&D Technician etc.

PROGRAMME STRUCTURE

Trimester 1	Trimester 2	Trimester 3	Trimester 4	
	COF	RE		
 Basic Electrical Technology Computer Applications Engineering Workshop Technology Physics for Engineering 	 Algebra & Trigonometry Chemistry for Engineering Engineering Drawing 	Calculus Engineering Mechanics I: Statics	 Engineering Mathematics Program Design Materials Science Computer-Aided Drafting Strength of Materials 	
Trimester 5	Trimester 6	Trimester 7	Trimester 8	
CORE				
 Fluid Mechanics Engineering Design Engineering Mechanics II: Dynamics Thermodynamics 	 Final Year Project (Part 1) Project Management 	 Industrial Training 	 Final Year Project (Part 2) Engineering in Society Measurement and Instrumentation Introduction to Industrial Revolution 4.0 	
ELECTIVE MODULES (Choose 1 Subject)				

Introduction To CAD/CAM

Introduction To Quality Management

Introduction To Operations Management

UNIVERSITY SUBJECTS AND MATA PELAJARAN UMUM (MPU)				
 English Business communications in the Digital Age 	 MPU U1 Pengajian Malaysia 2 (for local student) Bahasa Melayu Komunikasi 1 (for international student) MPU U2 Bahasa Kebangsaan A/Any subjects in U2 (Local) Any subjects in U2 (International) 	 MPU U3 Introduction to Cultural Practices in Malaysia Fundamental of Islamic Leadership in Malaysia Family and Society in Malaysia 	MPU U4 • Co-Curriculum	

Note: The above programme structure serves as a guide. Courses may differ according to intakes

Diploma in Electronic Engineering

(R2/523/4/0263) 01/25 (A5832)

Diploma in Electronic Engineering programme suits those who are interested in mainstream electronic design and support. This program is designed to provide a balanced curriculum in terms of theoretical knowledge and hands-on practice in learning electronics-related courses. Towards the end of the programme, students are to undergo Industrial Training in gaining real life working experience, and expected to design their own prototype in solving real life problems through the Final Year Project.

Upon completion of this Diploma in Electronic Engineering programme, students can opt to pursue further studies in Bachelor's Degree programmes in Faculty of Engineering and Technology (FET) in Melaka campus or Faculty of Engineering (FOE) in Cyberjaya campus as well as to join the workforce in the industry as a qualified diploma graduate.

The programme is also recognized by the Engineering Technology Accreditation Council (ETAC) under Board of Engineers Malaysia. Graduates of this programme will qualify to apply for Inspector of Works (IoW) from BEM.

Career Prospects: Electronic Technician, Process Engineering Assistant, Equipme Design Supervisor, Project Engineering Assistant, R&D Technician etc.

PROGRAMME STRUCTURE

Trimester 1	Trimester 2	Trimester 3	Trimester 4		
CORE					
 Engineering Workshop Electronics 1 Circuit Theory Computer Applications 	 Algebra & Trigonometry Electronics 2 Digital Fundamentals 	• Calculus • Electronics 3	 Engineering Mathematics Program Design Power Electronics Electrical Measurement & Instrumentation Techniques Network Analysis 		
Trimester 5	Trimester 6	Trimester 7	Trimester 8		
	COF	RE			
 Analog & Digital Communication Systems Industrial Electronics Field Theory Microcontroller Technology 	 Final Year Project (Part 1) Project Management 	 Industrial Training 	 Final Year Project (Part 2) Introduction to Machines & Power Systems Engineering in Society 		
ELECTIVE MODULES (Choose 1 Subject)					
 Control Systems Business Management Introduction to Multimedia E-Commerce 					

	UNIVERSITY SUBJECTS AND MA
English Business Communications in the Digital Age	MPU U1 • Pengajian Malaysia 2 (for local student) • Bahasa Melayu Komunikasi 1 (for international student)
	MPU U2 • Bahasa Kebangsaan A/Any subjects in U2 (Local) • Any subjects in U2 (International)

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

Career Prospects: Electronic Technician, Process Engineering Assistant, Equipment Supervisor, Energy Engineering Assistant, Laboratory Technician, Systems

TA PELAJARAN UMUM (MPU)

MPU U3

- Introduction to Cultural Practices in Malaysia
- Fundamental of Islamic
- Leadership in Malaysia
- · Family and Society in Malaysia

MPU U4 • Co-Curriculum

Bachelor of Engineering (Hons.) (Electronics majoring in Telecommunications)

(R2/523/6/0100) 12/22 (MQA/FA8758)

This four-year programme trains future engineers in the design, implementation and management of communication systems for processing and transmitting information, as well as creation of applications for mobile systems and Internet-based services. Students will be exposed to the technical fields of analogue and digital communications, antenna and propagation, mobile and satellite communications, telephony, information theory, data communications, electromagnetic waves, optical communications, Internet of Things (IoT), 4G and 5G technologies.

In addition, there will be intensive training in engineering mathematics, electronics, circuit and signals, computer and microprocessor systems, data communications and networking, electromagnetics, control theory, programming and power systems. A good coverage of subjects in management, economics, accounting and law is also emphasised.

Career Prospects: Telecommunications Network Engineer, Telephony Engineer, Switching and Transmission Engineer, Broadcast Engineer, Wireless Hardware Development Engineer, Radio Frequency Design Engineer, Embedded Wireless Software Engineer, Mobile Applications Developer, Telecommunication Equipment Engineer, Project Manager, or Sales & Customer Support Engineer.

PROGRAMME STRUCTURE

Year 1	Year 2	Year 3	Year 4	
CORE				
 Algorithm & Data Structure Circuit Theory Computer and Program Design Digital Logic Design Engineering Mathematics I Electronics I Electronics II Field Theory Introduction to Machines & Power System 	 Circuits & Signals Computer Organization & Architecture Data Communications & Computer Electromagnetic Theory Electronics III Engineer & Society Engineering Mathematics III Fundamentals of Communications Information Theory & Error Control Coding Instrumentation & Measurement Techniques Microcontroller & Microprocessor Systems 	 Antenna & Propagation Communications Electronics Control Theory Design Project Digital Signal Processing Electromagnetic Interference Multimedia & Communications Networks Mobile & Satellite Communications Industrial Training Project Management for Engineers 	 Optoelectronics and Optical Communications Project (Part 1) Project (Part 2) 	
	ELECTIVE MODULES	(Choose 3 Subjects)		
 Advanced Microprocessors Digital Wireless Communications Embedded System Design Java Technology Knowledge-based Systems Practical FPGA Design & Interfacing Object Oriented Programming with C++ 	 Radar System Design & Analysis Random Processes & Queueing Theory Semiconductor Packaging & Test Telemedicine Technology Data & Multimedia Networking Imaging Radar System Parallel Processing & Programming 	 Radio Network Planning towards 5G IoT Design and Interfacing 		
UNIVERSITY SUBJECTS and MATA PELAJARAN UMUM (MPU)				
Communication Skills/Law/Ethics • Workplace Communications • Law for Engineers • Engineer and Society	MPU U1 • Tamadun Islam & Tamadun Asia (Local) • Hubungan Etnik (Local) • Bahasa Komunikasi 2 (International) • Pengajian Malaysia 3 (International)	MPU U2 • Bahasa Kebangsaan A/Any subjects in U2 (Local) • Any subjects in U2 (International)	MPU U3 • Introduction to Malaysian Economy or any subjects in U3 MPU U4 • Co-Curriculum	

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

Bachelor of Engineering (Hons.) (Electronics majoring in Robotics & Automation) (R2/523/6/0035) 11/21 (MQA/FA4749)

The Faculty of Engineering and Technology offers an undergraduate programme leading to the Bachelor of Engineering (Electronics) degree majoring in Robotics and Automation. For students planning on professional careers in the fields of industry automation, this four-year engineering programme provides complete undergraduate training in robotics and automation fields such as advanced robotics, machine vision, artificial intelligence, additive manufacturing, microprocessor system, automation, power technology and Internet of Things (IoT).

In addition, the students are also exposed to basic engineering training in circuit and signal analysis, field theory, electronics, control theory, power systems, machines, communications and engineering mathematics. To better prepare the students for a professional career in engineering, courses in basic management, economics, accounting and law are also included. This programme also provides students with industrial experience and research training by requiring them to complete industrial training and final year project geared towards making them industry ready in this era of Industry 4.0.

Career Prospects: Robotics Engineer, Industrial Automation Engineer, Control Engineer, Automotive Engineer, Manufacturing Engineer, Production Engineer, Mechatronics Engineer, Engineering Academician or Researcher.

PROGRAMME STRUCTURE

Year 1	Year 2	Year 3	Year 4
	COF	RE	
Algorithm & Data Structure Circuit Theory Computer and Program Design Digital Logic Design Engineering Mathematics I Engineering Mathematics II Electronics I Electronics I Field Theory Introduction to Machines & Power System	 Analog & Digital Communications Circuits & Signals Control Theory Electromagnetic Theory Electronics III Engineering Mechanics Engineering Mathematics III Instrumentation & Measurement Techniques Microcontroller & Microprocessor Systems Power Technology 	 Automation Computer Organization & Architecture Design Project Digital Signal Processing Machine Vision Manufacturing & Operations Management Project Management for Engineers Robotics Industrial Training 	 Advanced Robotics Project
	ELECTIVE MODULES	(Choose 4 Subjects)	
Artificial Intelligence and Applications Communications Electronics Data Communications & Computer Networking Electromagnetic Interference Introduction to Computer Integrated Manufacturing Multimedia Technology & Application	 Semiconductor Packaging & Test Theory of Machines Additive Manufacturing Advanced Microprocessors Digital Control Systems Embedded System Design Java Technology Object Oriented Programming with C++ 	 Practical FPGA Design and Interfacing Quality Engineering IoT Design and Interfacing 	
	UNIVERSITY SUBJECTS and M	ATA PELAJARAN UMUM (MPU)	
ommunication Skills/Law/Ethics Workplace Communications Law for Engineers Engineer and Society	MPU U1 • Tamadun Islam & Tamadun Asia (Local) • Hubungan Etnik (Local) • Bahasa Komunikasi 2 (International) • Pengajian Malaysia 3 (International)	 MPU U2 Bahasa Kebangsaan A/Any subjects in U2 (Local) Any subjects in U2 (International) 	MPU U3 • Introduction to Malaysian Economy or any subjects in U3 MPU U4 • Co-Curriculum

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

Bachelor of Engineering (Hons.) Mechanical (Honours)

(R3/521/6/0027)10/27 (MQA/FA8757)

B.Eng (Hons.) Mechanical is one of the top in-demand disciplines of engineering. Mechanical engineers are relatively versatile and knowledgeable in various fields (both technical and managerial) that increase their value and demand in the job market. Students enrolling in this course will be equipped with the knowledge and skills to apply principles and fundamentals in Engineering Mathematics, Applied Mechanics, Mechanical Design, Thermal/Fluid Sciences, and Material Science to solve complex engineering problems. Throughout the four years Mechanical Engineering degree programme, students will also gain knowledge and experience on the current trend research areas encompassing Renewable Energy, Nanofluids, Composite Materials, Ergonomics, Machine Design and Tribology.

In addition, students are also given the opportunity to select the elective subjects related to IR-4.0 such as Additive Manufacturing, Robotics and Automation, IoT Design and Interfacing, and Artificial Intelligence & Applications. This programme also provides students with industrial experience and research training by requiring students to complete industrial training, capstone design project and final year project geared towards making them industry ready in this era of Industry 4.0.

Career Prospects: Mechanical Engineer/Consultant, Manufacturing/Process Engineer, Equipment Engineer, Oil & Gas Engineer, HVAC Engineer, Energy Engineer, Automotive Engineer, Machine Design Engineer, Project Engineer, R&D Engineer, Engineering Academician or Researcher.

PROGRAMME STRUCTURE

Year 1	Year 2	Year 3	Year 4	
CORE				
 Applied Dynamics Applied Statics Basic Electrical Technology Computer & Program Design Engineering Graphics Communication Engineering Mathematics I Engineering Mathematics II Principles of Thermodynamics Strength of Materials Workshop Technology 	 Applied Thermodynamics Engineering Mathematics III Fluid Mechanics Introduction to Electrical Power and Machines Materials Science Machine Component Design I Manufacturing and Operations Management Mechanics of Materials Measurement and Instrumentation Microprocessor Systems & Interfacing Theory of Machines 	 CAD/CAM Capstone Design Project Computational Method for Mechanical Engineering Fluid Dynamics Heat Transfer Industrial Management Industrial Training Machine Component Design II 	Control Engineering Mechanical Vibrations Project (Part 1) Project (Part 2)	
	ELECTIVE MODULES	(Choose 3 Subjects)		
Additive Manufacturing Energy Technologies Finite Element Method Quality Engineering Semiconductor Packaging and Test	 Artificial Intelligence and Applications Computational Fluid Dynamics Operations Research Robotics and Automation Tribology 	 Ergonomic and Human Factor Internal Combustion Engines Materials Engineering Heating, Ventilation and Air Conditioning Systems IoT Design and Interfacing 		
UNIVERSITY SUBJECTS and MATA PELAJARAN UMUM (MPU)				
Communication Skills/Law/Ethics • Workplace Communications • Law for Engineers • Engineer and Society	MPU U1 • Tamadun Islam & Tamadun Asia (Local) • Hubungan Etnik (Local) • Bahasa Komunikasi 2 (International) • Pengajian Malaysia 3 (International)	 MPU U2 Bahasa Kebangsaan A/Any subjects in U2 (Local) Any subjects in U2 (International) 	MPU U3 • Introduction to Malaysian Economy o any subjects in U3 MPU U4 • Co-Curriculum	

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

MINIMUM ENTRY REQUIREMENTS

Foundation in Engineering

- Engineering-related subject; OR
- Other equivalent qualification recognised by the Malaysian Government.

Diploma in Electronic Engineering / Diploma in Mechanical Engineering

- Technical/Vocational subject and a Pass in English; OR
- a Pass in English; OR
- its equivalent; OR
- Recognised Certificate in Engineering/Engineering Technology or its equivalent; * *One (1) year of relevant experience or a minimum of one (1) trimester of bridging programme is required for recognised related Vocational and Technical/Skills Certificate or its equivalent

Bachelor of Engineering (Hons.) (Electrical)/(Electronics)/(Electronics majoring in Computer)/ (Electronics majoring in Nanotechnology)/(Electronics majoring in Telecommunications)/(Mechanical)/ (Electronics majoring in Robotics & Automation)

- Pass Foundation/Matriculation studies in related field from a recognised institution; OR
- Pass STPM or its equivalent with a minimum of Grade C (GP 2.00) in Mathematics and Physics; OR
- Pass A-Level with a minimum of Grade D in Mathematics and Physics. OR
- Pass UEC with a minimum of Grade B in at least five (5) subjects inclusive of Mathematics and Physics; OR
- Recognised Diploma in Engineering/Engineering Technology or its equivalent with minimum CGPA 2.00.



• Pass SPM/O-Level or its equivalent with a minimum of Grade C in at least five (5) subjects inclusive of English, Mathematics and one

• Pass UEC with a minimum of Grade B in at least four (4) subjects inclusive of Mathematics, English and one Engineering-related subject; OR

· Pass SPM/O-Level or its equivalent with a minimum of Grade C in at least three (3) subjects inclusive of Mathematics and one Science

• Pass UEC with a minimum of Grade B in at least three (3) subjects inclusive of Mathematics and one Science/Technical/Vocational subject and

Pass STPM or its equivalent with a Pass in Mathematics, English AND one relevant Science/Technical/Vocational subject at the SPM Level or



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