UPM PUTRA PERTANIAN UNTUK RAKYAT

FAKULTI KEJURUTERAAN
FACULTY OF ENGINEERING
فاكولتي كجوروتراءن

Master Programme by Coursework
Faculty of Engineering

Master in
Communication Engineering

Scan Here for More Info

Prof. Dr. Mohd Fadlee A. Rasid

603-9769 4322

fadlee@upm.edu.my

www.eng.upm.edu.my

Introduction

Master in Communication Enginering (MCE) is designed to deepen the understanding and applications of communications engineering mainly in two focused areas which are wireless and photonics communications. The courses offered emphasize on various levels of communications such as devices, systems, transmission, networks and standards for both areas. Both wireless and photonics technologies are high impact research areas that can support many applications in various fields including agriculture, communication, sensing and many others.

Admission Requirements

1. Bachelor's Degree in Engineering or Engineering Technology:
   - CGPA ≥ 2.75; or
   - CGPA 2.50–2.74 with at least 3 years of relevant work experience; or
   - CGPA 2.25–2.49 with at least 5 years of relevant work experience.
2. Bachelor's Degree in a related field of Science or Technology:
   - CGPA ≥ 3.00; or
   - CGPA 2.75–2.99 with at least 3 years of relevant work experience; or
   - CGPA 2.50–2.74 with at least 5 years of relevant work experience.

Note: Candidates with a Science or Technology degree are required to take prerequisite Engineering modules to prepare for advanced studies.

Language Requirements

English Language Requirement (for international candidates):
- TOEFL (Paper-based Test): minimum 550, or
- TOEFL (Internet-based Test): minimum 79–80, or
- IELTS (Academic Training): minimum Band 6.0.

Note: Candidates who do not meet the minimum score may receive provisional admission and must pass the University's English Placement Test.

Programme Requirements

Credit Requirements for Graduation
Students enrolling under this programme must fulfil 40 credits of coursework to graduate. The credit distribution for compulsory courses, elective courses and dissertation is as follows:
- Compulsory Courses 24 credits
- Elective Courses 6 credits
- Dissertation 10 credits

Note: ECC5990 - Dissertation is carried out over two semesters (3+7 credits)

Course Synopsis

COMPULSORY MODULE

ECC5100 | Research Methodology | 3 Credits
Encompasses the fundamental principles of research such as the organization of relevant information, the determination of appropriate research methodology, and the production of research proposal papers.

ECC5120 | ICT Project Management | 3 Credits
Covers topics related to project management for ICT related industries.

CORE MODULE (CORE COURSES)

ECC5121 | Sustainability in Telecommunication Technology | 3 Credits
Covers the concept of sustainability in the field of computer and communication systems engineering.

ECC5301 | Internet of Things | 3 Credits
Covers Internet of Things (IoT) fundamental, network architecture and design incorporating smart objects connectivity, IoT network layer, application protocols and data analytics.

ECC5307 | Machine Learning | 3 Credits
Covers the principles, issues and architectures of machine learning methods which includes several decision trees and neural network based methods.

ECC5507 | Advanced Cellular and Satellite Communication | 3 Credits
Covers technical concepts and recent developments in mobile and satellite communication systems.

ECC5611 | Advanced Optical Fiber Networks | 3 Credits
Covers important issues in optical networks including existing and future technology.

ECC5720 | Advanced Digital Signal Processing | 3 Credits
Covers advanced aspects of signal and noise characteristics in digital signal processing, the wavelet transforms, Bayesian interference and Hidden Markov Model to represent signal and noise.

CORE MODULE (ELECTIVE COURSES) - Choose only two (2) courses

ECC5409 | Network Management | 3 Credits
Covers management and monitoring effective computer network systems.

ECC5503 | Microwave Engineering | 3 Credits
Covers the concepts and analysis of microwave networks.

ECC5522 | Wireless Sensor Network | 3 Credits
Covers the principles and applications of wireless sensor network, the features of network architecture, topology, protocols, hardware platform and applications.

ECC5621 | Photonic Devices Design | 3 Credits
Covers the application of the latest optical devices and optical devices technology.

ECC5701 | Big Data Architecture and Management | 3 Credits
Covers best practices in big data management including architecture, storage, operation, integration and interoperability.

ECC5721 | Advanced Computer Networks| 3 Credits
Covers advanced knowledge in computer networks, especially in the management of lower and upper layers involving aspects of service quality.

ECC5723 | Network Security | 3 Credits
Covers the principles of computer network security such as cryptography, security policy and design, and intrusion detection.

ECC5724 | Advanced Mobile Networks | 3 Credits
Covers the principles of mobile networks such as its enabling technologies, mobility management and support systems.

DISSERTATION MODULE

ECC5990 | Dissertation | 10 Credits
Covers essential aspects of preparing and conducting research studies, including developing skills in literature review, applying appropriate methodologies, and collecting and analyzing data.

Fees	Master Without Thesis	
	Malaysian Student	International Student
Basic Fees (1st semester)	RM 1,350	RM 2,400
Basic Fees (2nd and subsequent semester)	RM 1,100	RM 2,150
Credit Fees – Subject to change	RM 370 / credit	RM 450 / credit