SKR5501 Performance Modeling of Communication Networks

This course covers various aspects of modeling and simulation of wired and wireless communication networks highlighted for the purpose of performance benchmarking. Probability and queuing theories are used to evaluate the simulation of network performance. The concepts and elements of developing simulation systems are emphasized.

SKR5988 Dissertation/Project

This course involves research or study by each student on a specific topic related to computer network scope. The topic of research or study will be determined by the student in consultation with the supervisor. It is carried out in two semesters. In the first semester, a proposal needs to be submitted that contains a literature review, problem statement, and research objectives, etc. In the following semester, the student needs to submit a complete project report (thesis). A student is also required to present the research project to a panel of assessors.



CONTACT US Application for Admission

SCHOOL OF GRADUATE STUDIES

Zone 4, Off Jalan Stadium, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor Darul Ehsan.

Tel.: (603) 9769 4218 / 4223 / 4165 / 4169 / 4225

Website: www.sgs.upm.edu.my

For further information on academic programmes, please contact:

FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY.

Universiti Putra Malaysia, 43400 UPM Serdang, Selangor Darul Ehsan.

Tel.: (603) 9769 1742 / 1744 / 3091 / 3095

Fax: (603) 9769 6576

Website: www.fsktm.upm.edu.my

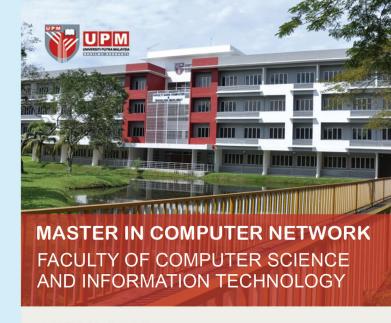
Master Programme Coordinator

FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY,

Universiti Putra Malaysia, 43400 UPM Serdang, Selangor Darul Ehsan. Tel.: (603) 9769 1724 / 1433

Email: masnida@upm.edu.my





INTRODUCTION

The Master in Computer Network is a 40-credit postgraduate program by coursework at the Faculty of Computer Science and Information Technology, UPM. It aims to offer an opportunity for advanced studies and professionalism in the field of computer networks with expertise, and equivalent skills competency, internationally. It means to support the nation's aspirations for focusing on knowledge-based technology.

ENTRENCE REQUIREMENTS

An applicant should have a Bachelor's degree or its equivalent, in the area of computing, science and technology, or related to computation, with a CGPA of at least 2.75, or

Applicants with a CGPA of between 2.50 and 2.75 (2.50 =<CGPA< 2.75) may be considered if they have at least one (1) year of working experience in a related field, or

Applicants with a CGPA below 2.50 must have at least five (5) years of working experience in a related field.

An applicant with another Bachelor's degree that is not in the areas of computing, science, and technology is required to register for a pre-requisite course. Do contact us for further information.

PROGRAMME REQUIREMENTS

Graduation Credit Requirements:

In order to graduate, students must complete at least 40 credits. The minimum cumulative average is 3.00. The minimum credit distribution for this program is as follows:

> Compulsory course 21 credits Elective courses 9 credits Dissertation/project 10 credits

Total 40 credits

a) Compulsory Courses (core modules)

Course Code	Course Name	Credit
SKR5090	Research Methods in Computer Network	3 (3+0)
SKR5201	Network and Communication Security	3 (3+0)
SKR5302	Advanced Distributed Computing	3 (3+0)
SKR5307	Communication Technology and Network	3 (3+0)
SKR5401	Wireless Pervasive Computing	3 (3+0)
SKR5406	Cloud Computing Architecture	3 (3+0)
SKR5501	Performance Modeling of Communication Networks	3 (3+0)

b) Elective Courses

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Course Code	Course Name	Credit
SKR5308	Real Time Systems	3 (3+0)
SKR5400	Distributed High-Performance Computing	3 (3+0)
SKR5403	Quantum Computing	3 (3+0)
SKR5407	Software Defined Network	3 (3+0)
SKR5408	Big Data Distributed System Architecture	3 (3+0)

c) Dissertation/Project

Course Code		Course Name	Credit
SKR5988	Project		10 (0+10)

TUITION FEES

The fee structure for this program consists of a basic fee and a credit-based fee:

a) Basic Fee

Semester	Malaysian	International Students
First Semester	RM 1350	RM 2400
Second and subsequent Semester	RM 1100	RM 2150

a) Credit-based Fee

Student	Amount	Credit	Total Amount	
International	RM 450 per credit	40	RM 18,000	
Local	RM 300 per credit	40	RM 12,000	

COURSE SYNOPSIS

SKR5090 Research Methods in Computer Network

This course comprises research methods used in computer networks. It also contains steps to efficiently plan, organize and use the available resources in conducting research.

SKR5201 **Network and Communication Security**

This course comprises advanced topics in cryptography. network security applications and communication system security that emphasize the practice of network and communication security. It also covers the explanation of practical applications that have been and still being used for ensuring network and communication security.

SKR5302 **Advanced Distributed Computing**

This course covers concepts and technical requirements in developing distributed systems based on open system standards. Performance aspects of processing and management of distributed computing are discussed.

SKR5307 **Communication Technology and Network**

This course covers the latest and most advanced concepts in wired and wireless networks and comprise explanations of communication technology and computer networks. Network performance evaluation through quantitative models such as queue theory and flow-control mechanisms has also been emphasized.

SKR5308 **Real-Time Systems**

This course covers the advanced topics of real-time systems in the latest computing systems. It comprises explanations of the concepts and designs for reliability, and fault-tolerance techniques that will be evaluated for their respective effectiveness



Distributed High-Performance SKR5400 Computing

This course covers the concepts of parallel and distributed computing for high-performance computer systems with shared and distributed memory. This course also explains and implements programming models and applications that are usable on high-performance computer systems.

Wireless Pervasive Computing SKR5401

This course covers various topics on wireless pervasive networks and mobile networks. It also includes topics on issues in designing pervasive and mobile networks, and technical requirements and performance that are required for such networks.

Quantum Computing SKR5403

This course comprises the main concepts on quantum algorithms that can be applied in quantum computing processes to complement the emerging quantum computer devices and technology. Emphasis is given on the applications of quantum computing.

SKR5406 **Cloud Computing Architecture**

This course covers network architecture for virtualization and managing Cloud computing. It covers a description of the relation between distributed models and Cloud computing services, and the concept of Cloud programming on service-based computing.

SKR5407 Software Defined Network

This course will cover software-defined networking (SDN). It starts from the principle of designing SDN with several planes, SDN extensions, and its applications.

SKR5408 **Big Data Distributed System Architecture**

This course explains the architecture of big data distributed systems and the implementation of programming models. Applications that are usable for big data are emphasized.

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