Professional
Certificate
PROGRAMME

FAKULTI
TEKNOLOGI DAN SAINS MAKLUMAT
Faculty of Information Science and Technology

UNIVERSITI KEBANGSAAN MALAYSIA
The National University of Malaysia

NARATIF BAHARU UKM
UNIVERSITI WATAN KITA

30
FTSM
1994-2024

UNIVERSITI KEBANGSAAN MALAYSIA

#138 QS WORLD UNIVERSITY RANKINGS
WORLD UNIVERSITY RANKINGS 2025 — IN THE TOP 150 IN THE WORLD

#28 QS ASIA UNIVERSITY RANKINGS
UNIVERSITY RANKINGS ASIA — TOP 30 — 2024

5 QS STARS University Ratings
Overall Teaching Employability Internationalization Facilities

#401–500 THE WORLD UNIVERSITY RANKINGS

#101 THE ASIA UNIVERSITY RANKINGS
THE Times Higher Education 2024

#1 AppliedHE Public & Private University Ranking ASEAN

HURS ★★★★★ Awarded 5 Stars+ Rating
Healthy University Rating System

FACULTY OF INFORMATION SCIENCE AND TECHNOLOGY

MQA Agensi Kelayakan Malaysia
Malaysian Qualifications Agency
SWAAKREDITASI SELF-ACCREDITATION
MQA/SA/0001
MULAI/SINCE: 2010

MD Premier Digital Tech Institution

QS WORLD UNIVERSITY RANKINGS BY SUBJECT 2024

DATA SCIENCE AND ARTIFICIAL INTELLIGENGE	ENGINEERING AND TECHNOLOGY	COMPUTER SCIENCE AND INFORMATION SYSTEM
TOP 100 · #51–70	TOP 200 · #173	TOP 250 · #201–250

Contents

PROFESSIONAL CERTIFICATE IN
Data Science I

Introduction

The Fourth Industrial Revolution (Industry 4.0) involving artificial intelligence presents new challenges to all sectors in the country that require them to make changes along with digital transformation to remain competitive. So the Professional Certificate Programme in Data Science Data Science under the Universiti Kebangsaan Malaysia (UKM) aims to introduce the skills in the discipline of Data Science that are required to process, analyze, forecast until being able to visualize to understand the value and commodity of data.

The importance of artificial intelligence is necessary to transform routine matters in the governance of the government sector following the collection and storage of a lot of data, as well as requiring data analytics in forecasting needs, and the decision-making process by management.

CENTER FOR ARTIFICIAL INTELLIGENCE TECHNOLOGY (CAIT)

Objectives

- To introduce skills in Data Science for processing, analysing, predicting, and visualizing to understand the values and commodity of data.

- To equip participants with skills in the discipline of Data Science to remain competitive in the IR4.0 era.

Learning Modules

- MODULE 1 | Introduction to Data Science
- MODULE 2 | Data Analytics
- MODULE 3 | Machine Learning for Data Science
- MODULE 4 | Big Data Management
- MODULE 5 | Business Analytics and Intelligence

Learning Outcomes

✓ Understand how to use data to derive meaningful results for business.

✓ Identify opportunities.

✓ Understand different data science algorithms.

✓ Build and spearhead data science teams in the right direction.

Enrolment Prerequisites

- Open to all

- For those who are interested in studying Master of Data Science at the Faculty Information Technology & Science UKM, this professional certificate course enabling them to continue their Master's studies on a transfer basis micro qualifications. To qualify for the Masters in Data Science, a participant must meet the following criteria:

  ✓ Have a Bachelor's Degree from a recognized university with CGPA no less than 2.5

Fees

- Individual - RM4,000.00

- Group package subject to discussion (contact us, for more details)

Duration: 5 days

Venue: Faculty of Information Technology and Science, UKM

For further clarification, contact:

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PROFESSIONAL CERTIFICATE IN
Cyber Security Management

Introduction

The requirement to provide information security is critical for individuals and an organization. This course aims to provide exposure to candidates on the five (5) domains of information security, namely the theory of security, communication security, infrastructure security, organizational and operational security. In addition, the course will also introduce the basic concepts of computer penetration testing and computer forensics approaches. There are 12 topics in this course, namely Digital Security; Information Security Management System; Access Control, Verification and Auditing; Business Continuity Management; Infrastructure Security; TCP/IP and Network Packet Analysis; Communication Security; Cryptography and Public Infrastructure; Penetration, Trace and Surveillance Testing; Intrusion Detection System, System Hardening and Secure Programming; Web and Email Security; and lastly Computer and Network Forensics.

CENTER FOR
CYBER
SECURITY
FACULTY OF INFORMATION SCIENCE AND TECHNOLOGY

CENTER FOR CYBER SECURITY (CYBER)

Objectives

- Apply mechanisms in developing security information for network technology infrastructure and end device environments.

- Relate the importance of network security management in improving the information security and business continuity of an organization.

Learning Topics

1. Digital Security Theory
2. Information Security Management System
3. Access Control, Authentication and Auditing
4. Business Continuity Management
5. Infrastructure Security
6. TCP/IP and Network Packet Analysis
7. Communications Security
8. Cryptography and Public Key Infrastructure
9. Penetration Testing, Trace and Reconnaissance
10. Intrusion Detection Systems, System Hardening and Secure Programming
11. Web and Email Security
12. Computer and Network Forensics

Learning Outcomes

✓ Master the skills of implementing methods and techniques in cyber security management.

✓ Integrate best practices in cybersecurity management.

Enrolment Prerequisites

- Possess at least a Diploma in Computing from a recognized educational institution; OR

- Students in the final year of a Bachelor's study program in the field of Computing at a recognized educational institution; OR

- Have a Malaysian Education Certificate (SPM) or equivalent with honors in Mathematics AND have at least 5 years of work experience in the field of Computing; OR

- Have work experience in the field of Computing at least 10 years.

Fees

- Individual - RM3,000.00

Duration: 8 days

Venue: Faculty of Information Technology and Science, UKM

For further clarification, contact:

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SYSTEM
DEVELOPMENT

PROFESSIONAL CERTIFICATE IN
System Development

Introduction

This course delivers the advanced knowledge concerning system development according to Software Engineering Body of Knowledge (SWEBOK). It consists of all the main phases in the system development cycle that is Requirements, Design, Development, Testing and Maintenance. Course participants would be able to develop a large-scale high quality, software system that follows the target users. Based on knowledge and exposure to the process, technique and latest tools in developing high quality systems, the course participants would be able to select the best development strategy which is suitable with the requirements.

Research Center for
SOFTAM
Software Technology and Management

CENTER FOR SOFTWARE TECHNOLOGY AND MANAGEMENT

Learning Topics

1. Basic Concepts of System Development
2. System Requirements: Acquisition & Analysis
3. System Requirements: Specification, Validation & Management
4. System Design: Structure & Architecture
5. System Design: Databases
6. System Design: User Interfaces
7. Systems Development: Strategies & Approaches
8. Systems Development: Technologies & Tools
9. Systems Testing: Principles & Fundamentals
10. Systems Testing: Techniques & Tools
11. System Maintenance
12. System Management

Learning Outcomes

✓ Demonstrate mastery of knowledge and understanding concerning principles of large-scale software system development.

✓ Make reasonable considerations of various methods and techniques in selecting a system development approach that is strategically appropriate to the problems encountered.

✓ To apply techniques and methods in accordance to the different software system development types and environments.

Enrolment Prerequisites

• Possess at least a Diploma in Computing from a recognized educational institution; OR

• Students in the final year of a Bachelor's study program in the field of Computing at a recognized educational institution; OR

• Have a Malaysian Education Certificate (SPM) or equivalent with honors in Mathematics AND have at least 5 years of work experience in the field of Computing; OR

• Have work experience in the field of Computing at least 10 years.

Fees

• Individual - RM3,000.00

Duration: 8 days

Venue: Faculty of Information Technology and Science, UKM

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PROFESSIONAL CERTIFICATE IN
Management of ICT Infrastructure

Introduction

Professional Certificate Programme in Management of ICT Infrastructure is to show participants about the management of the main components or key components of a Data Center and the basis of a computer Network.

This course is able to deliver advance knowledge concerning the management of network and data centre. Course participants will be exposed to the responsibilities of the network and data manager, architecture, functions and principles of network and data centre.

MANAGEMENT OF ICT INFRASTRUCTURE

Research Center for
SOFTAM
Software Technology and Management

CENTER FOR SOFTWARE TECHNOLOGY AND MANAGEMENT

Learning Topics

1. Introduction to Data Center Operations
2. Information Management & Storage
3. IT Service Management (ITSM)
4. Data Center Control and Security
5. Green Data Center
6. Data Center Maintenance
7. Network Operating Systems
8. Application Layer & Network Transport
9. Communication & Network Protocols
10. Internet Protocol Addressing
11. Network & Ethernet Access
12. Network Organizations

Learning Outcomes

✓ To distinguish the infrastructure, operational and management of organizational data centre and computer networking.

✓ To apply data centre management operational best practices based on relevant standards and guidelines.

✓ To design computer networking based on organizational requirement.

Enrolment Prerequisites

• Possess at least a Diploma in Computing from a recognized educational institution; OR

• Students in the final year of a Bachelor's study program in the field of Computing at a recognized educational institution; OR

• Have a Malaysian Education Certificate (SPM) or equivalent with honors in Mathematics AND have at least 5 years of work experience in the field of Computing; OR

• Have work experience in the field of Computing at least 10 years.

Fees

• Individual - RM3,000.00

Duration: 8 days

Venue: Faculty of Information Technology and Science, UKM

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PROFESSIONAL CERTIFICATE IN
ICT Project Management

Introduction

The dynamic nature of ICT projects is influenced by the rapid evolution of information technology and changing business models. The complexity of ICT projects thus challenges the project managers in managing ICT projects effectively. This program delivers knowledge on ICT Project management and Change Management concepts and techniques according to the ten (10) knowledge pillars as defined in the PMBOK. The knowledge pillars consist of: integration management, scope management, time management, cost management, quality management, human resources management, communication management, risk management, procurement management and project stakeholder's management. Based on the knowledge and exposure to the project management best practices, the course participants will be able to identify and apply appropriate methods and techniques in managing ICT projects.

Research Center for
SOFTAM
Software Technology and Management

CENTER FOR SOFTWARE TECHNOLOGY AND MANAGEMENT

Learning Topics

1. ICT Project Management Life Cycle
2. Project Integration Management
3. Project Scope Management
4. Project Time Management
5. Project Cost Management
6. Project Quality Management
7. Project Human Resource Management
8. Project Communication Management
9. Project Risk Management
10. Project Stakeholder Management
11. Project Procurement Management
12. Change Management

Learning Outcomes

✓ Compare the best practices in managing ICT projects.

✓ Describe the best practices in managing ICT projects.

✓ Plan appropriate project plans in managing ICT projects.

Enrolment Prerequisites

- Possess at least a Diploma in Computing from a recognized educational institution; OR

- Students in the final year of a Bachelor's study program in the field of Computing at a recognized educational institution; OR

- Have a Malaysian Education Certificate (SPM) or equivalent with honors in Mathematics AND have at least 5 years of work experience in the field of Computing; OR

- Have work experience in the field of Computing at least 10 years.

Fees

- Individual - RM3,000.00

Duration: 8 days

Venue: Faculty of Information Technology and Science, UKM

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