

## **Bachelor of Computer Science (Hons)** **KP/JPS(KR7930)3/12**

This programme provides students with a broad and fundamental understanding of computer science, programming and software engineering.

As Mathematics is always an integral part of any Computer Science curriculum, this programme is further enhanced with three elective minors in Mathematics, i.e. Statistics, Management Mathematics, and Computer Mathematics.

This programme equips graduates with the skills to be technically competent in the analysis, development and implementation of computer systems.

Together with a suitable mathematics background, graduates are trained and prepared to have good reasoning and analytical ability in problem-solving.

The specialised topics are Artificial Intelligence, Distributed Computer Systems, Parallel Processing, Software Engineering Practice, Cryptography, Applied Statistics, Operation Research, and Financial Mathematics.

### **Career Prospects**

Graduates from this programme are specially prepared to work in the computer systems and software development areas.

They are able to join the workforce as software engineers, software developers, analyst programmers, programmers, project engineers, network engineers, systems administrators, IT executives, systems analysts, system engineers, database administrators and IT support personnel.

<b>Bachelor of Computer Science (Hons)</b> <i>KP/JPS(KR7930)3/12</i>	
<b>Year 1</b>	
<b>First Semester</b>	
	Introduction to Computer Organisation and Architecture
	Programming Concepts and Design
	Data Communications
	Introductory Discrete Mathematics
	Basic Algebra
	Bahasa Kebangsaan (A)* <i>For Malaysians</i> <b>or</b> Bahasa Kebangsaan (B)** <i>For non-Malaysians</i>
<b>Second Semester</b>	
	Analysis and Design of Information Systems

	Data Structures and Algorithms
	Database Development and Applications
	Calculus I and Applications
	Pengajian Malaysia
	Pendidikan Moral <b>or</b> Pengajian Islam
<b>Year 2</b>	
<b>First Semester</b>	
	Object-Oriented Systems Analysis and Design
	Operating Systems
	Communication Networks
	Statistics
	Calculus II and Applications
	<b><u>Elective I</u></b> Public Relations <b>or</b> Interpersonal Communication
<b>Second Semester</b>	
	Artificial Intelligence
	Database Systems
	Multimedia Technology
	Internet Programming
	Option I
	<b><u>Elective II</u></b> Economics <b>or</b> Management Principles
Option I	
Option 1	Applied Statistics
Option 2	Theory of Interest <b>or</b> Applied Statistics
Option 3	Introductory Numerical Methods <b>or</b> Graph Theory and Applications
<b>Year 3</b>	
<b>First Semester</b>	
	Project I
	Software Engineering Practice
	Object-Oriented Programming Practices

	Distributed Computer Systems
	Option II
	<b><u>Elective III</u></b> Introduction to Sociology <b>or</b> Culture and Communication
	Option II
Option 1	Quality Control
Option 2	Mathematics of Insurance <b>or</b> Operations Research I
Option 3	Cryptography
<b>Second Semester</b>	
	Project II
	Advanced Artificial Intelligence
	Parallel Processing
	Option III
	<b><u>Elective IV</u></b> Techopreneurship <b>or</b> Computer Law and Ethics
	Option III
Option 1	Stochastic Processes
Option 2	Mathematics of Financial Markets <b>or</b> Operations Research II
Option 3	Combinatorics

Note: All information are subject to change at UTAR's discretion.

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