Universiti Tun Hussein Onn Malaysia
86400 Parit Raja, Batu Pahat, Johor

Academic Proforma 2016/2017

Bachelor of Information Technology
Faculty of Computer Science and Information Technology

Information contained in this proforma is true at the time of printing and the University has the right to make any ammendment according to needs.

Contents

Foreword from the Vice Chancellor

Assalammualaikum Warahmatullahi Wabarakatuh and Warm Grettings

Our utmost gratitude to Allah the Almighty, I am able to share and pen down a couple of words and advices to readers of this proforma especially to new students of Universiti Tun Hussein Onn Malaysia (UTHM) whom had just enrolled in this 2016/2017 Academic Session.

Congratulations and welcome to the new students and thank you for believing in UTHM for your continuing endeavour in the search of knowledge towards the success in your future career and life betterment.

For your information, University leadership continues to strive in the search of, designing, and adapting the effective and efficient approaches that would able to produce the highest impact towards making UTHM a top Higher Education Institution. The success in obtaining “QS STARS RATED FOR EXCELLENCE 2015”☆☆☆ and UTHM was recognized as the Top 300 in the QS World University Ranking by Subject 2015 for Mechanical, Aeronautical and Manufacturing Engineering, have proven that UTHM continues creating excellence. These successes have convinced the University that these are due to the alignment of University's vision and mission which are continually strengthen and improve.

As the Vice Chancellor, I gave full confidence that UTHM is currently on the right track in the effort towards the success of the 10 Shifts identified in the Malaysia Education Blueprint (Higher Education). Based on the details outlined in the Malaysia Education Blueprint (Higher Education), UTHM is committed in producing human capital and disseminating knowledge to meet the needs of the industry and the community as well as to nurture creative and innovative human capital.

Last but not least, I believe that you will become graduates of the University that will successfully continue the University excellence tradition. When you graduated, you will become the member of society that will not only be able to apply the knowledge gained but also be able to contribute service and expertise for the importance and the needs of Religion, Race and Nation.

"**WITH WISDOM WE EXPLORE**"

PROFESSOR DATUK DR. MOHD. NOH BIN DALIMIN
Vice-Chancellor
Universiti Tun Hussein Onn Malaysia

Foreword from the Deputy of Vice Chancellor (Academic and International)

Assalammualaikum Warahmatullahi Wabarakatuh and Warm Greetings

I would like to take this opportunity to express the utmost congratulations and well done to you as the new students whom have been successfully been selected to pursue studies at Universiti Tun Hussein Onn Malaysia for this 2016/2017 session.

I would also like to congratulate Centre for Academic Development and Training that has successfully produced the proforma which will be used as a guide for students in planning the studies beginning from the first semester until the end of the studies at this University.

Detailed planning which is effectively implemented at every semester as well as early preparation of students before attending lectures is very important in ensuring the readiness of learning process. Apart from that, the preparation for co-curriculum program also is important in shaping the personality and social development of students.

I hope that the publication of this proforma can be fully utilized by you in planning your studies at the University and you are capable of obtaining the best results as well as attaining excellent success.

Last but not least, I would like to wish All the Best and I pray that you will achieve excellent success in your studies at the University and thus can contribute as the human capital towards religion, race and Nation development.

Thank you.

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PROFESSOR DR. WAHID BIN RAZZALY
Deputy of Vice Chancellor (Academic and International)
Universiti Tun Hussein Onn Malaysia

Foreword from the Dean of Faculty of Computer Science and Information Technology

Assalamualaikum Warahmatullahi Wabarakatuh and Warm Greetings

First and foremost, I would like to welcome you to the Faculty of Computer Science and Information Technology (FSKTM) for current academic session of 2016/2017. My heartiest congratulation to all of you for being part of us.

With UTHM's primary mission and vision to produce creative and high quality graduates, FSKTM is offering various courses to our students. These courses are specially tailored based on findings from the market research conducted in the field of Computer Science and Information Technology. You will be exposed to learning and teaching with appropriate doses of theory and practice in the field of Computer Science and Information Technology including educational visits to IT industries and industrial attachment.

Together with the Department of Software Engineering, FSKTM has grown to include three (3) more departments, namely the Department ofInformation Security, Department of Multimedia, and Department of Web Technology. Through these four (4) departments, five (5) Bachelor programmes, four (4) Master by mix-mode programmes, Master by research programme and Doctorate of Philosophy (PhD) programmes are offered.

With the Bachelor programmes offered at FSKTM, you should take the opportunity to work exhaustively to fulfill your own goal and finally contribute to the goals of your nation and the industry. Systematic planning coupled with good preparation throughout your studies will produce good academic posture and a satisfying students' life. Aim high and work both hard and smart!

Last but not least, congratulations and all the best!

Thank you.

ASSOCIATE PROF. DR. NAZRI BIN MOHD NAWI
Dean
Faculty of Computer Science and Information Technology
Universiti Tun Hussein Onn Malaysia

University Vision

Towards a world class university in engineering, science and technology for sustainable development

University Mission

UTHM is committed to generate and disseminate knowledge, to meet the needs of industry and community and nurturing creative and innovative human capital, based on tauhidic paradigm

University Education Philosophy

The education and training in this university is a continuous effort to lead in the market oriented academic programmes. These programmes are student-focused and are conducted through experiential learning in order to produce well trained human resource and professionals who are catalysts for a sustainable development

University Logo

The logo of Universiti Tun Hussein Onn Malaysia (UTHM) is the pride, identity and idealism of the members of UTHM community. UTHM logo displays a Proton, Book, Tiered Mortar Board, Book Rest and Shield.

The whole concept of the logo symbolises UTHM as an Institution of Higher Learning which supports the growth and development of knowledge at all levels in fields of Science and Technology.

Blue represents a close-knit circle of members of UTHM community which ensures the success and enhancement of its educational and research programmes and activities for the benefits of mankind.

Red symbolises the courage of UTHM in the exploration of new fields as the pioneer in science and technology applications, which reflects the spirit and self-esteem of the members of UTHM community.

Symbolism:

Red	Courage
Blue	Co-operation/Loyalty
Silver	Quality/Prestige
Book Rest	Repository of knowledge
Proton	Science and technology
Book	Knowledge
Mortar board	Levels of study
Shield	Confidence

Chancellor

Duli Yang Maha Mulia Sultan Ibrahim Ibni Almarhum Sultan Iskandar
Sultan of Johor
D.K., D.K. (Pahang), SPMJ, SSIJ, S.M.N., S.P.M.T., S.M.P.K., P.I.S.

Pro-Chancellor I

Duli Yang Amat Mulia Tunku Ismail Ibni Sultan Ibrahim
Tunku Mahkota of Johor
D.K., SPMJ, P.I.S

Pro-Chancellor II

YBhg. Tan Sri Dr. Ali Hamsa
Chief Secretary to the Government of Malaysia

University Board of Directors

Chairman

Tan Sri (Dr.) Ir. Jamilus bin Md Hussin
Pengerusi Lembaga Pembangunan Industri Pembinaan (CIDB Malaysia),
Pengerusi KLIA Premier Holdings

Members

Professor Datuk Dr. Mohd. Noh bin Dalimin
Vice Chancellor
Universiti Tun Hussein Onn Malaysia

Tan Sri Dato' Sri Sufri bin Hj Mohd Zin
Group Managing Director
TRC Synergy Berhad

Associate Professor Dr. Arham bin Abdullah
Director
Industrial Relation Division
Ministry of Higher Education Malaysia

Datuk Dr. Pang Chau Leong
Department of Skills Development
Ministry of Human Resources

Datuk Hj. Mohlis bin Jaafar
Head of Director
Department of Polythechnic Education
Ministry of Higher Education Malaysia

Dato' Zainal Abidin bin Mat Nor
Deputy Secretary of Public Asset Management Division
Ministry of Finance

Datuk Mat Noor Nawi
Chairman
Exim Bank Berhad

Puan Mazula binti Sabudin
Director
Student Entry Management Division
Ministry of Higher Education Malaysia

Secretary

Encik Abdul Halim bin Abdul Rahman
Registrar
Universiti Tun Hussein Onn Malaysia

Senate Members

Chairman

Professor Datuk Dr. Mohd. Noh bin Dalimin
Vice-Chancellor

Members

Professor Dr. Wahid bin Razzaly
Deputy Vice-Chancellor (Academic and International)

Professor Dr. Hashim bin Saim
Deputy Vice-Chancellor (Research and Innovation)

Assiciate Professor Dr. Asri bin Selamat
Deputy Vice-Chancellor (Student Affairs and Alumni)

Professor Dr. Ahmad Tarmizi bin Abd. Karim
Assistant Vice-Chancellor (Development, Management Facility and ICT)

Profesor Dato' Dr. Abdul Razak bin Hj. Omar
Assistant Vice-Chancellor (Community and Industrial Relations)

Professor Dr. Hj. Ismail bin Abdul Rahman
Dean Centre for Graduate Studies

Associate Professor Dr. Abd Halid bin Abdullah
Dean Faculty of Civil and Environmental Engineering

Dr. Afandi bin Ahmad
Dean Faculty of Electrical and Electronic Engineering

Associate Professor Dr Shahruddin bin Mahzan @ Mohd Zin
Dean Faculty of Mechanical and Manufacturing Engineering

Dr. Mohd Lizam bin Mohd Diah
Dean Faculty of Technology Management and Business

Associate Professor Dr. Ahmad bin Esa
Dean Faculty of Technical and Vocational Education

Associate Professor Dr. Nazri bin Mohd Nawi
Dean Faculty of Computer Science and Information Technology

Associate Professor Dr. Mohd Kamarulzaki bin Mustafa
Acting Dean Faculty of Science, Technology and Human Development

Associate Professor Dr. Ishak bin Baba
Dean Faculty of Engineering Technology

Associate Professor Dr. Mohamad Zaky Bin Noh
Dean Centre for Diploma Studies

Associate Professor Dr. Azme bin Khamis
Dean Center for Academic Development and Training

Professor Dr. Rosman bin Md. Yusoff
Dean Centre for General Studies and Co-Curricular
Director Institute for Social Transformation and Regional Development

Madam Robijah binti Kamarulzaman
Dean Centre for Language Studies

Professor Dr. Rosziati binti Ibrahim
Dean Research and Development Centre

Professor Dr. Sulaiman bin Hj Hassan
Faculty of Mechanical and Manufacturing Engineering

Professor Dr. Yusri bin Yusof
Director of International office/Faculty of Mechanical and Manufacturing Engineering

Professor Dr. Maizam binti Alias
Faculty of Technical and Vocational Education

Professor Dr. Jailani bin Md. Yunos
Faculty of Technical and Vocational Education

Professor Dr. Hj. Mustafa bin Mat Deris
Faculty of Computer Science and Information Technology

Professor Dr. Rosziati binti Ibrahim
Faculty of Computer Science and Information Technology

Professor Datin Dr. Maryati binti Mohamed
Faculty of Science, Technology and Human Development

Mr. Abdul Halim bin Abdul Rahman
Secretary/Registrar

Mdm. Azizah binti Nasri
Bursary (Acting)

Mr. Haji Bharun Narosid bin Mat Zin
Chief Librarian

Faculty of Computer Science and Information Technology

Faculty Vision

To produce creative, innovative, competent and responsible Computer Sciences and Information Technology graduates through academic program that is aligned with the mission of the university

Faculty Mission

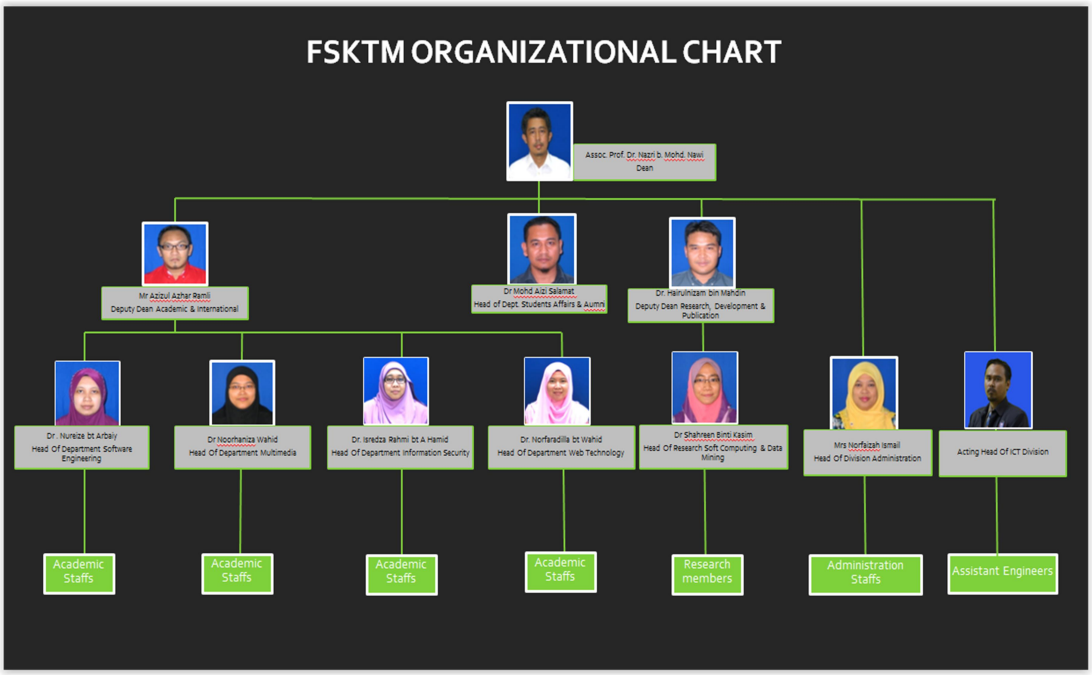
To explore Information and Communication Technology applications for the development of the nation

The establishment history of Faculty of Computer Science and Information Technology (FSKTM), Universiti Tun Hussein Onn Malaysia started in September 2000 with the establishment of the Department of Information Technology and Multimedia (JTMM), Faculty of Engineering Technology, Kolej Universiti Tun Hussein Onn (KUiTTHO). In May 2004, JTMM moves ahead with the establishment of Faculty of Information Technology and Multimedia (FTMM) which was operating at the Parit Raja City Campus, Batu Pahat, Johor.

On 24 August 2010, FTMM achieved another milestone when the UTHM Board of Directors agreed to rebrand the faculty to Faculty of Computer Science and Information Technology. Through the rebranding, four (4) new departments are established, i.e. (a) Department of Software Engineering, (b) Department of Multimedia, (c) Department of Information Security, and (d) Department of Web Technology.

The faculty offers academic programmes to students at Bachelor and Post Graduate levels. FSKTM is established with the goal to conduct programmes which have been planned to assist in the implementations towards realising the vision and mission as well as to conduct research and innovative development in accordance to the nation needs.

Apart from conducting competitive academic programme, members of FSKTM hope to create better success in the future by playing important roles in producing skilled professionals in the various field of Computer Science and Information Technology while meeting the needs of industries, locally and internationally. FSKTM organisation chart is shown in the following diagram.


FSKTM ORGANIZATIONAL CHART
Assoc. Prof. Dr. Nazri b. Mohd. Nawi
Dean
Mr Azizul Azhar Ramli
Deputy Dean Academic & International
Dr Mohd Aizi Salamat
Head of Dept. Students Affairs & Aumn
Dr. Hairulnizam bin Mahdin
Deputy Dean Research, Development & Publication
Dr . Nureize bt Arbaiy
Head Of Department Software Engineering
Dr Noorhaniza Wahid
Head Of Department Multimedia
Dr. Isredza Rahmi bt A Hamid
Head Of Department Information Security
Dr. Norfaradilla bt Wahid
Head Of Department Web Technology
Dr Shahreen Binti Kasim
Head Of Research Soft Computing & Data Mining
Mrs Norfaizah Ismail
Head Of Division Administration
Acting Head Of ICT Division
Academic Staffs
Academic Staffs
Academic Staffs
Academic Staffs
Research members
Administration Staffs
Assistant Engineers

Faculty External Examiner(s)

Prof. Dr. Abdul Azim b. Abd. Ghani
Professor
Faculty of Computer Science and Information Tecnology
Universiti Putra Malaysia
Serdang, Selangor Darul Ehsan

Prof. Dr. Abdul Hanan b. Abdullah
Professor
Faculty of Computing
Universiti Teknologi Malaysia
UTM Skudai, Johor Darul Ta'zim

Prof. Dr. Shahrul Azman b. Mohd Noah
Professor
Center for Artificial Intelligent Technology
Faculty of Information Science and Technology
Universiti Kebangsaan Malaysia
Bangi, Selangor Darul Ehsan

Prof. Dr. Ahmad Rafi b. Mohamed Eshaq
Vice President (Academic) & Professor
Faculty of Creative Multimedia
Multimedia University
Cyberjaya, 63100 Selangor

Faculty Advisor(s)

Dr. Nor Hazilawati bt. Awang
Chief Operating Officer of HeiTech i-Solution
HeitTech Padu Berhad
Selangor Darul Ehsan, Malaysia

En. Ahmad Zaman Nuri b. Muhamad
Assistant Vice President
Brilliance Information Sdn. Bhd.
Selangor Darul Ehsan, Malaysia

En. Kamaruzaman b. Jahidin
Chief Operating Officer
Gates IT Solution Sdn. Bhd.
Skudai, Johor, Malaysia

Faculty Staff Directory

Administration

Dean
Associate Prof.Dr. Nazri b. Mohd Nawi
PhD.(Data Mining), Swansea University, England

Deputy Dean (Academic & International)
Dr. Azizul Azhar b. Ramli
PhD.(Management Engineering), Waseda University, Japan

Deputy Dean (Research, Development and Publication)
Dr. Hairulnizam bin Mahdin
PhD. Information Technology, Deakin University, Australia

Head of Department (Student's Affairs & Alumni)
Dr. Mohamad Aizi b. Salamat
PhD. (Information Tecnology), Universiti Utara Malaysia, Malaysia

Senior Assistant Registrar
Mrs. Norfaizah bt. Ismail
Bachelor of Mass Communication (Publication), Universiti Teknologi Mara Malaysia, Malaysia

Dean's Secretary
Mr. Roshaidi b. Md. Daud
Diploma of Management and Office Technology, Universiti Teknologi Mara Malaysia, Malaysia

Deputy Dean's Secretary
Mrs. Nurulhuda bt. Hailani
Diploma of Management and Office Technology, Universiti Teknologi Mara Malaysia, Malaysia

Asst. Administrative Officer (Academic)
Mrs. Faridah bt. Mohd. Supanji
Sijil Pelajaran Malaysia, Sekolah Menengah Pergerakan Batu Pahat, Johor, Malaysia

Asst. Administrative Officer (Finance)
Mr. Jefri b. Ahmad
Diploma of Marketing, Politeknik Port Dickson, Malaysia

Senior Administrative Assistant (Office Management)
Mr. Indra Shahril b. Hj. Omar
Sijil Pelajaran Malaysia, Sekolah Menengah Dato' Bentara Luar, Batu Pahat, Johor, Malaysia

Administrative Assistant (Post Graduates)
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Diploma of Management and Office Technology, Universiti Teknologi Mara, Malaysia

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Mr. Maslinda bt. Adam
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Administrative Assistant (Finance)
Mrs. Izayana bt. Azman
Bachelor of Economy, Universiti Utara Malaysia, Malaysia

Administrative Assistant (Administration)
Mr. Norashid b. Hassan
Sijil Pelajaran Vokasional Malaysia, Sekolah Menengah Vokasional Batu Pahat, Johor, Malaysia

Administrative Assistant (Clerical/ Operation)
Mrs. Sarimah bt. Othman
Diploma of Computer Science, Kolej Islam Johor, Yayasan Pelajaran Johor, Malaysia

General Administration Assistant
Mr. Mohd. Azman b. Md. Wahab
Sijil Pelajaran Malaysia, Sekolah Menengah Kebangsaan Parit Betak, Pontian, Malaysia

Department of Software Engineering

Head of Department
Dr. Nureize bt. Arbaiy
PhD. (Soft Computing), Waseda University, Japan

Professor
Professor Dr. Hj. Mustafa b. Mat. Deris
PhD. (Computer Science), Universiti Putra Malaysia, Malaysia

Professor & Dean of Research and Development, ORICC, UTHM
Professor Dr. Rosziati binti Ibrahim
PhD (Software Engineering), Queensland University of Technology, Australia.

Senior Lecturer & Dean of Innovation, Commercialisation and Consultancy, ORICC, UTHM
Associate Prof. Dr. Hj. Mohd. Najib b. Mohd. Salleh
PhD. (Computer Science), University Of La Rochelle, France

Associate Professor & Deputy Director, International Office, UTHM
Associate Prof. Dr. Hjh. Rozaida bt. Ghazali
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Senior Lecturer
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PhD. (Information Technology), Universiti Tun Hussein Onn Malaysia, Malaysia

Senior Lecturer
Dr. Noor Azah bt. Samsudin
PhD. (Information Technology), University of Queensland, Australia

Lecturer
Dr. Muhaini bt. Othman
PhD.Computing Sciences, Auckland University of Technology (AUT), New Zealand.

Lecturer
Mrs. Norhanim bt. Selamat
MSc.(Real Time Software Engineering), Universiti Teknologi Malaysia, Malaysia

Lecturer
Mrs. Ruhaya bt. Ab. Aziz
MSc.(Computer Science), Universiti Teknologi Malaysia, Malaysia

Lecturer
Mrs. Munirah bt. Mohd Yusof
MSc. Knowledge Based Intelligent System, Universiti Utara Malaysia, Malaysia

Lecturer
Mrs. Rozlini bt Mohamed
MSc.(Computer Science), Universiti Teknologi Malaysia, Malaysia

Lecturer
Mrs. Zehan Afizah bt. Afip @ Afif
MSc.(Information Technology), University of Sheffield, England

Lecturer
Mrs. Hannani bt. Aman
MSc.(Computer Science), Universiti Putra Malaysia, Malaysia

Lecturer
Mrs. Yana Mazwin bt. Mohmad Hassim
MSc.(Computer Science), Universiti Malaya, Malaysia

Lecturer
Mr. Mohd. Zaki b. Mohd. Salikon
MSc. Intelligent System, Universiti Utara Malaysia, Malaysia

Lecturer
Mrs. Norlida bt. Hassan
MSc. Intelligent System, Universiti Utara Malaysia, Malaysia

Tutor (Study Leave)
Mr. Mohamad Firdaus b. Ab. Aziz
MSc.(Computer Science), Universiti Teknologi Malaysia, Malaysia

Tutor (Study Leave)
Mr. Mohd. Zanes b. Sahid
MSc.(Computer Science), Universiti Teknologi Mara, Malaysia

Tutor (Study Leave)
Mr. Nur Ariffin b. Mohd Zin
MSc.(Computer Science), Universiti Kebangsaan Malaysia, Malaysia

Tutor (Study Leave)
Mrs. Hazwani bt. Rahmat
MSc.(Computer Science), Universiti Putra Malaysia, Malaysia

Tutor (Study Leave)
Mrs. Suhaila bt. Mohd. Yasin
MSc.(Computer Science), Universiti Teknologi Malaysia, Malaysia

Tutor (Study Leave)
Mrs. Siti Mahfuzoh bt. Wasikon
MSc.(Information Technology), Universiti Tun Hussein Onn Malaysia, Malaysia

Tutor (Study Leave)
Mr. Mohd. Hamdi Irwan b. Hamzah
MSc.(Computer Science), Universiti Sains Malaysia, Malaysia

Department of Multimedia

Head of Department
Dr. Noorhaniza bt. Wahid
PhD Computer Science, University of Sydney, Australia

Senior Lecturer & Director of Information Technology Center, UTHM
Dr. Mohd Farhan b. Md Fudzee
PhD.(Multimedia Computing), Deakin University, Australia

Senior Lecturer
Dr.Norhalina bt. Senan
PhD Information Technology, Universiti Tun Hussein Onn Malaysia, Malaysia

Lecturer
Mrs. Norhanifah bt. Murli
MSc. (Information Technology), University Teknologi Mara, Malaysia

Lecturer
Mr. Azizan bin Ismail
MSc. (Computer Science), Universiti Putra Malaysia, Malaysia

Lecturer
Mrs. Rahayu bt. A.Hamid
MSc. (Computer Science), Universiti Teknologi Malaysia, Malaysia

Lecturer
Mrs. Suriawati bt. Suparjoh
MSc. (Computer Science), Universiti Malaya, Malaysia

Lecturer
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MSc. (Computer Science), Universirti Puta Malaysia, Malaysia

Lecturer(Study Leave)
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MSc. (Computer Science), Universirti Teknologi Mara, Malaysia

Tutor (Study Leave)
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MSc. (Computer Science), Universiti Puta Malaysia, Malaysia

Department of Information Security

Head of Department
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PhD. Multimedia Computing, DeakinUniversity,Australia

Senior Lecturer & Headof Publishing Office, UTHM
Dr. Sapi'ee bin Hj. Jamel
PhD. (Information Technology), Universiti Tun Hussein Onn Malaysia, Malaysia

Senior Lecturer
Dr. Kamaruddin Malik bin Mohamad
PhD. (Information Technology), Universiti Tun Hussein Onn Malaysia, Malaysia

Senior Lecturer
Dr. Nurul Azma bt. Abdullah
PhD. (Information Technology), Universiti Tun Hussein Onn Malaysia, Malaysia

Senior Lecturer
Dr. Chuah Chai Wen
PhD. Information Technology, Queensland University of Technology, Australia

Lecturer
Mr. Shamsul Kamal bin Ahmad Khalid
MSc. (Computer Science), Universiti Kebangsaan Malaysia, Malaysia

Senior Lecturer (Study Leave)
Mr Nazri bin Abdullah
MSc. Computer Science, Universiti Teknologi Mara, Malaysia.

Lecturer (Study Leave)
Mr. Zubaile bin Abdullah
MSc. Information Technology, University of London, England

Lecturer (Study Leave)
Mr. Khairul Amin bin Mohd Sukri
MSc.(Information Technology), Universiti Teknologi Mara, Malaysia

Tutor (Study Leave)
Cik Feresa bt. Mohd Foozy
MSc. Computer (Information Security), Universiti Teknologi Malaysia, Malaysia

Tutor (Study Leave)
Mrs. Siti Fadzlun bt. Mohd Salleh
MSc. Computer Science (Information Security), Universiti Teknologi Malaysia, Malaysia

Tutor (Study Leave)
Mrs. Nordiana bt. Rahim
MSc. (Computer Science), Universiti Teknologi Malaysia, Malaysia

Tutor (Study Leave)
Mrs. P. Siva Shamala a/p Palaniappan
MSc. Computer Science (Information Security), Universiti Teknologi Malaysia, Malaysia

Tutor (Study Leave)
Mrs. Nurul Hidayah bt. Ab Rahman
MSc. Computer Science (Information Security), Universiti Teknologi Malaysia, Malaysia

Department of Web Technology

Head of Department
Dr. Norfaradilla bt Wahid
PhD. (Computer Science), La Trobe University, Australia

Senior Lecturer & Head of Soft Computing and Data Mining (SMC), FSKTM, UTHM
Dr. Shahreen bt. Kasim
PhD. Computer Science, Universiti Teknologi Malaysia, Malaysia

Associate Professor
Associate Prof. Dr. Rathiah bt. Hashim
PhD. Computer Science, Swansea University, England

Lecturer
Mrs. Hanayanti bt. Hafit
MSc. (Information Technology), Universiti Putra Malaysia, Malaysia

Lecturer
Mrs. Rozanawati bt. Darman
MSc. Computer Science, Universiti Putra Malaysia, Malaysia

Lecturer (Study Leave)
Mr. Firkhan Ali b. Hamid Ali
MSc. (Information Technology), Universiti Teknologi Mara Malaysia, Malaysia

Lecturer (Study Leave)
Mrs. Hazalila bt. Kamaludin
MSc. (Information Technology), Universiti Teknologi Mara Malaysia, Malaysia

Tutor (Study Leave)
Mr. Suhaimi bin Abd Ishak
MSc. (Computer Science), Universiti Malaya, Malaysia

Tutor (Study Leave)
Mrs. Nurul Aswa bt. Omar
MSc. (Information Tecnology - Management), Universiti Teknologi Malaysia, Malaysia

Tutor (Study Leave)
Mrs. Shazana bt. Md Zin
MSc. Computer Science, Universiti Putra Malaysia, Malaysia

Technical Staff

Asst. Engineer
Mrs. Jamaunah bt. Hj. Adnan
Certificate in Electronic Engineering (Communications), Politeknik Kota Bharu, Kelantan, Malaysia

Asst. Engineer
Mr. Razalee bin Md. Yusof
Certificate in Information Technology, Universiti Teknologi Mara, Malaysia

Asst. Engineer
Mr. Azizul Zamri bin Muhamed Amin
MSc. Information Technology, Universiti Teknologi Mara, Malaysia

Asst. Engineer
Mr. Mohd. Al Hafiz bin Nordin
Certificate in Electronic Engineering (Computer), Politeknik Sultan Hj. Ahmad Shah, Pahang, Malaysia

Asst. Engineer
Mr. Faizannizam bin Shahbudin
Certificate in Data Processing, Politeknik Sultan Hj. Ahmad Shah, Pahang, Malaysia

Asst. Engineer
Mrs. Siti Marlinee bt. Zainal Azizan
Bachelor of Information Technology (Networking), Universiti Teknologi Mara, Malaysia

Asst. Engineer
Mrs. Rafidah bt. Abu Bakar
Bachelor of Information Technology (Networking), Universiti Teknologi Mara, Malaysia

Asst. Engineer
Mr. Mohammad Hafiz bin Mt. Saidun
Certificate in Electrical Communication, Politeknik Shah Alam, Selangor, Malaysia

Asst. Engineer
Mr. Muhammad Nurhisyam Bin Md Ramli
Certificate in Electronic and Electronic, Politeknik Seberang Prai, Pulau Pinang, Malaysia

Asst. Engineer
Mr. Mohd. Asrul Nizam bin Mustari
Diploma of Electronic Engineering, Kolej Kemahiran Tinggi Mara, Malaysia

Programme Name

Bachelor of Information Technology

ProgrammeAims

To produce graduates that can apply knowledge and skills; solve problems analytically, effectively, innovatively and fit to market trends; communicate effectively and work in team; abide to high moral and ethical standards and lead as able and responsible leaders.

Programme Educational Objectives (PEO)

These are the PEOs for Bachelor of Information Technology:

PEO 1	Apply fundamental knowledge, principles and skills in Information Technology to meet job specifications **(Knowledge, Skills)**;
PEO 2	Have strong analytical and critical thinking skills to solve problems innovatively and market-oriented **(Critical Thinking and Problem Solving Skills, Continuous Learning, Entrepreneurship)**;
PEO 3	Have communication, teamwork and interpersonal skills **(Teamwork Skills, Communication Skills)**;
PEO 4	Perform duties professionally with high moral and ethical standards and lead as able and responsible leader **(Moral and Professional Ethics, Leadership Skills)**

Programme Learning Outcomes (PLO)

These are the PLOs for Bachelor of Information Technology:

PLO 1	Apply knowledge of essential facts, concepts, principles and theories relating to Information Technology(**K – Knowledge**);
PLO 2	Use Information Technology knowledge in analysing, modelling, designing, developing and evaluating efficient computing solutions (**PS – Practical Skills**);
PLO 3	Communicate effectively via writing and speaking to convey information and present problems and solutions (**CS - Communication Skills**);
PLO 4	Utilise analytical and critical thinking skills in problem solving (**CTPS – Critical Thinking and Problem Solving**);
PLO 5	Demonstrate teamwork, interpersonal and social skills effectively and confidently (**TS – Teamwork Skills**);
PLO 6	Apply skills and principles of lifelong learning in academic and career development (**LL – Lifelong Learning**);
PLO 7	Develop entrepreneur character traits in career development (**KK – Entrepreneur Skills**);
PLO 8	Demonstrate professionalism and value social, ethical and humanistic considerations (**EM – Moral and Professional Ethics**);
PLO 9	Perform leadership duties effectively (**LS – Leadership Skills**);

Curriculum Structure

Table 1: Summary of curriculum for the Bachelor of Information Technology.

Year	Semester	Course Code	Courses	Credit	Total
1	I	UWB 10100	Foundation English *		18
		UWB 10102	Academic English	2	
		UQ* 1**01	Co-Curriculum I	1	
		UWA 10102	Islamic Studies	2	
		UWA 10202	Moral Studies		
		UWB 1**02	Foreign Language	2	
		UWS 10202	Ethnic Relations **	2	
		BIT 10203	Introduction To Information Technology	3	
		BIT 10303	Computer Programming	3	
		BIT 11003	Discrete Structure	3	
	II	UQ*1xx01	Co-Curriculum II	1	18
		UWB10202	Effective Communication	2	
		BPK10403	Accounting Basics	3	
		BIT11603	Statistics	3	
		BIT10703	Data Structure and Algorithms	3	
		BIT10403	Introduction To Multimedia	3	
		BIT20303	Computer Architecture	3	
	III	BIT 10803	Information Technology Skills	3	6
		BIT 10503	Cyberpreneurship	3	
2	I	UWS10103	Nationhood and Current Development of Malaysia ***	3	18
		UWB20302	Technical Writing	2	
		UWA10302	Islamic and Asian Civilisations	2	
		BPK20502	Principles of Management	2	
		BIT20103	System Analysis and Design	3	
		BIT20603	Object-Oriented Programming	3	
		BIT20403	Operating Systems	3	
	II	BIT10103	Software Engineering	3	18
		BIT20703	Network And Data Communication	3	
		BIT20803	Database Systems	3	
		BIT31003	Information Technology Application	3	
		BIT33803	JAVA Programming	3	
		BITxxxx3	Elective1	3	
3	I	BPK20802	Entrepreneurship	2	16
		BPK30702	Occupational Safety and Environment	2	
		BIT20203	Graphics Programming	3	
		BIT33403	Project Research Methodology	3	
		BITxxxx3	Elective 2	3	
		BITxxxx3	Elective 3	3	
	II	BIT20502	Creativity & Innovation	2	16
		BIT21002	Computer, Ethics and Social	2	
		BIT33503	Degree Project	3	
		BITxxxx3	Elective 4	3	
		BITxxxx3	Elective 5	3	
		BITxxxx3	Elective 6	3	
		BIT21002	Computer, Ethics and Social	2	
4	I	BIT40112	Industrial Training	12	
			Total Credit		**122**

* MUST be taken by students who had MUET Band 2 and below and cannot be registered with the course UWB10102

** For international students, this course is replaced by UWB11202 Malay Language.

*** For international students, this course is replaced by UWS10303 Malaysian Studies and Culture.

Table 2:List of elective coursesinBachelor of Information Technology

Fields	Course Code	Elective Courses	Credit
Information Systems	BIT 20903	Artificial Intelligence	3
	BIT 30303	Decision Support System	3
	BIT 30403	Project Management	3
	BIT 30503	Enterprise Resource Planning	3
	BIT 30803	Management Information System	3
	BIT 33603	Data Mining	3

Synopsis of University Courses

UWB10100 Foundation English

Synopsis

This course focuses on essential English grammar skills and introduces language learning with a focus on grammatical terminology, concepts and exercises. It provides opportunities for students to acquire basic grammar knowledge to complement the acquisition of English language. In addition, students' oral and written skills will be reinforced and they would be able to use English for a wide range of academic activities.

References

1. Koh, S.L. & Tan, S. L.(2003). *Grammar made easy.* Petaling Jaya: Prentice Hall. [PE1112.K63 2003]
2. Milon, N. (2002). *Mastering English the easy way:The all in one guide to Basic English grammar.* Subang Jaya,Selangor: Pelanduk Publications. [PE1097 .N36 2002]
3. Werner, P.K. & Spaventa, L. (2002). *Mosaic 1: Grammar*. New York: McGraw-Hill. [PE1128.W472 2002 N1]
4. Werner, P.K. & Spaventa, L. (2002). *Mosaic 2: Grammar*. New York: McGraw-Hill. [PE1128.W48 2002]
5. Fuchs, *et al*. (2001). *Grammar Express:for self study and classroom use*. New York: Longman. [PE1114.F83 2001]
6. Schoenberg, I.E. (1994). *Focus on Grammar: a basic course for reference and practise*. New York: Addison-Wiley. [PE1128 .S24 1994]

UWA10102 Islamic Studies

Synopsis

This course explains about Islamic concept as ad-deen. It discusses the study of al-Quran and al-Hadith, Sunnism, schools of Islamic theology, development of schools of Fiqh, principles of muamalat, Islamic Criminal Law, Islamic work ethics, issues in Islamic family law and current issues.

References

1. Harun Din (Dr.) (2001), *Manusia Dan Islam,* cetakan pertama, Kuala Lumpur: Dewan Bahasa dan Pustaka. [BP174. M36 1990]
2. Mustafa Abdul Rahman (1998), *Hadith 40*, Kuala Lumpur: Dewan Pustaka Fajar. [BP135. A2 M87 1998]
3. Ismail Haji Ali, (1995), *Pengertian dan Pegangan Iktikad yang benar: Ahli Sunnah Wal Jamaah:* Kuala Lumpur: Penerbitan al-Hidayah. [BP166.78. P46 1995]
4. Paizah Haji Ismail (1991), *Undang-undang Jenayah Islam*, Kuala Lumpur: Dewan Pustaka Islam, Angkatan Belia Islam Malaysia. [BP144. P35 1991]
5. Mustafa Haji Daud (1989), *Institusi Kekeluargaan Islam,* Kuala Lumpur: Dewan Pustaka dan Bahasa. [BP188.3. F3.M87 1989]

UWA10202 Moral Studies

Synopsis

This course explains on concepts of moral, aspects of moral and its importance in daily lives, Western moral theories and moral values of great religions of the world, moral values in work and current moral issues.

References

1. Mohd Nasir Omar. (2010). *Falsafah Akhlak*, Penerbit Universiti Kebangsaan Malaysia, Bangi. [BJ1291 .M524 2010].
2. Hussain Othman. (2009). *Wacana Asasi Agama dan Sains.* Batu Pahat: Penerbit UTHM. [BL 240.3 H87 2009ª].
3. Hussain Othman, S.M. Dawilah Al-Edrus, Berhannudin M. Salleh & Abdullah Sulaiman. (2009). *PBL Untuk Pembangunan Komuniti Lestari*.Batu Pahat: Penerbit UTHM. [LB 1027.42 P76 2009a].
4. Eow Boon Hin. (2002). *Moral Education*. Longman. [LC268 .E48 2008].
5. Ahmad Khamis. (1999). *Etika Untuk Institusi Pengajian Tinggi*. Kuala Lumpur: Kumpulan Budiman. [LC315.M3 .A35 1999].

UWB10602 French Language

Synopsis

This course is designed for students to learn the basic of French. Students are exposed to the skills of listening, reading, speaking and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using French.

References

1. Booth, Trudie Maria, (2008). French Verbs Tenses. McGraw-Hill. Call no.: [PC 2271, U66 2008].
2. Heminway, Annie, (2008). Complete French Grammar. McGraw-Hill. Call no.: [PC2112, H45 2008].
3. Price, Glanville, (2003). A Comprehensive French Grammar. Blackwell Publishing. Call no.: [PC2112. P74, 2003].
4. Hatier. (2002). Le Nouveau Bescherelle 12,000 French Verbs. English Edition. Paris: Librairie Hatier.
5. Hatier, (1995). Le Nouveau Bescherelle Complete Guide 12 000 French Verbs. Paris: Librairie Hatier.
6. Kaneman-Pougatch, Massia et al, (1997). Méthod de français: Café Crème 1. Paris: Hachette F.L.E.
7. Grégoir, Maïa et al, (1995). Grammaire Progressive du Français avec 500 exercices. Paris: CLE International.
8. Miquel, Claire Leroy et al, (1995). Vocabulaire Progressive du Français avec 250 exercices. Paris: CLE International.
9. Capelle, Guy et Gidon, Noëlle, (1995). Méthod de français: Le Nouvel Espaces 1. Paris: Hachette F.L.E.
10. French Dictionary (1999). The New Collins Robert 5th Edition. Paris: Harper Collins Publishers.

UWB10902 Mandarin Language

Synopsis

This course is designed for students to learn the basic of Mandarin. Students are exposed to the skills of listening, reading, speaking and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Mandarin Language.

References

1. Lim Hong Swan, Yeoh Li Cheng, (2010). *Mandarin Made Easy Through English.* Batu Pahat: Penerbit UTHM. [PL1129.E5 .L554 2009 a]
2. Liu Xun (2010). *New Practical Chinese Reader: Textbook*. China: Beijing Language and Culture University Press. [PL1129.E5 .L58 2010]
3. Kang Yuhua (2007). *Conversational Chinese 301:Vol. 2*. China:Beijng Language and Culture University Press. [PL1121.C5 .K364 2007]
4. Liping Jiang (2006). *Experiencing Chinese.* China: Higher Education Press. [PL1129.E5 .T59 2006]
5. Kang Yuhua (2005). *Conversational Chinese 301*. China: Beijing Language and Culture University Press. [PL1121.C5 .K36 2005]

UWB11002 Malay Language

Synopsis

This course is designed for students to learn the basic Malay language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Malay language.

References

1. Ainun Mohd (2011). *Tesaurus Bahasa Melayu*.PTS Professional Publishing. [PL5123 .A364 2011]
2. Kamaruddin Saad (2009). *105 karangan bahasa melayu UPSR.* Minerva Publishing. [PL 5108 KAM 2009]
3. Nik Safiah Karim (2008). *Tatabahasa Dewan*. [DBP. PL5108 .T37 2008 r]
4. Asmah Hj. Omar (1993). Susur Galur Bahasa Melayu. [DBP: KL. PL5127 .A85 1993 N1]
5. Asmah Hj. Omar (1993). *Nahu Melayu Mutakhir.* [DBP: KL. PL5137 .A85 1993]
6. Asmah Hj. Omar (1985). *Kamus Ayat*. Eastview. [PL5091 .A85 1985 rd]

UWB11202 Arabic Language

Synopsis

This course is designed for students to learn the basic of Arabic. Students are exposed to the skills of listening, reading, speaking and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Arabic.

References

1. Mohd Hisyam Abdul Rahim; Ahmad Sharifuddin Mustapha; Mohd Zain Mubarak (2008). *Bahasa Arab UMR 1312*. Batu Pahat: Penerbit UTHM. [PJ6115 .M445 2008 a]
2. Abu 'Amiir 'Izzat. (2008). *Kamus adik: bahasa Melayu-bahasa Inggeris-bahasa Arab.* Kuala Terengganu: Pustaka Darul Iman. [PJ6640 ABU 2008]
3. Ab. Halim Mohammed; Rabiyah Hajimaming; Wan Muhammad Wan Sulong. (2007). *Bahasa Arab Permulaan.* Serdang: Penerbit UPM. [PJ6065 .A32 2007]
4. Abdullah, Mustaffa Siti Rohaya Sarnap Siti Sujinah Sarnap. (2006). *Cara mudah belajar Bahasa Arab*.Singapore: Jahabersa. [PJ6106 .A22 2006]
5. Mohd Hisyam bin Abdul Rahim. (2005). *Senang Berbahasa Arab*. Batu Pahat: Penerbit KUiTTHO. [PJ6115 .M44 2005 a]
6. Mohd Azani Ghazali, Abdul Aziz Hassan @ Yahya. (2000). *Kamus ringkas Bahasa Melayu- Bahasa Arab.* Johor Bahru: Jahabersa. [PL5091.8 .A7 .M393 2000 rd]
7. Fuad Ni'mat. (1973). *Mulakhass qawa'id al-lughatul 'arabiyyah.* Damsyik: Darul Hikmah. [PJ5161 .F62 1973]

UWB10802 Japanese Language

Synopsis

This course is designed for students to learn the basic Japanese language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Japanese language.

References

1. Surie, Network (2010). AE Minna no Nihongo 1-2 Elementary: Translation and Grammatical Notes, Tokyo: 3A Corporation. [PL539.3 .M57 2010]
2. Surie, Network (2010). AE Minna no Nihongo 1-1 Elementary: Main Textbook, Tokyo: 3A Corporation. [TK7885.7 .V44 2000r]
3. Surie, Network (2009). AE Minna no Nihongo 1-1 Elementary: Translation and Grammatical Notes, Tokyo: 3A Corporation. [PL539.3 .M567 2009]
4. Surie, Network (2009). AE Minna no Nihongo 1-2 Elementary: Main Textbook, Tokyo: 3A Corporation. [PL539.3 .M569 2009]
5. Rosmahalil Azrol Abdullah, (2008) : Bahasa Jepun (UMJ 1312): Learning Module (2nd Edition), Batu Pahat. Penerbit UTHM. [PL539.3 .R67 2008a].
6. Surie Network, (2000). Minna no Nihongo: Kaite Oboeru, Tokyo: 3A Corporation. [PL539.3 .M56 2000]
7. M. Rajendran, (1991) Malay Japanese English Dictionary, Petaling Jaya: Pelanduk Publications. [PL5125 .R34 1991rd].
8. Surie Network, (1998). Minna no Nihongo: Main Textbook - Shokyu 1, Tokyo: 3A Corporation. [PL539.3 .M574 1998]

9. Yoshida, Masatoshi Nakamura, Yoshikatsu, (1996). Kodansha's Furigana English-Japanese dictionary: the essential dictionary for all students of Japanese, Tokyo: Kodansha International. [PL679. Y67 2006rd]
10. The AOTS, (1977). *Shin Nihongo no Kiso*: Japanese Kana Workbook, Tokyo: 3A Corporation. [PL539.3 .S54 1977]

UWB10702 German Language

Synopsis

This course is designed for students to learn the basic German language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using German language.

References

1. Astrid Henschel, (2006). *German Verb Tenses.* New York: McGraw-Hill. [PF3301. H46 2006]
2. Gabriele Kopp, Siegfried Büttner, (2004). *Planet 1: Deutsch für Jugendliche: Kursbuch.* Ismaning: Germany: Hueber Verlag. [PF3129. K664 2004]
3. Gabriele Kopp, Siegfried Büttner, (2004). *Planet 1: Deutsch für Jugendliche: Arbeitsbuch.* Ismaning: Germany: Hueber Verlag. [PF3129. K664 2004]
4. Heiner Schenke, (2004). *Basic German: a grammar and workbook.* London: Routledge. [PF3112.5. 35 2004]
5. Robert Di Donato (2004). *Deutsch, Na Klar!* Boston: McGraw-Hill. [PF3112. D36 2004]

UWB11102 Spanish Language

Synopsis

This course is designed for students to learn the basic Japanese language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Japanese language.

References

1. Nurul Sabrina Zan, (2010). *Hola! Hablo español* First Edition Batu Pahat: Penerbit UTHM. [PC4445 .N72 2010a]
2. Salina Husain, (2005). *Vamos a aprender español lengua extranjera* Batu Pahat: Penerbit UTHM. [PC4121 .S24 2005a]
3. Bey, Vivienne (2004). *Spanish verbs drills*. Mc. Graw Hill. [PC4271 .B49 2004]
4. Terrell, Tracy D. (2003). *Dos mundos*. Mc. Graw Hill. [PC4129.E5 .D67 2003]
5. O'Connor, Niobe (2002). *Caminos 1.* Nelson Thornes. [PC4121 .O36 2002]
6. Vox modern Spanish and English dictionary: English-Spanish/Spanish-English (1986) National Textbook. Co. XX(131882.1)

UWB11302 Javanese Language

Synopsis

This course is designed for students to learn the basic Javanese language. Students are exposed to the skills of listening, reading, speaking, and writing with basic vocabulary, grammar and structure. Students are also exposed to the real daily situations which will help them to communicate using Javanese language.

References

1. Purwanto, Eko (2011). Pepah Bahasa Jawi. Cara mudah belajar cepat dan tuntas bahasa Jawa. Diva press. XX(131748.1)
2. Majendra, Maheswara (2010). *Kamus lengkap Indonesia-Jawa, Jawa-Indonesia/ Majendra Maheswara*. Pustaka Mahardika. XX(131732.1)
3. Budhi Santosa, Iman. (2010). *Nguri-uri paribasan Jawi = Melestarikan peribahasa Jawa.* Intan Pariwara.XX(131751.1)
4. Yrama, Widya (2008). *Cara belajar membaca dan menulis huruf jawa, jilid 1.* Yrama Widya. Publication info:, 2008 XX(131738.1)
5. Yrama, Widya (2008). *Cara belajar membaca dan menulis huruf jawa, jilid 2.* Yrama Widya .Publication info:, 2008 XX(131739.1)

UWS10103 Nationhood and Current Development of Malaysia

Synopsis

This course will provide students a fundamental concept, the processes of formation and development of Malaysia. The topics covered include the concept of state, Malacca Kingdom, implication of imperialism and colonization, spirit of patriotism and nationalism, independence and formation of Malaysia. Besides, students will also be exposed to the constitution of Malaysia, Malaysian Government System, Economic and Social Development Policy as the main policy in the national development. At the end of the course students will able to appreciate the roles and responsibilities of a good citizen to the country.

References

1. Zahrul Akmal Damin, Fauziah Ani, Lutfan Jaes, Khairunesa Isa, Siti Sarawati Johar, Harliana Halim, Khairul Azman Mohd Suhaimy, Shamsaadal Sholeh Saad, Ku Hasnan Ku Halim dan Mohd Akbal Abdullah (2009). Kenegaraan & Pembangunan Malaysia. Batu Pahat: Penerbit UTHM.
2. Ruslan Zainudin, Mohd Mahadee Ismail & Zaini Othman. (2005). Kenegaraan Malaysia. Shah Alam: Fajar Bakti. [JQ715 .R87 2005].
3. Nazaruddin Mohd Jali, Ma'rof Redzuan, Asnarulkhadi Abu Samah & Ismail Mohd Rashid. (2005). Pengajian Malaysia. Petaling Jaya: Prentice Hall. [DS596.6 .P46 2001 N2].
4. Mohd Ashraf Ibrahim. (2004).Gagasan Bangsa Malayan yang Bersatu 1945-57. Bangi: Penerbit UKM. [DS597 .M37 2004].
5. Noor Aziah Mohd Awal. (2003). Pengenalan kepada Sistem Perundangan di Malaysia. Petaling Jaya: International Law Book Services. [KPG68 .N66 2003].

UWS10303 Malaysian Studies and Culture

Synopsis

This course will provide students in basic understanding of Malaysia from various perspectives. Topics to be discussed include Malaysia in relation to its history, achievement and international affairs. In addition, students will also be exposed to the ethnic composition of the country, culture and heritage. Teaching and learning process enables student to acquire knowledge and appreciates the reality of life in Malaysia through experiential learning.

References

1. Abdul Halim Nasir. (2004). *Mosque Architecture in the Malay World*. Bangi: Penerbit Universiti Kebangsaan Malaysia. [NA4670 .A23 2004].
2. Nazaruddin Mohd. Jali. (2003). *Malaysian Studies: Nationhood and Citizenship*. Petaling Jaya: Pearson Prentice Hall.
3. Francis Loh kok Wah dan Khoo Boo Teik. (2002). *Democracy in Malaysia. Cornwall*: Curzon Press.
4. Khoo Kay Kim. (2001). *Malay Society: Tranformation and Democratisation*. Kelana Jaya: Pelanduk Publications.
5. Yahaya Ismail. (1989). *The Cultural Heritage of Malaysia*. Kuala Lumpur: Dinamika Kreatif Sdn. Bhd.
6. Andaya, B.W. and Andaya, L. Y. (1982). *A History of Malaysia*. London: Macmillan. [DS596 .A52 2001].
7. Mohamed Noordin Sopiee. (1974). *From Malayan Union to Singapore Separation, Political Unification in the Malaysian Region, 1945-65*. Kuala Lumpur: University of Malaya Press. [DS597 .M56 2005].

Synopsis of Programme Courses

BIT10203 Introduction To Information Technology

Prerequisite Course (s): None

Synopsis

This course introduces students to the basic knowledge of Information Technology. Topics include introduction to information technology, computer hardware and software, computer personnel, file and database, information system, telecommunication, communication technology and current issues in information technology.

References

1. Senn, J. A., 2004. Information technology: principles, practices and opportunities. 3rd ed. Upper Saddle River, NJ: Prentice Hall. Call Number: HF5548.2 .S46 2004.
2. White, R., 2004. How computers work. New York: QUE. Call Number: QA 76.5 .W54 2004.
3. Hutchinson, S. E. & Sawyer, S. C., 2000. Computers, communications and information. Mc Graw Hill. Call Number: QA76.5 .H873 2000.
4. Turban, E., McLean, E. & Wetherbe, J., 1999. Information technology for management: Making connections for strategies advantage. New York: Wiley. Call Number: T58.6 .T87 1999.
5. Haag.S, Cummings & Alan I.R, 2002. Computing concepts: complete edition. McGraw Hill. Call Number: QA76 .H32 2002.

BIT10303 Computer Programming

Prerequisite Course (s): None

Synopsis

This course introduces the concept of programming by using high level languages such as C. Students will learn the techniques to define and solve problems before writing the codes.

References

1. Mohd Zainuri Saringat, Hanayanti Hafif @ Hafif, Hairulnizam Mahdin, Rozlini Mohamed, Suriati Suparjoh, Yana Mazwin Mohamad Hassim & Azizul Azhar Ramli, 2006. Pengaturcaraan C. Batu Pahat: Penerbit Kolej Universiti Tun Hussein Onn Malaysia.
2. Hanly, J. R. dan Koffman, E.B. 2010. “Problem Solving and Program Design in C”. Pearson Education.
3. Deitel, P. J. & Deitel H.M. 2010. “C How to Program”. 6th ed. Pearson Education Inc. Call Number: QA76.73.C15 .D45 2010.
4. Harbison, S. P. & Steele, G.L. 2002. “C, a Reference Manual”. Upper Saddle River, NJ: Prentice Hall.
5. Vine, M. 2007. “C Programming for the Absolute Beginner (2nd Edition)”. URL: http://site.ebrary.com/lib/uthm/docDetail.action?docID=10228219.
6. Bradley, Julia, C. 2004. Programming C. New York: McGraw Hill.
7. Goyal, A.K. (2008). The C Programming Language. Alpha Science. Call Number: QA76.73.C15 .G69 2008.
8. King, K.N. (2008). C Programming: A Modern Approach. W.W. Norton. Call Number: QA76.73.C15 .K56 2008.

BIT11003 Discrete Structure

Prerequisite Course (s): None

Synopsis

This course discusses the concepts of discrete mathematics and its practical applications in ICT. Topics include fundamental of logic and proof, sets, mathematical induction, relation and function, recurrence relation, algorithm and graph theory.

References

1. Rosen K., 2007. Discrete mathematics and its applications. 6th ed., New York: McGraw Hill Inc. Call Number: QA 39.2 .R65 2007.
2. Kolman, B., Busby, R., Ross, S. 2004. Discrete mathematical structures. New Jersey: Prentice Hall, Inc. Call Number: QA76.9.M35 .K64 2004
3. Johnsonbaugh R., 2009. Discrete mathematics. 7th ed., Singapore: Prentice Hall, Inc. Call Number: QA39.2 .J63 2009.
4. Simpson, A., 2002. Discrete mathematics by example. United Kingdom: McGraw-Hill. Call Number: QA39.2 .S55 2002
5. Stanoyevitch, Alexander., 2011. Discrete structures with contemporary applications. Chapman & Hall/CRC Press. Call Number: QA76.9.M35 .S73 2011.
6. Krantz, S. G. 2009. Discrete mathematics demystified. New York: McGraw-Hill.Call Number: QA76.9.M35 .K72 2009.

BIT11603 Statistics

Prerequisite Course (s): None

Synopsis

Descriptive Statistics: statistics definition, sampling technique, frequency distribution, graph, measure of Central Tendency and variance. **Random variable**: Discrete and continuous random variables, expected value and variance. **Probability distribution**: binomial, Poisson and normal distribution. **Sampling distribution**: sampling distribution for mean, difference two means, variance and ratio of 2 variances, t-distribution, chi-square distribution and F- distribution **Estimation**: point and interval estimation. Confidence interval for mean, difference two means, variance and ratio of 2 variances. **Hypothesis testing**: test of mean, difference two means, variance, ratio of 2 variances and difference between 2 samples. **Matrices**: Cramer Rule, Inverse Matrices. **Calculus**: Differentiation, Integration, Stock Control, Economic Ordered Quantity

References

1. Allan G.Bluman (2007) Elementary Statistics. A step by Step Approach. MacGraw Hill International Edition. Call Number: QA276.12 .B58 2007.
2. Mario F. Triola. (2005) Essential of Statistics. 2nd Ed. Pearson Adison Wesley. Call Number: QA276.12 .T74 2011.
3. M.K Berenson, D.M. Levine & T.C. Krehbiel. Basic Business Statistics – Concepts and Application 10th edition. Prentice Hall. 2007. Call Number: HF1017 .B47 2007.
4. Douglas C. Montgomery, George C. Runger & Norma Faris Hubele. Engineering Statistics. John Wiley. 1998.Call Number: QA2776.12 .M66 1998.
5. Larsen, Richard J. (2012), An Introduction to mathematical statistics and its applications. 5th Ed. Pearson Adison Wesley. Call Number: QA276 .L37 2012.
6. Bowerman, Bruce L. (2012). Essentials of business statistics. 4th Ed. McGraw Hill International Edition. Call Number: HF1017 .E87 2012.

BIT10703 Data Structure and Algorithms

Prerequisite Course (s): Taken BIT 10303Computer Programming

Synopsis

This course introduces students to the different data structures such as array, pointer, linked list, tree and graph. The topics include data concept, data structure and types of data structure, array, pointer, abstract data type, searching, sorting, traversal of tree and graph and its application.

References

1. Guruprasad, N. 2006. Data structures using C. Scitech Publications. Call Number: QA76.73.C15 .G87 2006.
2. Malik, D.S., 2009. Data structures using C++. 2nd ed. Boston: Course Technology.
3. Dale, N. B., 2007. C++ plus data structures. 3rd ed. Sudbury, MA: Jones & Bartlett Publishers. Call Number: QA76.73.C153 .D346 2007.
4. Brandle, S., Geisler, J., Roberge, J. & Whittington, D., 2009. C++ data structures: A laboratory course. 3rd ed. Sudbury, MA : Jones and Bartlett Publishers. Call Number: QA76.73.C153 .D37 2009.
5. Main, M. & Savitch, W. J., 2011. Data structures & other objects using C++. 4th ed. Boston, MA: Addison Wesley. Call Number: QA76.73.C153 .M38 2011.

BIT10403 Introduction To Multimedia

Prerequisite Course (s): None

Synopsis

This course introduces students to multimedia concepts, applications and techniques involved. Topics to be discussed include introduction to multimedia, multimedia project development, multimedia components: text, sound/audio, graphic, image/video and animation, documentation and hypertext and also its application.

References

1. Vaughn, T., 2011. Multimedia: making it work. 7th ed. New York: McGraw Hill. Call Number: QA76.575 .V38 2011.
2. Burg, J., 2008. The science of digital media. Upper Saddle River, NJ: Prentice-Hall.
3. Rahman, Syed Mahbubur. 2008. Multimedia technologies: concepts, methodologies, tools and application. London: Information Science Reference, 2008. Call Number: QA76.575 .R33 2008 v.1.
4. Ze-Nian, L. & Drew M. S., 2006. Fundamentals of multimedia. Upper Saddle River: Pearson Education.
5. Hannagan, T.,Bennett, R,. 2008. Multimedia: concept and practices. Harlow: Prentice Hall, 2008. Call Number: HD31 .H374 2008.

BIT20303 Computer Architecture

Prerequisite Course (s): None

Synopsis

This course introduces students to computer architecture, bus system, memory organization, handling system, input/output, computer arithmetic, set of instructions, CPU and control unit.

References

1. Stallings, W. 2010. Computer organization and architecture. 7th ed., Singapore: Prentice Hall. Call Number: QA76.9.C643 .S72 2010.
2. Hayes, John P. 1997. Computer system architecture and organization. New York: McGraw Hill.
3. Patterson, David A. & Hennessy, John L. 2009. Computer organization and design the hardware/software interface. New Delhi: Elsevier. Call Number: QA76.9.C643 .P37 2009.
4. Bartee, Thomas C. 1991. Computer architecture and logic design. New Jersey: McGraw Hill. Call Number: QA76.9 A73 . B37 1991.
5. Mano M. Morris 1993. Computer system architecture. USA: Prentice Hall. Call Number: QA76.9.A73 .M36 1993.

BIT10803 Information Technology Skills

Prerequisite Course (s): None

Synopsis

This course offers students with three computer skills: (1) troubleshooting, safety steps and best practices for computer maintenance and techniques to assemble and disassemble computer; (2) basic concept of computer network, network hardware maintenance, cabling and network testing; (3) digital camera handling techniques, video camera and NLE machine with the use of software editing tools which includes shooting, editing, composing, testing and multimedia production.

BIT10503 Cyberpreneurship

Prerequisite Course (s): None

Synopsis

This course introduces students the principles of cyber business. Topics include definition, concept and related issues, operation processes, funding and product marketing for cyber businesses.

References

1. Amat Taap, Ridhwan Fontaine, Mohd Rizal Abdul Razak & Nor Asiah Abdullah., 2001. Introduction to cyberpreneurship. Kuala Lumpur: McGraw-Hill. Call number: HB615 .A42 2001 N1.
2. Lambing, P.A., 1999. Entrepreneurship. 2nd ed., New Jersey: Prentice Hall.
3. Carson, D., Cromie, S., McGowan, P. & Hill, J., 1995. Marketing and entrepreneurship in SME's: an innovative approach. NewYork: Prentice Hall.
4. Vaugh, D.E. 1997. Financial planning for the entrepreneur. New York: Prentice Hall.

5. Rafi M., Fisher R. J., Jaworski B. J., & Paddison G., 2004. Internet marketing: buildingadvantage in networked economy. Boston: McGraw-Hill. Call number: HF5415.1265 .I57 2004.
6. Terri, C. & William, B., 2003. E-business marketing. New York: Prentice Hall. Call number: HF5415.1265 .A52 2003.
7. Mohd Nazri Khan, 2006. Cyberpreneurship. Pearson. Call Number: HB615 .M52 2006.

BIT20103 System Analysis and Design

Prerequisite Course (s): None

Synopsis

This course introduces students to software life cycle model such as requirement analysis, logical design, physical design, implementation and maintenance. Also included are techniques in system development methods such as decomposition diagram, ER diagram, DFD, modeling procedure and system analysis.

References

1. Kendall, K. E. & Kendall, J. E. 2008. Systems analysis and design. 7th ed. New Jersey: Pearson Education. Call Number: QA76.9.S88 .K46 2008.
2. Satzinger, J. W., Jackson, R.B. & Burd, S.D., 2009. Systems analysis and design in changing world. 5th ed. Boston, MA: Course Technology. Call Number: QA402 .S37 2009.
3. Dennis, A., Wixom, B. H., & Roth, R. M., 2009. Systems analysis and design. 4th ed. New Jersey: John Wiley and Sons. Call Number: QA76.9.S88 .D46 2009.
4. Hoffer, J. A., George, J. F., & Valacich, J.S., 2008. Modern systems analysis and design. 5th ed. New Jersey: Pearson Education. Call Number: QA76.9.S88 .H63 2008.
5. Marakas. G. M., 2006. Systems analysis and design: an active approach. 2nd ed. Boston: McGraw Hill. Call Number: QA76.9.S88 .M37 2006.

BIT20603 Object-Oriented Programming

Prerequisite Course (s): Taken BIT 10303Computer Programming

Synopsis

This course introduces students to object oriented programming (OOP), characteristics of OOP: class and object, inheritance, polymorphism, overloading, template and exception.

References

1. Rosziati Ibrahim. 2008. Introduction to object-oriented programming with UML using Borland C++. Batu Pahat: Penerbit Universiti Tun Hussein Onn Malaysia. Call Number: QA76.64 .R67 2008 a
2. Deitel, H.M. & Deitel, P.J. 2012. C++ how to program. Pearson Education International. Call Number: QA76.73.C153 .D44 2012
3. Savitch, W. 2005. Problem solving with C++, the object of programming. Addison Wesley. Call Number: XX(132317.1)
4. Farrell, J. 2009. Object-oriented programming using C++. 2nd ed., Thomson Course Technology. Call Number: QA76.64 .F37 2009

5. Booch, Grady. 2007. Object-oriented analysis and design with applications. 3rd ed., Addison Wesley. Call Number: QA76.64 .O24 2007

BIT20403 Operating Systems

Prerequisite Course (s): None

Synopsis

This course introduces major components of operating systems and their services. Topics include introduction to operating systems, structure of computer systems and operating systems, processes, CPU scheduling, deadlock, memory management, virtual memory and file management.

References

1. Silberschatz, A. 2010. Operating system concepts. 8th ed., London: Addison Wesley.
2. McHoes, A. M. 2011. Understanding operating systems. 6th ed., Boston: Course Technology. (QA76.76.O63 .M46 2011)
3. Stalling, W. 2012. Operating systems internal and design principles. 7th ed., New York: Pearson Education International. (XX(132132.1)-being cataloged)
4. Davis & Rajkumar. 2005. Operating systems: a systematic view. 6th ed., New York: Pearson Education International. (QA76.76.O63 .D29 2005)
5. Nutt, G. 2004. Operating systems. 3rd ed., Boston: Pearson Education. (QA76.76.O63 .N884 2004)
6. Deitel, Deitel & Choffnes. 2004. Operating systems. 3rd ed., New York: Pearson Education International. QA77.76.063 .D44 2004

BIT10103 Software Engineering

Prerequisite Course (s): None

Synopsis

This course introduces students to the importance of software engineering and system development crisis. Topics include introduction to software engineering, software development life cycle using different models, preparation of project proposal, project management, software life cycle, requirement analysis, design, testing and estimation.

References

1. Ghezzi, C., Jazayeri, M. & Mandrioli D., 2003. Fundamentals of software engineering. New Jersey: Pearson Education. Call Number: QA76.758 .G43 2003.
2. Sommerville, I., 2007. Software engineering. 8th ed. New Jersey: Pearson Education. Call Number: QA76.758 .S65 2007.
3. Pressman, R.S. 2004. Software engineering: a practitioner's approach. 6th ed. New York: McGraw-Hill. Call Number: QA 76.6 .P73 2005.
4. Schach, S., 2011. Object oriented and classical software engineering. 8th ed. New York: McGraw-Hill. Call Number: QA76.758 .S32 2011.
5. Pfleeger, S. L. & Atlee, J. M., 2006. Software engineering: theory and practice. 3rd ed. Upper Saddle River, NJ: Prentice Hall. Call Number: QA76.758 .P44 2006.

BIT20703 Network and Data Communication

Prerequisite Course (s): None

Synopsis

This course exposes students to the knowledge of network and data communication, physical layer, data communication, wide area network (WAN), internetworking, Internet and latest technology, optimum network presentation and network operating system.

References

1. Forouzan B. A. 2007. Data Communications and Networking, 4th Edition, McGraw Hill. Call Number: TK5105 .F67 2007
2. Palmer M. J. 1998. Hand-On Network Essentials with Project, Course Technology, Cambridge. Call Number: TK5105.5 .P35 1998 N6
3. Wait J, 2003. CCNA 3.0 Training Edition, Cisco System Inc.
4. Shay W. A. 2004 Understanding Communications and Network, 3rd Edition, Thomson Brooks/Cole.
5. Dennis A., 2002 Networking In The Information Age, John Wiley & Son, Inc.
6. Cisco Technology, http://blogs.cisco.com

BIT20803 Database Systems

Prerequisite Course (s): Taken BIT 20103System Analysis and Design

Synopsis

This course introduces the concepts of database systems. Topics include introduction to file and file system, database approach, types of database, history of database management system and database models, relational database model, history and data relational structure terminology, mathematical relation, database relation, relational attributes, relational keys, relational database schematic representation, relational integrity and relational language. Introduction to structured query language and its criteria, concepts of data modelling and its components, table and normalization, techniques, model and strategy in database design and also network and web database integration.

References

1. Coronel, C., Morris, S., & Rob, P., 2011. Database Systems: Design, Implementation, and Management. 8th Ed. Boston, MA: Course Technology. Call Number: QA76.9.D26 .R62 2009.
2. Atzemi, P., Boschi, P. S. & Torlon, R., 1999. Database system: concept, language and architectures. New York: Mc Graw Hill.
3. Connoly, T. & Begg, C., 1999. Database systems: a practical approach to design, implementation and management. London: Addison-Wesley.
4. Ozkarahan, O., 1990. Database management: concepts, design and practice. New Jersey: Prentice Hall. Call Number: QA76.9.D3 .O95 1990
5. Watson, R. T. et al. 2002. Data management: database and organizations. 3rd Ed.Boston: John Wiley & Sons, Inc. Call Number: QA76.9 .D3 .W37 2002

BIT31003 Information Technology Application

Prerequisite Course (s): None

Synopsis

In this course, students work in teams, guided by a supervisor. Every group has to submit a proposal to be assessed by their respective supervisors. Every group must produce a product that has a commercial value, approved by the supervisor and will be assess by a panel of evaluators at the end of the course.

References

1. Pusat Pengajian Siswazah UTHM, 2009. Panduan menulis tesis. 3rd ed. Parit Raja: Penerbit UTHM.
2. Felix B. Tan, 2008. Global information technologies: concepts, methodologies, tools and applications. Hershey, PA: Information Science Reference (T58.5 .T36 2008 v.1).
3. Dawson, C. W., 2009. Projects in computing and information systems: a student's guide. 2nd ed. Essex Pearson Education Limited.
4. Avison, D. & Fitzgerald, G., 2008. Information systems development: methodologies, techniques and tools, 4th ed. Berkshire: McGraw Hills.
5. Avison, D. & Pries-Heje, J., 2005. Research in information systems: a handbook for research supervisors and their students. Burlington, MA: Elsevier Butterworth-Heinemann.
6. Berndtsson, M., Hansson, J., Olsson, B. & Lundell, B., 2002. Planning and implementing your final year project – with success! a guide for students in computer science and information systems. London: Springer-Verlag.

BIT33803 JAVA Programming

Prerequisite Course (s): Taken BIT 10303Computer Programming

Synopsis

This course introduces programming in Java. Topics included concepts of Java programming and object oriented programming (OOP), primitive data types and operations, control statement methods and array.

References

1. Liang, Y. D., 2009. Introduction to java programming-comprehensive. 6th ed. New York: Prentice Hall. Call Number: QA76.73.J38 .L52 2009
2. Deitel, I. & Deitel, J., 2007. Java how to program. 7th ed. New York: Prentice Hall. Call Number: QA76.73.J38 .D44 2007
3. Lewis J. & Loftus W., 2012. Java software solutions: foundations of program design. 5thed. New York: Prentice Hall. Call Number: QA76.73.J38 .L48 2012
4. Sanders, K. E. & Dam, A. V., 2006. Object-oriented programming in java: a graphical approach. Harlow: Addison-Wesley. Call Number: QA76.64 .S26 2006
5. Morelli, R. & Walde, R., 2007. Java, java, java: object-oriented problem solving. New York: Prentice Hall. Call Number: TK7867 .H67 2006

BIT20203 Graphics Programming

Prerequisite Course (s): Taken BIT 10303 Computer Programming

Synopsis

This course introduces students to various techniques in graphics programming. Topics include computer graphics, graphics primitives, windowing and clipping, object transformation, object modeling and rendering.

References

1. Hearn, D. & Baker, P., 2011. Computer graphics with OpenGL. 4th ed. Upper Saddle River, NJ: Prentice Hall. Call Number: T385 .H42 2004
2. McReynolds, T. & Blythe, D., 2005. Advanced graphics programming using OpenGL. San Francisco: Morgan Kaufmann.
3. Angel, E., 2012. Interactive computer graphics: a top-down approach with OpenGL. 3rd ed. New York: Addison Wesley. Call Number: T385 Ang 2012
4. Hill, F. S. Jr. & Kelley, S., 2007. Computer graphics using OpenGL. Upper Saddle River, NJ: Prentice Hall. Call Number: T385 .H55 2007
5. Goldman, Ronald. 2009. An integrated introduction to computer graphics and geometric modeling.Boca Raton: CRC Press, 2009. Call Number: T385 .G65 2009

BIT33403 Project Research Methodology

Prerequisite Course (s): None

Synopsis

This course covers various aspects of research projects in Information Technology such as types of computing/research projects, strategy and research methodology, data collection methods, data analysis, literature review, project planning, risks management and writing proposals and research/project reports.

References

1. Kumar, R., 2011. Research methodology: a step-by-step guide for beginners. New Jersey: Prentice Hall, Inc. London: SAGE. (Q180.55.M4 .K85 2010).
2. Wayne, G. & Stuart, M., 2004. Research methodology: an introduction. 2nd ed. New York: McGraw Hill Inc.
3. Kothari, C., 2005. Research methodology: methods and technique. New Delhi: New Age International.
4. Dawson, C., 2005. Projects in computing and information systems: a student's guide. New Jersey: Pearson Education Limited.
5. Avison, D. & Fitzgerald, G., 2006. Information systems development: methodologies, techniques and tools. 4th ed. Berkshire: McGraw-Hill

BIT20502 Creativity & Innovation

Prerequisite Course (s): None

Synopsis

This course helps students to develop their creative and innovative thinking skill. Topics include the concept of creativity and innovation, basic thinking tools and creative problem solving. These skills are particularly useful for their future in real-life problem solving and decision making processes.

References

1. Bernacki, Ed. (2002). Wow! that's a great idea! Insight, idea, opportunity, action. Prentice Hall, Singapore. Call Number: HD53 .B47 2002
2. De Bono, E. (2003). Serious Creativity 1: Lateral Thinking Tools, Techniques and Application. Allscript Books, Singapore. Call Number: BF408 .D365 2003
3. Ceserani, J. & Greatwood, P. (2001). Innovation and Creativity. Creast Publishing House, New Delhi.
4. Clegg, B. & Birch, P. (2002). Crash Course in Creativity. Kogan Page, London.
5. De Bono, E. (1998). Edward De Bono Supermind Pack: Expand Your Thinking Power with Strategic & Mental Exercise. DK Publishing Incorporated.
6. Lumsdaine, E., Lumsdaine, M. & Shelnut, J. W. (1999). Creative Problem Solving and Engineering Design. McGraw-Hill, USA.
7. Tanner, D. (1997). Total Creativity. APTT Publications.

BIT21002 Computer, Ethics and Social

Prerequisite Course (s): None

Synopsis

This course introduces students to the current cyber ethics. Students will analyze different scenarios related to privacy, trustworthy, and responsibilities of information technology professionals. Other topics include ethical theory, social, politic and cyber law.

References

1. Quinn, M. J. 2011. Ethics for the information age. 2nd ed., Boston Addison-Wesley. Call Number: QA76.9.M65 .Q74 2011
2. Baase, S. 2003. A gift of fire: Social, legal and ethical issues for computer and the Internet. Pearson. Call Number: QA76.9.C66 .B32 2003
3. Reynolds, G. 2003. Ethics in information technology. London: Thomson Course Technology.
4. MacKinnon, B. 2001. Ethics: Theory and contemporary issues. 3rd ed., Thomson Learning. Call Number: BJ1012 .M32 2004
5. Zawiyah Mohd Yusof, Nazura Abdul Manaf, Masnizah Mohd, Azizi Abdullah, Hafiz Mohd Sarim & Tengku Mohd Tengku Sembok. 2005. Teknologi maklumat komunikasi: Etika, undang-undang dan sosial. Kuala Lumpur: McGraw Hill.

BIT33503 Degree Project

Prerequisite Course (s): PassedBIT33403 Project Research Methodology

Synopsis

This subject is a continuation of Project Research Methodology subject. Students are required to implement the methodology in their project proposals which they have presented earlier. They have to produce and present their final products with a complete documentation explaining each project development phase.

References

1. Pusat Pengajian Siswazah UTHM, 2009. Panduan menulis tesis. 3rd ed. Parit Raja: Penerbit UTHM.
2. Felix B. Tan, 2008. Global information technologies: concepts, methodologies, tools and applications. Hershey, PA: Information Science Reference (T58.5 .T36 2008 v.1).
3. Dawson, C. W., 2009. Projects in computing and information systems: a student's guide. 2nd ed. Essex Pearson Education Limited.
4. Avison, D. & Fitzgerald, G., 2008. Information systems development: methodologies, techniques and tools, 4th ed. Berkshire: McGraw Hills.
5. Avison, D. & Pries-Heje, J., 2005. Research in information systems: a handbook for research supervisors and their students. Burlington, MA: Elsevier Butterworth-Heinemann.
6. Berndtsson, M., Hansson, J., Olsson, B. & Lundell, B., 2002. Planning and implementing your final year project – with success! A guide for students in computer science and information systems. London: Springer-Verlag.

BIT40112 Industrial Training

Prerequisite Course (s):70%of the programme credit acquired (PAC) has been achieved.

Synopsis

Students have to undergo 24-weeks of practical training at any government or private agencies. During the training, they will be given assignments or projects, which should be approved by the faculty and the agencies, relevant to their majorings.

References

1. UTHM Practical Training Log Book

BPK10403 Accounting Basics

Prerequisite Course (s): None

Synopsis

The course includes the financial basics and accounting management elements such as transaction records, adjusting and closing entries, cash flow statement, basic financial statement interpretation, basic costing, budgeting, and accounting information application for decision making.

References

1. Norfaiezah, Fathiyyah,Saliza,Zaimah,Mohd Farid & Ram Al Jaffri, (2008) Business Acounting; Easy Guide, 2nd ed. Pearson Prentice Hall. Call Number: HF5635 .B87
2. Weygandt, J.J, Kieso, D.E, and Kimmel, P.D., (2010), Accounting Principles, Eighth Edition, John Wiley & Sons Inc.,USA. Call Number: HF5635 .W49
3. Frank Wood & Alan Sangster(2008), Business Accounting, Eleventh Edition, Prentice Hall.
   Call Number: HF5635 .W66
4. Hongren, C.T, Harrison, W.T,(2008), Accounting, 7th ed. Pearson Education, New Jersey. Call Number: HF5636 .H67.
5. Fatimah Abd Rauf, Amla Abu and Radziah Mahmud, (2007), Financial Accounting for Non-Accounting Students, 9th ed. McGraw Hill Education. Call Number: HF5635 .D97

BPK20502 Principles of Management

Prerequisite Course (s): None

Synopsis

Introduction: Introduction to management, management evolution, managing environment, ethics and social responsibility. Planning: Fundamentals of planning, decision making and strategic management. Organising: Organisation structure and design, human resource management and managing changes. Leadership: Motivation, leadership, communication, groups and teams. Control: Basics of control.

References

1. Robbins, S.P., and Coulter M., (2007), Management, 9th ed. Upper Saddle River, New Jersey, Person. Call Number: HD31.R62 2007
2. Schermerhorn, J.R. (2007). Management. 9th edition. New York: John Wiley & Sons. Call Number: HD31. M36 2007
3. Dessler, G. (2011). “Management: Leading People and Organizations in the 21st Century”. New Jersey: Prentice Hall. Call Number: HD31.D47 2001
4. Daft, R.L. (2008). Management, 6th ed., Mason, OH: South-Western. Call Number: HD31.D33 2008
5. Kinicki, A, and Williams, K.W., (2007), Management: A Practical Introduction, 3rd ed., Irwin McGraw Hill. Call Number: HD31.K56 2007

BPK20802 Entrepreneurship

Prerequisite Course (s): None

Synopsis

This course cover various topics related to basic entrepreneurship including introduction to entrepreneurship, entrepreneurs characteristics and motivation, screening business environment and opportunity, formation of business and managing business. Students will also be exposed to real business.

References

1. Charles E. Bamford, Garry D. Bruton (2011). Entrepreneurship: a small business approach. New York: McGraw-Hill. Call Number: HD62.5 .B35 2011
2. Schaper M., Volery, T, Weber, P., Lewix, K., (2011). Entrepreneurship and small busiess; 3rd Asia-Pacific Edition. John Wiley & Son. Call Number: HD2341 .E57 2011
3. Hisrich, R.D., Peter, M.P., Shepherd, D.A., (2010). Entrepreneurship, 8th ed. McGraw Hill. Call Number: HD62.5 .H57 2010
4. Donald F. Kuratko, Richard M. Hodgetts. (2007). Entrepreneurship: theory, process, practice, 7th Edition. Mason: Thomson South-Western. Call Number: HB615 .K87 2007
5. John. B., Tidd. J., (2011). Innovation and entrepreneurship. 2nd ed. Chichester, West Sussex, UK. Call Number: HD53 .B48 2011

BPK30702 Occupational Safety and Environment

Prerequisite Course (s): None

Synopsis

The course introduces students to various issues in occupational safety and health management. Among topics included are development in occupational safety and health management, ethics and safety, introduction to environment and occupational safety, safety and health laws (514 Act, OSHA 1994), accidents and its impact, principles in losses prevention and control management, occupational safety risks management, planning and emergency preparedness, occupational safety, occupational compensation, occupational accidents investigation system, occupational safety audit, and total safety management.

References

1. Ismail Bahari (2006) Pengurusan Keselamatan dan Kesihatan Pekerjaan, McGraw-Hill (Malaysia) Sdn. Bhd. Call Number: T55 .I85
2. David L. Geotch (2011), Occupational Safety and Health: for Technologist, Engineers and Managers, 7th Edition, Prentice Hall. Call Number: T55 .G63
3. Friend, M.A. (2010). Fundamentals of Occupational Safety and Health, The Scarecrow Press Inc., Maryland. Call Number: T55 .F74
4. Akta Keselamatan dan Kesihataan Pekerjaan 1994.
5. Akta Kilang dan Jentera 1967.

BIT20903 Artificial Intelligence

Prerequisite Course (s): None

Synopsis

This course introduces topics such as problem solving, practical natural language processing, logic, expert system, perception, neural network learning, fuzzy logic, planning and future of artificial intelligence.

References

1. Luger, G. F. 2009. Artificial intelligence: Structures and strategies for complex problem solving. 6th ed., Sydney: Cummings Publishing. Call Number: Q335 .L84 2009.
2. Bratko, I. 2001. PROLOG programming for artificial intelligence. 3rd ed. London: Addison Wesley. Call Number: Q336 .B72 2001 N4
3. Efraim, T., Aronson, J. E. Liang T. & McCarthy R.V. 2011.Decision support and business intelligence systems. 9th ed. New York: Prentice Hall. Call Number: HD30.2 .D42 2007
4. Moss, C. 1994. PROLOG++: The power of object-oriented and logic programming. London: Addison Wesley.
5. Rich, E., Knight, K. & Shivashankar B. N. 2008. Artificial intelligence. 3rd ed., New York: Mc Graw Hill. Call Number: HD30.2 .R52 2008
6. Peng, Y.H., Zhang Y.F. & Wang, L. (2010). Artificial intelligence in biomedical engineering and informatics: An introduction and review. Artificial Intelligence in Medical 48. 71-73.

BIT30303 Decision Support System

Prerequisite Course (s): None

Synopsis

This course introduces topics such as data and model management, decision making, decision making process, decision making modelling, decision support system design and development, user interface component, decision support system integration and implementation and group decision support system.

References

1. Marakas, G. M. 2004. Decision support system in the 21st century. New York: Prentice Hall.
2. Efraim, T., Aronson, J. E. Liang T. & McCarthy R.V. 2011. Decision support and business intelligence systems. 9th ed. New York: Prentice Hall. Call Number: HD30.2 .D42 2007
3. Xinghuo, Y. et.al. 2003. Applied decision support with soft computing. Toronto: Springer. Call Number: QA76.9.S63 .A66 2003
4. Mallach, E. G. 2000. Decision support and data warehouse systems. New York: McGraw Hill. Call Number: T58.62 .M35 2000 N2.
5. Sauter, R. L. 1997. Decision support systems: An approach managerial approach. Boston: Wiley.
6. Velmurugan, M. S. I & Kogilah, N. 2008. Application of Decision Support System in E-Commerce, Volume 5, number 19, Communications of the IBIMA, 2008. http://www.ibimapublishing.com/journals/CIBIMA/volume5/v5n19.pdf

BIT30403 Project Management

Prerequisite Course (s): Taken BIT 20103System Analysis and Design

Synopsis

This course introduces students to the concept and processes in project management. Topics include project integration, time management, cost, quality, communication and human resource, risk management and purchases.

References

1. Schwalbe, K. 2007. Information technology project management. Course Technology Inc. (HD69.P75 .S23 2007)
2. Marchewka, J.T. 2010. Information technology project management. Wiley. (HD69.P75 .M377 2010)
3. Pham, A. and Pham P.V. 2012. Scrum in action : agile software project management and development. Course Technology Inc. (QA76.76.D47 .P42 2012)
4. Coplan, S. and Masuda, D. 2011. Project management for healthcare information technology.McGraw-Hill Professional. (R858 .C66 2011)
5. Soriana, J.L 2012. Maximizing benefits from IT project management: from requirements to value delivery. CRC Press. (HD30.2 .S67 2012)
6. Richardson, G.L and Butler, C.W. 2006. Readings in information technology project management (HD69.P75 .R52 2006)
7. Hallows, J. 2005. Information systems project management : how to deliver function and value in information technology projects (HD69.P75 .H344 2005)

BIT30503 Enterprise Resource Planning

Prerequisite Course (s): None

Synopsis

This course introduces ERP system, ERP Life Cycle, Marketing System management and Sales Order Process, Production and Marketing Sales System, Accounting and Finance and E-Commerce and risk.

References

1. Motiwalla, L. F. & Thompson, J. 2009. Enterprise systems for management. Upper Saddle River, NJ: Pearson. Call Number: HD30.213 .M67 2009.
2. Monk, E & Wagner B. J. 2005. Concepts in enterprise resource planning. 1st ed., Boston: Thomson Learning. Call Number: HD30.28 .M66 2005.
3. O'Leary, D.E. 2000. Enterprise resource planning: Systems, life cycle, electronic commerce and risk. Cambridge: Cambridge University Press. Call Number: TS155 .O43 2000 N1.
4. Carroll, B. J. 2008. Lean performance ERP project management: Implementing the virtual supply chain. 2nd ed., St. Lucie Press. Call Number: TS155.8 .C37 2008.
5. Arnold, J.R.T. & Chapman, S.N. Chapman. 2004. Introduction to materials management, 5/E. New York: Prentice Hall. Call Number: TS161 .A76 2004
6. Chorafas, D. N. 2001. Integrating ERP, CRM, supply chain management and smart materials. Auerbach. Call Number: HD38.5 .C46 2001.
7. Vinvent A.M., Ashok S. & Venkataramanan M.A. 2003. Enterprise resource planning: Managing the implementation process. European Journal of Operational Research 146. 302-314

BIT30803 Management Information System

Prerequisite Course (s): None

Synopsis

This course introduces the concepts and techniques in information management system. Topics include information technology foundation, network and telecommunication, e-commerce and transaction, information integration, system development, information system resource organizations, brief explanation of decision support system, executive information system, expert system and strategic analysis.

References

1. Kenneth, C. Laudon & Jane P. Laudon. 2010 Management information system:Managing the digital firm. Upper Saddle River, NJ: Pearson/Prentice Hall. (T58.6 .L385 2010)
2. O'Brien, et al. 2009. Management information systems. New York: McGraw-Hill/Irwin. (T58.6 .O37 2009)
3. Gerald, V. Post & David L. Anderson. 2003. Management information systems:Solving business problems with information technology. New York: McGraw-Hill. (HD30.213 .P67 2003)
4. Effy, O. 2006. Management information systems. 6th ed., New Jersey: Course Technology.
5. Raymond, McLeod & George, Shell. 2007. Management information systems: 10th ed., Prentice Hall. (T58.6 .M34 2007)
6. International Journal of Information Technology & Decision Making, http://www.worldscinet.com/ijitdm/ijitdm.shtml

BIT33603 Data Mining

Prerequisite Course (s): None

Synopsis

This course introduces data mining and machine learning. Topics include Component, clustering, association rules, performance and implementation issues and some applications in data mining such as web mining.

References

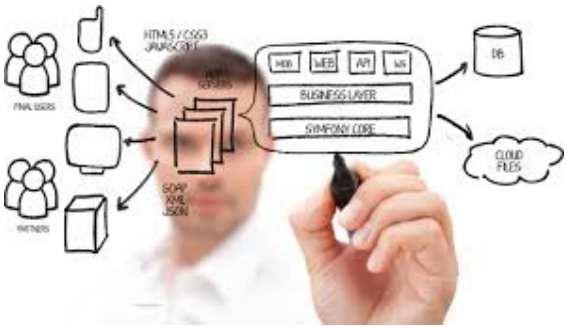
1. Kantardzic, M., (2011). Data mining: concepts, models, methods, and algorithms, Wiley-IEEE Press (QA76.9.D343 .K36 2011).
2. Tuffery, S., (2011). Data mining and statistics for decision making, Wiley (QA76.9.D343 .T83 2011)
3. Rahman, H., (2010). Data mining applications for empowering knowledge societies, IGI Global (QA76.9.D343 .D375 2009).
4. Ohsawa Y. and Katsutoshi Y., (2009). Data mining for design and marketing, Chapman and Hall/CRC (QA76.9.D343 .D378 2009).
5. David T., 2008). Data mining and knowledge discovery technologies (Advances in data warehousing and mining), IGI Publishing (QA76.9.D343 .T36 2008).

Career and Further Education Prospect

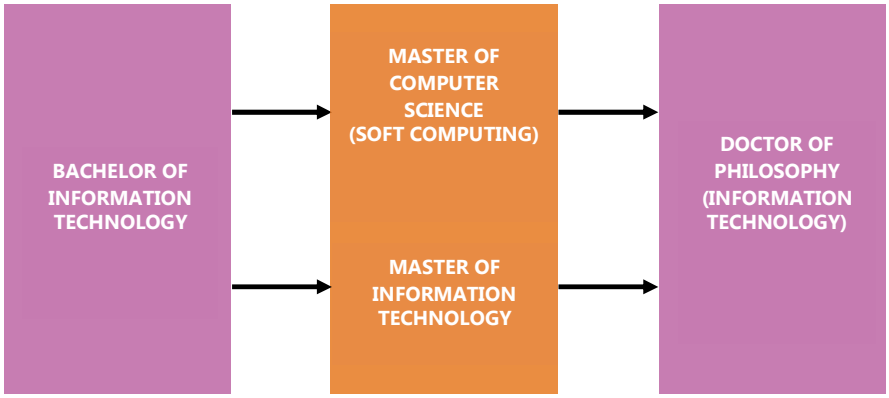
Graduate from this programme may pursue a wide range of careers such as Programmer, System Analyst, System Developer, Software Engineer, System Engineer, Database Administrator, System Administrator, Web Developer, Web Designer, IT Project Manager, IT Application Engineer.

In general, graduate from this programme will be involved in the following activities:

- Identify opportunities for improvement to processes and business operations using information technology.
- Investigate and analyze business problems and then design information systems that provide a feasible solution, typically in response to requests from their business or a customer.
- Designing and programming system-level software.
- Providetechnical expertise, develop and implement IT systems for external clients.
- Organize people, time and resources to make sure information technology projects meet stated requirements and are completed on time and on budget.



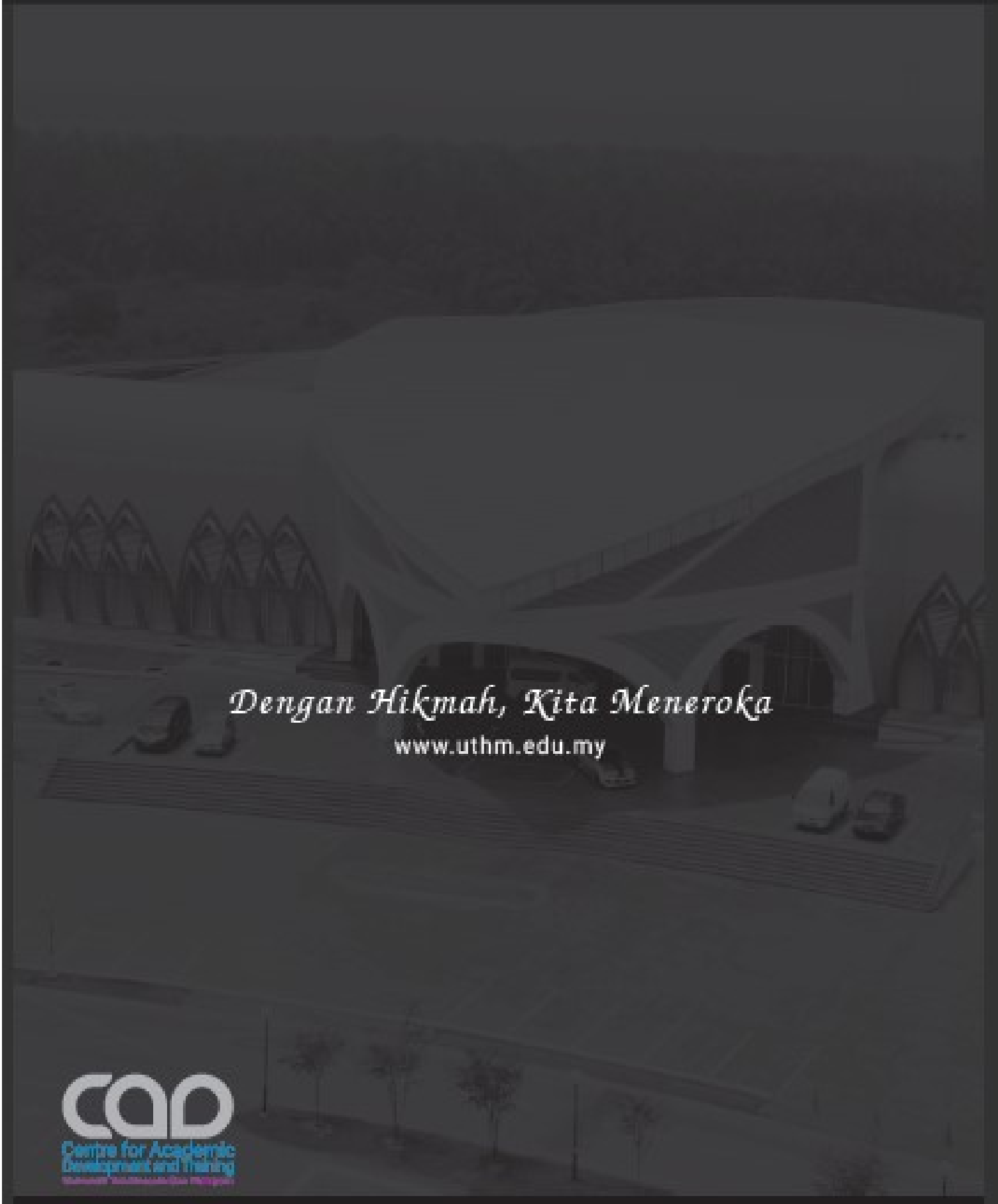
Further Education Pathway



MALAYSIAN QUALIFICATIONS FRAMEWORK: QUALIFICATIONS AND LEVELS

<table>
<tr><th rowspan="2">MQF Levels</th><th colspan="3">Sectors</th><th rowspan="2">Lifelong Learning</th></tr>
<tr><th>Skills</th><th>Vocational and Technical</th><th>Higher Education</th></tr>
<tr><td>8</td><td rowspan="4"></td><td rowspan="4"></td><td>Doctoral Degree</td><td rowspan="10">Accreditation of Prior Experiential Learning (APEL)</td></tr>
<tr><td rowspan="2">7</td><td>Masters Degree</td></tr>
<tr><td>Postgraduate Certificate & Diploma</td></tr>
<tr><td rowspan="2">6</td><td>Bachelors Degree</td></tr>
<tr><td>Graduate Certificate & Diploma</td></tr>
<tr><td>5</td><td>Advanced Diploma</td><td>Advanced Diploma</td><td>Advanced Diploma</td></tr>
<tr><td>4</td><td>Diploma</td><td>Diploma</td><td>Diploma</td></tr>
<tr><td>3</td><td>Skills Certificate 3</td><td rowspan="3">Vocational and Technical Certificate</td><td>Certificate</td></tr>
<tr><td>2</td><td>Skills Certificate 2</td><td rowspan="2"></td></tr>
<tr><td>1</td><td>Skills Certificate 1</td></tr>
</table>

Source: Malaysian Qualification Framework



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