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DIPLOMA IN INFORMATION TECHNOLOGY



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



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Foreword from the Vice Chancellor



Assalamualaikum Warahmatullahi Wabarakatuh and Greetings

Congratulations and welcome to all new students. We appreciate your trust in us and thank you for choosing to be with UTHM in continuing your endeavour for success in your future careers and prosperous lives.

In line with the message given by the YBhg. Minister Ministry of Education Malaysia that wish to transform the process of teaching and learning more flexible, organic, dynamic and effective, several initiatives and innovations in delivery methods have been and will be implemented at UTHM by combining conventional

methods with on-line / virtual meetings by introducing Full Online Classroom (FOC), Smart Class Room, Flip Learning, Massive Open Online Courses (MOOC) and more. In fact, the approach through Science, Technology, Engineering and Mathematics (STEM) will be enhanced to uphold the science and technology in line with the development of the Industrial Revolution 4.0. Additionally, elements such as fun, happiness, affection and courtesy will be applied in all curriculum at UTHM to ensure learning and teaching processes can achieve the University's aspirations in producing emotional, mental and physical equilibrium students based on the paradigm of tauhid.

For your knowledge, the top University's leadership continues to seek, design and adapt effective and efficient approaches that can have a big impact towards making UTHM a renowned Higher Education Institution. The achievement of four stars in the "QS STAR RATING 2017" and UTHM was recognized as Top 300 in QS World University Ranking by Subject 2017 in Mechanical, Aeronautical and Manufacturing Engineering and Electrical and Electronic Engineering categories, proving that UTHM continues to create excellence. These achievements convince us that they were the results of our effort in continuously strengthening and aligning the University mission and vision.

Lastly, I believe that you are the ones who will continue the University tradition of excellence. Also, when you graduate later you will be members of the community who are not only able to apply knowledge that has been acquired but also able to contribute efforts, deeds and expertise for the glory of Religion, Nation and Country.

"WITH WISDOM WE EXPLORE"

Your Sincrely,

PROFESSOR Ts. DR. WAHID BIN RAZZALY Vice-Chancellor Universiti Tun Hussein Onn Malaysia

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



Assalammualaikum Warahmatullahi Wabarakatuh and Greetings

It gives me great pleasure to congratulate all the new students who have been successfully selected to continue their studies in Universiti Tun Hussein Onn Malaysia (UTHM) for this 2017/2018 session. Congratulations to the Centre for Academic Development and Training for publishing this proforma that will function as a guide for students to plan their studies from the first semester until the end.

For your information, higher education in Malaysia has evolved from teacher/lecturer-centred learning to student-centred learning. Several initiatives have been conducted by the Ministry and the University to develop holistic graduates who are balanced in their knowledge and morale. In order to achieve UTHM mission and vision, a number of initiatives have been implemented such as introducing the iCGPA system, which is an integrated mechanism that combines assessment, achievement report and student's development that takes into account improvements in manners, knowledge and performance. Additional measures have also been taken to upgrade the teaching and learning quality by incorporating elements of Industry 4.0 and 2U2i in the curriculum content. This is to ensure the academic programmes offered in UTHM remain relevant to the requirements of the industry and current job market. In addition, knowledge and experience sharing sessions by local and international industrial leaders with students and the local community are carried out through the CEO@Faculty programme.

Other than that, online learning known as Massive Open Online Course (MOOC) has been introduced. The Full Online Classroom (FOC), which is implemented every semester, serves as a new initiative to give students the opportunity to explore knowledge without having to come to lecture rooms. Students also have the opportunity to leave the University for a certain period of time to participate in the Gap Year programme, which gives them the opportunity for self-reflection and exploration through volunteerism, entrepreneurship and sports programmes.

I hope the variety of initiatives that have been and will be implemented by UTHM will provide you with valuable experiences in your endeavour for knowledge and develop you to be holistic and balanced students. To ensure UTHM aspirations are achieved, it is hoped that this proforma will help you plan your studies and achieve the best results and attain excellence. Lastly, I wish you all the best and pray for your success in your studies here, with the hope that you will be able to contribute to the development of Religion, Nation and Country.

"WITH WISDOM WE EXPLORE"

Your Sincrely,

PROFESSOR DR. ISMAIL BIN ABDUL RAHMAN Deputy of Vice Chancellor (Academic and International) Universiti Tun Hussein Onn Malaysia

Foreword from the Dean of Centre for Diploma Studies



Assalamualaikum Warahmatullahi Wabarakatuh and Warm Greetings

Congratulations and welcome to all of you that have made the right choice of taking the first step in joining UTHM. I wish to welcome all of you to the Centre for Diploma Studies (CeDS) which is always ready to support and train you to be a semi professional in the field of science and technology.

As a centre, we're responsible for running and operating the diploma programmes for UTHM and our centre has a

clear vision and mission in developing and strengthening all the diploma programmes offered. Currently, we have nine (9) diploma programmes being offered and the number of programmes will be increasing in the near future in phase to the increase needs of the nation manpower. I believe you have chosen a suitable programme that suits your qualifications and dreams. Furthermore, with the study duration of 2 years and 9 months the student will be successfully completed their studies in a shorter time and can be offered a direct entry to the bachelor's degree programmes in UTHM with respective to the terms and condition imposed.

In terms of infrastructure, the teaching and learning facilities provided for UTHM have been recognised to fulfil the standard required by the accreditation bodies. In addition, the rapid development of the campus UTHM now will ensure comfort to students with various facilities including a library, residential colleges, cafeterias, sports activities, networking, wireless internet and other amenities.

I hope that as a candidate of the diploma programme in UTHM, you will use this proforma as a guide to select a suitable course which is in line with your future needs. For the new student who will be pursuing the diploma programme in UTHM, I strongly advised to using this document to plan and thus completing your diploma studies with excellence.

Wishing You Success.

Your Sincrely,

ASSOCIATE PROFESSOR DR. MOHAMAD ZAKY BIN NOH Dean Centre for Diploma Studies Universiti Tun Hussein Onn Malaysia



Vision

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

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 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 (TMJ) 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

Members

YBhg. Professor Ts. Dr. Wahid bin Razzaly

Vice-Chancellor Universiti Tun Hussein Onn Malaysia

YB Dato' Haji Nooh bin Gadot

Advisor, Majlis Agama Islam Johor

YBhg. Datuk Dr. Pang Chau Leong Alumni Representative, Universiti Tun Hussein Onn Malaysia

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

YBhg. Datuk Mat Noor bin Nawi

Chairman, Exim Bank Berhad

YBhg. Dato' Dr. Ir. Haji Abdul Rashid bin Maidin

Akademi Profesional Koperasi Serbaguna Anak-anak Selangor Berhad (KOSAS)

YBhg. Professor Dr. Mustafa bin Mat Deris

Professor Faculty of Computer Science and Information Technology Universiti Tun Hussein Onn Malaysia

YBhg. Professor Dr. Arham bin Abdullah

Director, Industrial Relation Division, Department of Higher Education Ministry of Higher Education Malaysia

Alternative Member

Mdm. Mazula binti Sabudin

Director of Student Enrollment Management Division Department of Higher Education Ministry of Higher Education Malaysia

Secretary

Mr. Abdul Halim bin Abdul Rahman Registrar

Universiti Tun Hussein Onn Malaysia

Senate Members

Chairman

Professor Ts. Dr. Wahid bin Razzaly Vice Chancellor

Members

Professor Dr. Ismail bin Abdul Rahman Deputy Vice Chancellor (Academic and International)

Professor Ts. Dr. Ruzairi bin Abdul Rahim Deputy Vice Chancellor (Research and Innovation)

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

Professor Dato' Dr. Abdul Razak Hj. Omar Provost of UTHM Pagoh Branch Campus

Associate Professor Dr. Wan Fauziah binti Wan Yusoff Assistant Vice-Chancellor (Financial Sustainability)

Associate Professor Dr. Afandi bin Ahmad Assistant Vice-Chancellor (Strategic Planning and Corporate Relations)

Professor Dr. Ahmad Tarmizi bin Abd Karim Dean Centre for Graduate Studies

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

Dr. Rosli bin Omar

Dean Faculty of Electrical and Electronic Engineering

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

Associate Professor Dr. Mohd Lizam Bin Mohd Diah Dean Faculty of Technology Management and Business

Professor Ts. Dr. W Mohd Rashid Bin W Ahmad 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 Dean Faculty of Applied Science and Technology

Associate Professor Dr. Ishak bin Baba

Dean Faculty of Engineering Technology

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

Professor Dr. Azme bin Khamis Director Centre for Academic Development and Training

Professor Dr. Rosman bin Md. Yusoff Dean Centre for liberal and co-currricular studies

Professor Dr. Noraini Binti Kaprawi Director International Office

Ir. Shamrul-Mar bin Shamsuddin Director Development and Mainteance Office

Professor Ir. Dr. Amir Hashim bin Mohd Kassim Faculty of Civil and Environmental Engineering

Professor Dr. Sulaiman bin Hj Hassan 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 Applied Science and Technology

Professor Dr. Rosman bin Md Yusoff Faculty of Applied Science and Technology

Mr. Abdul Halim bin Abdul Rahman Registrar/Secretary

Mdm. Azizah binti Nasri Bursary

Mr. Hj. Bharun Narosid bin Mat Zin Chief Librarian

Centre for Diploma Studies

Centre Vision

Excellent in providing multidisciplinary education in science and technology

Centre Mission

Producing graduates who contribute to national development through a holistic academic program

The diploma programmes had been offered in UTHM since the establishment of Pusat Latihan Staf Politeknik (PLSP) in 1994. At that time only three programmes were offered and were being managed by a few departments of concerned. All the programmes were than assigned under the management of the respective faculties when Kolej Universiti Teknologi Tun Hussein Onn (KUiTTHO) was established in the year 2001.

The establishment of the Centre for Diploma Studies was announced by the Vice Chancellor on the 1st August 2009. With the establishment of the Centre for Diploma Studies all of the diploma programme were able to be managed centrally thus increasing the competativeness of all diploma programmes being offered by other higher education institutions in this country.

It is the aim of the Centre for Diploma Studies to boost the diploma programmes in UTHM to a level such that it becomes the main choice of applicants. With that all potential applicants are most welcome to join the diploma programme in UTHM. All of the diploma programmes in UTHM is being conducted according to the Outcome Based Education method since the July 2010 session. The diploma programmes offer the opportunities for graduates to further their studies in UTHM. The establishment of the Centre for Diploma Studies is intended to achieve equilibrium in the academic excellence, co-curricullum and the individual development of its graduate such that to achieved the quality needed to fulfill the global occupational market. Until now the Centre for Diploma Studies, have offered nine (9) programmes which are being managed by the various departments.

The Centre for Diploma Studies consists of five (5) departments and is led by a Dean and is being assisted by three (3) Deputy Deans. The organizational chart of the Centre for Diploma Studies is as shown:



Organisational chart of the Centre for Diploma Studies

Centre External Examiner and Industrial Advisor

Department of Information Technology

External Examiner

Associate Professor Dr. Mohd Shahrizal bin Sunar

Ph.D Industrial Computing (Computer Graphics) (UKM),M. Sc. (Computer Graphics and Virtual Environment) (University Of Hull, UK)B. Sc. Computer Science (Computer Graphics) (UTM)Diploma in Computer Science (UTM)

Industrial Advisor

Mdm Adura binti Suhaimi

Vice President Project Management and Services Prestariang Sdn Bhd

Mr. Kufaisal bin Mohd Sidik

Chief Executive Officer V3X Malaysia Sdn Bhd 87A, Jalan Pulai 7 Taman Pulai Utama 81300 Skudai, Johor

Centre for Diploma Studies Staff Directory

Administration

Dean

Associate Professor Dr. Mohamad Zaky bin Noh Ph.D (Physic)(USM), MSc. (Physic)(UTM), BSc. (Physic)(UTM)

Deputy Dean (Academic and Research)

Hj. Amir Khan bin Suwandi

MSc. (Civil Engineering) (UTM), BSc. (Hons) (Civil Engineering) (Portland State Univ. USA), Dip. Ed.(Civil Engineering Studies) (UTM)

Deputy Dean (Student Affairs and Development) Mdm. Mariam binti Abdul Hamid Master of Information Technology Management (UTM), Bachelor Degree of Information Technology (UTM), Diploma in Electronic (UTM)

Deputy Dean (Development, Research and Publication) Hj. Jahaya bin Kesot MSc. (Civil Engineering) (UTHM), BSc. (Civil Engineering) (Univ. of Miami, USA)

Office Secretary Rusnani binti Saji Dip. (Secretarial Science) (Politeknik Sultan Ahmad Shah, Kuantan)

Senior Assistant Registrar

Norfaizah binti Sai Bachelor in Human Resources (UPM)

Assistant Administrative Officer (Academic and Research) Latifah binti Mohd Nasir

Dip.(International Business) (Politeknik Shah Alam)

Assistant Administrative Officer (Administrative and Finance) Nur Izzati Hazwani binti Muhammad Ridwan BSc. (Administration)(UiTM), Dip. (Tech. Management) (UTM)

Administrative Assistant (Clerical & Operation) Student Affairs and Development Jaiganesh a/I Jaganathan BSc (Management) (OUM), SPM (SMK Dato Bentara Luar)

Administrative Assistant (Clerical & Operation) Administrative and Finance Ismade bin Niam STPM (SM Tun Sardon Rengit)

Administrative Assistant (Clerical & Operation) Services Unit Dorazi bin Md Noh SC/MCE/SPM/SPVM (SEK. MEN. Dato Sulaiman)

Administrative Assistant (Clerical & Operation) Academic and Research Abu Bakar Siddeq bin Abd Jabar SC/MCE/SPM/SPVM (SMK Tinggi Batu Pahat)

Administrative Assistant (Clerical & Operation) Academic and Research Razali bin Ahmad SC/MCE/SPM/SPVM, SMK Tinggi Batu Pahat

General Office Assistant Dayang Fatimah binti Pohhaini STPM (SM Munsyi Sulaiman), SPM (SMK Datin Onn Jaffar)

Department of Information Technology

Academic Staff

Head of Department

Mdm Rafizah bt Mohd Hanifa MSc. (Information Technology) (UUM), BSc. (Computer Science) (USM)

Associate Professor Miswan bin Surip

MSc. (Computer Science) (Salford Manchester, UK), BSc. (Computer Science) (UPM)

Mr. Hj. Hannes bin Masandig

MSc. (Information Technology) (UiTM), Adv. Dip. (Mechanical Engineering) (UiTM), Dip. (Mechanical Engineering) (UTM)

Dr. Noordiana bt Kasim @ Kassim

PhD (Mechanical Engineering) (UTHM). MSc. (Mechanical Engineering) (UTHM), BSc. (Information Studies) (UiTM), Dip. (Computer Information System) (MCC)

Mdm Mariam bt Abdul Hamid

MSc. (Management Information System) (UiTM), BSc. (Information Technolgy) (UiTM)

Mdm Ida Aryanie bt Baharudin

MSc. Computer Science (Software Engineering) (UTHM), BSc. (Electrical Engineering) (UTHM)

Mdm Rosfuzah bt Roslan

MSc. (Computer) (UTM), BSc. (Computer) (UTM), Dip (Computer Science) (UTM)

Mr. Mohd Hatta bin Mohamed Ali @ Md Hani

MSc. (Information Technology) (UiTM), BSc. (Software Engineering) (UPM), Dip (Computer Science) (UPM)

Mr. Mohd Suhaimi bin Md. Yasin

MA.Phil (Seni Kreatif)(UMS), BA.Hons (Seni Kreatif)(UMS)

Miss Shelena a/p Soosay Nathan

MSc. (Information Technology) (UUM), BSc. (Information Technolgy) (UUM)

Miss Rosni bt Ramle

MSc. (InformationTechnology) (UiTM), BSc. (Business Computing) (UiTM)

Mdm Mazniha bt Berahim

MEd. (Mathematic) (UTM), BSc. (Computer Science) (UTM), Dip (Information Technology) (UTM)

Mr. Abdul Halim bin Omar

MSc (Information Technology) (UTHM), BSc (Information Technology) (UTHM)

Mr. Muhamad Hanif bin Jofri

MSc (Information Technology) (UTHM), BSc (Information Technology) (UTHM), Dip (Civil Engineering) (Polytechnic Sultan Idris Shah)

Mr. Mohd Faizal bin Mohamed Nor

MSc (Telecommunication and Information Engineering) (UiTM), BSc. (Electrical Engineering) (UTHM)

Technical Staff

Mr. Afeendi bin Nordin

Cert (Electric and Electronic) (Polytechnic Merlimau)

Mr. Mohd Niza bin Shamsudin

Dip. (Electronic) (PIS), Cert. (Electric and Electronic) (Polytechnic Kota)

Programme Name

Diploma in Information Technology

Programme Aims

The Program of Diploma in Information Technology is to produce semi-skilled workforce as a professional, knowledgeable and competitive human capital in line with aspirations and inspirations to strengthen and incorporate moral and spiritual education as in the National Transformation 2050 (TN50) and National Higher Education Strategic Plan (PSPTN).

Programme Educational Objectives (PEO)

The Programme Educational Objectives of Diploma in Information Technology is to produce semi - professionals who are able to:

- **PEO 1** Explain and apply appropriate information technologies and methodologies to help an individual or organization achieve its goals.
- **PEO 2** Manage the information technology resources of individual or organizations.
- **PEO 3** Evaluate the changing direction of information technology and communicate the utility of new technologies to an individual or organization.
- **PEO 4** Function as a contributing, well-rounded member of society.

Programme Learning Outcomes (PLO)

Programme Learning Outcomes of Diploma in Information Technology are as follows:

- **PLO 1** Possess relevant knowledge of technology fundamentals to well-defined procedures and practices in Information Technology. (C3-Knowledge)
- **PLO 2** Apply current tools and techniques to solve well-defined computing problems. (P3-Modern Tools Usage)
- **PLO 3** Communicate effectively in both verbal and written among computing community and society. (P3-Communication Skill)
- **PLO 4** Demonstrate analytical and critical thinking skills to solve well-defined computing problems. (P3-Critical Thinking and Problem Solving)
- PLO 5 Collaborate effectively as a member in diverse teams. (A2-Teamwork Skill)
- PLO 6 Recognize the needs for professional development and able to engage in independent lifelong learning to enrich IT knowledge and competencies. (A2-Lifelong Learning, Information Management and Professional

Development)

- **PLO7** Demonstrate an awareness of management and technopreneurship practices in IT. (A2- Entrepreneurship & Management Skill)
- **PLO 8** Demonstrate professionalism and ethical and legal considerations. (A2-Ethics & Professionalism Value)
- **PLO 9** Demonstrate effective leadership skills as an individual and in diverse teams. (A2-Leadership Skill)
- **PLO 10** Demonstrate understanding of societal related issues and the consequent responsibilities relevant to well-defined computing practices. (A2–Social Responsibility in Society & Technologist Community)

Curriculum Structure

Diploma in Information Technology Curriculum

Table 1. Diploma in Information Technology Curriculum Summary

Year	Semester	Course Code	Courses	Credi t	Total
	Special	UWB 10*02 UQU 10403 UQI 10402 / UQI 10202	Foreign Language Introduction to Nationhood and Development of Malaysia Introduction to Islamic Studies / Moral Studies	2 3 2	7
	I	UHB 10302 UQ* 1**01 DAT 10103 DAT 10203 DAT 10303 DAT 10403 DAT 10503	English for Academic Survival Co-curriculum 1 Operating System Discrete Mathematic Computer Algorithm Introduction to Information Technology Multimedia Concept	2 1 3 3 3 3 3	18
1	II	UHB 20302 UQI 10502 UQ* 1**01 DAN 20103 DAT 10603 DAT 10703 DAT 10803 DAT 10902	Academic Communication Theology and Science and Science Co-curriculum 2 Business and Entrepreneurship Computer Architecture Programming Principles System Analysis and Design Human Computer Interaction	2 2 1 3 3 3 3 2	19
2	I	UHB 30502 DAT 20103 DAT 20203 DAT 20303 DAT 20403 DAT 20503/ DAT20603	English for Workplace Database Web Development Object-oriented Programming Management Information System Mobile Computing / 3D Modelling and Animation	2 3 3 3 3 3	17
	11	DAT 20702 DAT 20803 DAT 20902 DAT 21004 DAT 21103/ DAT 21203/ DAT 21303	Occupational Safety and Health Data Communications and Networking Information Technology Ethics and Professionalism Diploma Project Cyberpreneurship / Visual Programming / Artificial Intelligence	2 3 2 4 3 3	17
3	I	DAT 30112	Industrial Traning	12	12
			Overall Tota	I Credit	90

University Courses

Year	Sem	Course Code	Courses Credit		Total
		UWB 10*02	Foreign Language	2	
	Special	UQI 10402 / UQI 10202	Introduction to Islamic Studies / Moral Studies	2	7
		UQU 10403	Introduction to Nationhood and Development of Malaysia	3	
	I	UHB 10302 English for Academic Survival		2	3
		UQ* 10***1	Co-Curriculum 1	1	
1		UHB 20302	Academic Communication	2	
	UQ*10***2 Co-Curric		Co-Curriculum 2	1	1
	UQI 10502 Th		Theology and Science	2	0
		DAN 20103	Business and Entrepreneurship	3	
2	I	UHB 30502	English for Workplace	2	2
	II	DAT 20802	Occupational Safety and Health	2	2
		Tot	al Overall Credit		22

Synopsis of University Courses

UQ*1**01 Co-Curriculum I

Synopsis

This course is offered in various forms of activity options for students of Bachelor and Diploma level. Eight field activities offered are Public Speaking, Entrepreneurship, Sports, Community Service, Volunteerism, Leadership, Culture and Power.

UQI 10402 Introduction to 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

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UQI 10202 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

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- 4. Eow Boon Hin. (2002). Moral Education. Longman. [LC268 .E48 2008].

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UQI 10502 Theology and Science

Synopsis

This course focuses on the concept of two basic things which are holding religious beliefs and looking at different views in science. As a result of this, the existence of the relationships between them can be distinguished through discussions based on the holistic concept of knowledge.

References

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- 8. Syed Muhammad Naquib Al-Attas.(1981).*Islam dan Sekularisme.* Bandung: Pustaka.[BP161.2 .A42 1981]

UQ*1**01 Co-Curriculum 2

Synopsis

This course is offered in various forms of activity options for students of Bachelor and Diploma level. Eight field activities offered are Public Speaking, Entrepreneurship, Sports, Community Service, Volunteerism, Leadership, Culture and Power.

UWB 10*02 Foreign Language

Synopsis

This course is designed for students to learn the basic Foreign 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 foreign language.

References

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U66 2008.

- 2. Lim Hong Swan, Yeoh Li Cheng, 2010. Mandarin Made Easy Through English. Batu Pahat: Penerbit UTHM. PL1129.E5 .L554 2009
- 3. Mohd Hisyam Abdul Rahim; Ahmad Sharifuddin Mustapha; Mohd Zain Mubarak. 2008. Bahasa Arab UMR 1312. Batu Pahat: Penerbit UTHM. PJ6115 .M445 2008
- 4. Surie Network, (2000) : Minna no Nihongo : Kaite Oboeru, Tokyo : 3A Corporation. PL539.3 M56 2000
- 5. Gabriele Kopp, Siegfried Büttner, 2004. Planet 1: Deutsch für Jugendliche: Kursbuch. Ismaning: Germany: Hueber Verlag. PF3129. K664 2004
- 6. Nurul Sabrina Zan, (2010). Hola! Hablo españolFirst Edition Batu Pahat: Penerbit UTHM. PC4445 .N72 2010
- 7. Yrama, Widya (2008). Cara belajar membaca dan menulis huruf jawa, jilid 1. Yrama Widya. Publication info:, 2008 131738.1

UHB 10302 English for Academic Survival

Synopsis

This course focuses on developing students' acquisition of English language skills required for higher education. This course assists students to read, write, listen and speak effectively and to become informed, literate and lifelong learners. By the end of the course, students should be able to use English for a wide range of persor-ral and academic activities in the context of tertiary education.

References

- 1. Clark, Ruth Colvin. (2004). Graphics Learning: Provet in Training Materials. San Fransisco, CA: Pfei Lt]1043.5 .C52 2004.
- 2. Dunne, Elisabeth. (1994). 7'alking and Learning in Grc Fry, Ronald W. (1994). 7'ake Notes (2nd ed.). Hawthor Galanes, Gloria I. (2013).
- 3. Ef/bctive Group Discussion: McGraw-Hill. t-IM736 .G34 2013 Greasley, Pete. (2011). Doing essays and assignments Sage Publication. I-B 1047'3 .G73 20II
- 4. Lim, Phyllis L. (2014). Listening & Notetaking Skills2 PEI 128 .L55 20I'l
- 5. Van Blerkom, Dianna L. (2012). College Study Skills (Learning. L82395 .V36 2012.
- 6. Wong, Linda. (2012). Essential Study Skills (7th ed.). ILI3 I 049 . W66 201)Study Strategies. Belmont, CA: Wadsworth.

UHB 20302 Academic Communication

Prerequisite Course: UHB 10302 English for Academic Survival

Synopsis

This course introduces students to critical reading and writing skills. Students are expected to read and respond critically to academic materials. This course will also provide opportunities for students to develop their academic writing skills in producing technical papers.

References

- 1. Richard Johnson-Sheehan (2005). Technical Communication Today. New York:Pearson. TK5105.S26
- 2. Fairbairn, Gavin J. (20 II). Reading, Writing and Reasoning; A Guidefor Studerzrs. Maidenhead: Open University Press, 2011. L82395 .F34 20II'
- 3. Jordan, R. R. (2003). Academic writing Course; study skills in English (3rd ed.). Essex: Longman. PEI408 .J67 2003.

- 4. Langan, John. (2011). Cottege WritingSkilts (Sth ed.). New York: McGraw-Hill. PE1471.L36 2011.
- 5. Lewis, Jrll. Readingfor Academic Success : Reading and Strategies. Boston: Houghton Mifflin' LF.2395.3 .L48 2002.
- 6. Cheesebro.T, O'Connor, L. & Rios, F. (2007). Communication skills: preparing for career success (3rd ed.) Upper Saddle River, NJ: Pearson. HF5718.C53

UHB 30502 English for Workplace

Prerequisite Course: UHB 20302 Academic Communication

Synopsis

This course employs a task-based learning approach and focuses on developing students' delivery of speech in oral interactions and job interviews. Particular emphasis will be given to promote the mastery of self-directed learning, team-work, research, reasoning and creativity. This course also enables students to acquire knowledge and skills necessary for conducting and participating in meetings, which include writing of meeting documents and event proposals based on specific themes. Students will also be exposed to interview techniques.

References

- 1. Allen, Jeffrey G. (2004). The Complete Q and A job interview book (ath ed.). Hoboken, NJ:John Wiley. HF5549.5.16 .A44 2004.
- 2. Badger, Ian. (2003). Everyday Business Writing. Essex: Pearson. PEI I 15 .8327 2003.
- 3. Corfield, Rebecca. (2003). Preparing the Perfect Job Application: Application Forms qnd Letters Made Easy.New Dethi: Kogan Page. HF5383 .C67 2008.
- 4. Freitag-Lawrence, Anne. (2003). Business presentations. England: Pearson. P81479.887 .F73 2003.
- 5. Mohammad Talha Mohamed Idris & Zulida Kadir (2009). Technical Communication II: Teaching Modul UMB 1122. Batu Pahat: UTHM.
- 6. Zulida Abdul Kadir (2006). Technical Communication II: Teaching Modul UMB 1122. Batu Pahat: UTHM. T11.Z84 2006

UQU 10403 Introduction to Nationhood and Development of Malaysia

Synopsis

This course discusses the basic concepts, the process of formation and development of the country. The topics to be discussed is the struggle against colonialism, independence and the establishment of the Federation of Malaysia as a country. In addition, also touched the element National Principles and national development policies related to economic, political and social, such as Vision 2020 and statesman contribution in strengthening the continuity of the success of Malaysia.

References

- 1. Ahmad Esa, Harliana Halim, Khairul Azman Mohd Suhaimy, Ku Hasnan Ku Halim, Marwan Ismail, Mohd Akbal Abdullah, Shamsaadal Sholeh Saad dan Zahrul Akmal Damin (2004). *Ikhtisar Sejarah Kenegaraan & Pembangunan Malaysia*. Johor Bahru : Muapakat Jaya Percetakan Sdn. Bhd. [DS596.I33 2003]
- 2. Fauziah Ani, Harliana Halim, Khairul Azman Mohd. Suhaimy, Khairunesa Isa, Ku Hasnan Ku Halim, Lutfan Jaes, Mohd. Akbal Abdullah, Shamsaadal Sholeh Saad,

Siti Sarawati Johar, Zahrul Akmal Damin (2009). *Kenegaraan & Pembangunan Malaysia*. Batu Pahat : Penerbit UTHM. (Modul Kenegaraan dan Pembangunan Mutakhir Malaysia)

- Nazaruddin Mohd Jali, Ma'rof Redzuan, Asnarulkhadi Abu Samah dan Ismail Mohd Rashid (2005). *Pengajian Malaysia*. Petaling Jaya : Prentice Hall. [DS596.6 .P46 2001 N2]
- 4. Lembaga Penyelidikan Undang-undang (2003). *Perlembagaan Persekutuan:* (hingga 15hb.Ogos 2003). Petaling Jaya : International Law Book Services. [KPG1744.51963.A3 .A4 2003]
- 5. Ruslan Zainudin, Mohd Mahadee Ismail dan Zaini Othman (2005). *Kenegaraan Malaysia*.Shah Alam : Fajar Bakti. [JQ715 .R87 2005]
- 6. Ting Chew Peh (1980). *Konsep Asas Sosiologi* Kuala Lumpur : Dewam Bahasa dan Pustaka. [HM51 .T56 1985

Synopsis of Faculty Core Courses

DAN 20103 Business and Entrepreneurship

Synopsis

This course introduces students to the Economic Environment and Business, Forms Rules and Business Support Facilities, entrepreneur and entrepreneurship, methods of identifying, assessing and selecting business opportunities, forms, regulations and business support services, business plan, management of small and medium businesses, marketing plans, operating plans, financial plans, issues in Entrepreneurship.

References

- 1. Baron, Robert A. & Shane, Scott A. (2008). *Entrepreneurship: a Process Perspective*.2nd.ed. Mason, Ohio: Thomson.
- Carol Yip (2007) 'Smart Money-User' Kanyin Publication.Hisrich, R.D., Peters, M.P & Shepherd, D.A (2005). Entrepreneurship. 6th.ed. New York: McGraw-Hill
- 3. UITM Enterpreneurship Study Group (2011). *Engineering Enterpreneurship*. Prentice Hall Pearson Malaysia Sdn. Bhd.
- 4. Rosli Mahmood et.al. (2010). *Prinsip-prinsip Keusahawanan.* Cernage Learning Asia Pte Ltd.
- 5. Norman M. Scarborough (2011). *Essentials of Enterpreneurship and Small Business Management*. 6th.ed, Pearson.

DAT 20702 Occupational Safety and Health

Synopsis

This course introduces students to knowledge and skills in occupational safety and health in workplace. Scope of study includes Health, Safety and Environment Managements: introduction to OSH, OSHA 1994 (Act 514), FMA 1967, EQA 1974, occupational safety and health management system, safety, health and environment culture; Risk Management and Assessment: introduction to risk management, risk assessment techniques, HIRARC; Physical Injury & Controls: introduction to physical injury, construction work, electrical work, mechanical work, chemical work; Health Hazards: introduction to health hazards & hygiene, chemical hazards, physical hazards, biological hazards, hygiene; Accident Investigation & Reporting: introduction, to

accident investigation, investigations and causes of incident, incident analysis and data collection method.

References

- 1. Anton, Thomas J. (2009). Occupational Safety and Health Management. 3rded. New York: McGraw-Hill. [T55.A57 1989].
- 2. Davies, V. J. and Tomasin K. (2006). *Construction Safety Handbook*. 2nd ed. London: Thomas Telford. [TH443.R43 2006].
- 3. Factories and Machinery Act & Regulations. MDC Publishers Printer Sdn. Bhd. 2001. [KPG1390.A31967 .A4 2001 rw N1.]
- 4. Ismail Bahari (2006). *Pengurusan Keselamatan dan Kesihatan Pekerjaan*.Edisi ke-2.. McGraw Hill Education (Malaysia). [T55.I85 2006].
- 5. Occupational Safety and Health Act and Regulations. MDC Publishers Printer Sdn. Bhd. 2001. [KPG1390.M34 2001 rw N2.]

Synopsis of Programme Core Courses

DAT 10103 Operating System

Synopsis

The goal of this course is to introduce the key components of a typical operating system and its services. In addition, it also discusses the function of each manager and its role in coordinating system operational tasks.

References

- 1. Silberschatz, A., 2014. Operating System Concepts, 6th Edition, London: Addison Wesley. QA76.76.063 .S54 2014
- 2. Stalling, W. 2012. Operating Systems Internals & Design Principles, 5th Edition, New York: Pearson Education International. QA76.76.063 .S74 2012
- 3. Davis & Rajkumar, 2005.Operating Systems, 6th Edition, New York: Pearson Education International. QA76.76.O63 .D29 2005
- 4. Deitel, Deitel & Choffnes, 2004. Operating Systems, 3rd Edition, New York: Pearson Education International. QA76.76.063 .D44 2004
- 5. Nutt, G. 2004. Operating System: A Modern Perspective, London: Addison Wesley. QA76.76.063 .N884 2004

DAT 10203 Discrete Mathematic

Synopsis

This course introduce students to the rich mathematical structures that naturally describe much of the content of the computing area, many structure logical and mathematical thinking. It focuses on basic logic, sets, relations and functions, as well as graphs theory which integrate symbolic tools, graphical concepts, principles, proof techniques and numerical calculations to the Information Technology.

References

- 1. Harris Kwong (2015), A Spiral Workbook for Discrete Mathematics, Open SUNY Textbooks, ISBN:978-1-942341-16-1
- Rosen, K.H (2012) Discrete Mathematics and Its Applications , 7th Edition, McGraw Hill, ISBN:978-0-07-338309-5
- 3. Oscar Levin (2016), Discrete Mathematics: An Open Introduction, CreateSpace Independent Publishing Platform, ISBN-10: 1534970748
- 4. Jean H.Gallier (2017), Discrete Mathematics, Springer

DAT 10303 Computer Algorithm

Synopsis

This course will focus on algorithm design in problem solving using textual and graphical representations. It will also introduce students to the techniques of problem solving using modular approach. Students are expected to develop the ability to define and analyse problems and design efficient algorithmic solutions.

References

- 1. Panneerselvam, R. (2007). Design and analysis of algorithms. New Delhi: Prentice-Hall of India. Call Number QA76.9.A43 .M63 2012
- 2. Backhouse, R. (2011). Algorithmic problem solving. Chichester, West Sussex: Wiley. Call Number QA76.9.A43 .B32 2011

DAT 10403 Introduction to Information Technology

Synopsis

This course introduces students to information technology, computer hardware, computer software, file and data management, information systems, telecommunications, telecommunications technology, internet and current issues involving information technology.

References

- 1. Brian Williams, 2011. Using Information Technology 9e Introductory Edition, 9th Edition. Mc-Graw Hill Company.QA76.5 .W54 2011
- Carol V. Brown Daniel W. DeHayes Jeffrey A. Hoffer Wainright E. Martin William C. Perkins, 2009. Managing Information Technology, 6th Edition. Pearson Education, Inc. T58.6 .M364 2012
- Lawerence Snyder, 2011. Fluency with Information Technology: Skills, Concepts & Capabilities, 4th Edition, Pearson Education, Inc. T58.5 .S69 2011
- 4. Information technology for business.2011. 2nd, Singapore: Cengage learning, HD30.2 .I55 2011
- 5. William J. GibbsPatricia J. Fewell, 2009. Microsoft Office for Teachers, 3rd Edition. Pearson Education, Inc. HF5548.4.M525 .F48 2006

DAT 10503 Multimedia Concept

Synopsis

This course introduces students to multimedia concept, applications and techniques. Topics covered include introduction to multimedia, multimedia project development, multimedia component: text, audio, graphic, animation and video. Multimedia documentation and hypermedia, and also application will be discussed.

References

- Mark Guzdial & Barbara Ericson, 2010. Introduction to Computing and Programming in Pytho: Multimedia Approach, 2nd Edition, Prentice Hall. QA76.73.P98.G89 2005
- 2. Shelly, Gary, 2012. Web design: Introductory. Boston, MA. TK5105.888 .S53 2012
- 3. Tay Vaughan, 2011, *Multimedia Making It Work Eighth Edition, 8th Edition*, Mc-Graw Hill. QA76.575 .V38 2008
- 4. Guan, Ling, 2012. *Multimedia image and video processing.* CRC Press. QA76.575.M853 2012
- 5. Savage, 2014. An introduction to digital multimedia. Jones & Bartlett Learning. QA76.575 .S28 2014

DAT 10603 Computer Architecture

Synopsis

This course introduces student on fundamental of computer architecture, computer components and functions, data representation in computer system, arithmetic logic operation, digital logic, input and output, memory organization and set instruction.

References

- 1. Hennessy, John L. 2012. *Computer Architecture: A Quantitative Approach*. 5th ed. Waltham, MA: Morgan Kaufmann/Elsevier. QA76.9.A73 .H46 2012
- 2. Null, Linda. 2015. *The Essentials of Computer Organization and Architecture*. Burlington, Mass.: Jones and Bartlett Learning. QA76.9.C643. N84 2015
- 3. Shiva, Sajjan G.2014. Computer Organization, Design, and Architecture. 5th ed. Boca Raton: CRC Press. TK7885.S59 2014.
- 4. Stallings, William. 2013. Computer Organization and Architecture: Designing for Performance. 9th ed. Boston, MA: Pearson Education. QA76.9.C643 .S72 2013

DAT 10703 Programming Principles

Synopsis

This course introduces students to the basic concepts of Computer Science and Programming. At the end of the term, the students are expected to be fairly good at basic concepts in Computer Science and proficient in computer programming using imperative paradigm. The focus of the course will be on general programming principles/techniques, whereas, C will be the language to implement these concepts. Key procedural programming topics like variables, arrays, strings, functions, pointers/references will be covered in detail.

References

- 1. Prakash, S. (2015). *Programming in C*. New Delhi: I K International Publishing House. ISBN: 9789384588779
- 2. Pal, M. (2013). *C programming*. Oxford: Alpha Science International. ISBN: 9781842657584
- 3. McGrath, M. (2012). *C Programming in Easy Steps*. 4th ed. Warwickshire: In Easy Steps. ISBN: 9781840785449
- 4. Tan, H. (2012). *C programming: A Q& A Approach*. Singapore: McGraw-Hill Education (Asia). ISBN: 9780071311168

DAT 10803 System Analysis and Design

Synopsis

This course introduces students to the concepts, skills, methodologies, techniques, tools, and perspectives essential for systems analysts. The practical component is object oriented and use-case driven, requiring students to go through the steps of system analysis and design to solve a real-life business problem.

References

- 1. John W. Satzinger, Robert B. Jackson, Stephen D. Burd. 2015. Systems Analysis and Design in a Changing World. 7th Edition. Cengage Learning.
- 2. Tilley S. 2016. Systems Analysis and Design (Shelly Cashman Series), 11th Edition, Course Technology.
- 3. Kendall, K. E. & Kendall, J. E. 2013. Systems Analysis and Design. 9th Edition. New Jersey: Prentice Hall.

DAT 10902 Human Computer Interaction

Synopsis

This course intended to introduce the student to the basic concepts of humancomputer interaction. In addition, It will cover the basic theory and methods that exist in the field. The course will unfold by examining design and evaluation. Case studies are used throughout the readings to exemplify the methods presented and to lend a context to the issues discussed.

References

- 1. Pearson, Alan Dix. 2004. *Human Computer Interaction*, Third Edition, Edinburgh Gate, Harlaw :, (ISBN-13: 978-0-13-046109-4).
- 2. Yvonne Rogers. 2011. Interaction Design: Beyond Human Computer Interaction, 3rd Edition, Wiley, (ISBN-10: 0470665769)

DAT 20103 Database

Synopsis

This course introduces students to foundation in data management concepts and database systems. It includes representing information with the relational database model, manipulating data with an interactive sequence query language (SQL) and database programming, development, security, integrity and privacy issues.

References

- 1. Dahlan M.H, Che Hussin A.R, Selamat M.H, Othman M.H, Zakaria N.H, Ibrahim R, Bahari M., 2013, Sistem Pangkalan Data, Edisi 2, Penerbit UTM.
- 2. Connolly T., Begg C. 2014. Database Systems: A Practical Approach to Design, Implementation, and Management (6th Edition), 6th Edition. Pearson.
- 3. Coronel, C., Morris, S., & Rob, P., 2015. Database Systems: Design, Implementation, and Management. 8th Ed. Boston, MA : Course Technology.

DAT 20203 Web Development

Synopsis

This course introduces students to web programming. It covers, among others, markup language, client-side scripting and server-side scripting.

References

- 1. Luke Welling & Laura Thomson, 2009. PHP and MySQL Web Development, 4st Edition. Prentice Hall. QA76.73 .P224 .W44
- 2. Roger S Pressman & David Lowe, 2009. Web Engineering: A Practioner's Approach, 1st Edition. Mc-Graw Hill. TK5105.88813 .P73
- 3. Vikram Vaswani, 2005, How to Do Everything with PHP and MySQL, 1st Edition.. Mc Graw Hill. QA76.73.P224 .V37

DAT 20303 Object Oriented Programming

Synopsis

This course exposes students to object and object oriented programming concepts. Discussion topics include introduction to OOP, primitive and operator data type, basic to OOP, objects and classes as well as inheritance and polymorphism, overloading, templates and exception.

References

- 1. Joyce. F., 2012. Java Programming. 6th Edition. Course Technology, Cengage Learning. QA76.73.J38.F38 2012
- 2. 1. Carrano, Frank, M., 2011. Imagine! Java: Programming Concepts in Context. Prentice Hall. XX(129456.1) 2011
- John, D. & Ray, D., 2008. Introduction to Programming with Java: A Problem Solving Approach, 1st Edition. Mc-Graw Hill. QA76.73.J38 2008
- 4. Ralph, B. & Shai, S., 2010. Java Programming: From the Ground Up. 1st Edition. Mc-Graw Hill. QA76.73.J38.B73 2010
- 5. Daniel, Y.L., 2011. Introduction to Java Programming. Comprehensive Version. 8th Edition. Prentice Hall. QA76.73.J38.L52 2011

DAT 20403 Management Information System

Synopsis

This course introduces student different types of management information system in an organization. Then, expose the students the information system used in assisting an organization to address the information management issues and make a decision.

References

- 1. Lauder, K. C & Laudon, J. P(2014), Management Information System 13th Edition, Pearson Education, ISBN 13: 978-0-273-78997-0
- 2. Bidgoli, Hossein (2013) MIS 3. Course Technology. HF5548.2.B52 2013
- 3. David M. Kroenke (2011) Using MIS, 3rd ed. Prentice Hall. HD30.213 .K76
- 4. Wang, Hai (2014) Programming Languages for MIS: Concepts and Practice. Boca Raton: Taylor and Francis. T58.6 .W36 2014.
- Rafael Lapiedra/ Carlos Devece (2012) Introduction to Management Information Systems, Publicacions de la Universitat Jaume I. Servei de Comunicació, ISBN: 978-84-695-1639-0

DAT 20503 Mobile Computing

Synopsis

This course is intended to introduce the students with basic of mobile technology principles and theory involved in development of mobile applications and introductory level of mobile application development using open operating system.

References

- 1. Pattnaik P. K., Mall R. Fundamentals of Mobile Computing. 2nd Edition, PHI Learning Pvt. Ltd.
- 2. Key S. 2015. Power Guide for Beginners in Android App Programming, CreateSpace Independent Publishing Platform.
- Boyer R., Mew K. 2016. Android Application Development Cookbook. 2nd Ecition, Wrox.
- 4. Bill P., Chris S., Kristin M. 2017. Android Programming, 3rd Edition, The Big Nerd Ranch Guide.
- 5. Dawn G., David G. 2015. Head First Android Development: A Brain-Friendly Guide. O'Reilly Media.
- 6. Neil S., 2017. Android Studio 3.0 Development Essentials Android, 8th Edition. Kindle Edition

DAT 20603 3D Modelling and Animation

Synopsis

This course introduces students to 3D animation fundamental concepts of modelling, lighting, texturing, layout, timing and movement. Students will also develop the practical skills to generate design concepts and computer-based imagery, and produce a simple 3D animation sequence. By exploring the unique properties of 3D animation and the relationships that arise with other creative mediums, students will develop their knowledge and skills in making best use of a range of models, platforms and techniques within a conceptual framework.

References

- 1. Boardman. Ted. 2013. Getting Started In 3D With 3Ds Max: Model, Texture, Rig, Animate and Render In 3Ds Max. New York: Focal Press. TR897.7 .B62 2013.
- 2. Chris Georgenes, 2011. Animation with scripting for Adobe Flash Professional CS5 Studio Techniques Adobe Press. TR897.7.G46
- 3. Fullmer, Donna Lynne. 2013. 3D Design Basics. New York, NY: Fairchild Books. NA2750 .F84 2013
- 4. Cai, Yiyu. 2013. 3D Immersive and Interactive Learning. New York: Springer. LB1028.3 .D55 2013
- 5. Murdock, Kelly L., 2011. 3ds max 2012 bible. Wiley Pubishing, Inc. TR897.7.M878 2011

DAT 20803 Data Communications and Networking

Synopsis

This course introduces student to the concepts of data communication and network technology based on reference model representation. It will provide the foundational understanding of network layers 1-3 that are applicable to routing and switching plus other advanced technologies. Other topics have been added for student to understand further the interactions and network functions and it application in real world.

References

- 1. Forouzan B. A. 2007. *Data Communications and Networking, 4th Edition*, McGraw Hill. Call Number: TK5105 .F67 2007
- 2. Stallings, W. 2005. *Business Data Communications, 5th Edition*, New York: Prentice Hall. QA76.76.O63 .S54 2005
- 3. Stallings, W. 2011. *Data and Computer Communication, 7th Edition*, New York: MacMillan. TK5105 .S73 2011
- 4. Comer, D. D. R. 2004. *Computer Networks and Internets with Internet Applications*, New Jersey: Prentice Hall. TK5105.5 .C654 2004
- 5. Tanenbaum, A.S. 2003, *Computer Networks, 4th Edition*, New Jersey: Prentice Hall. TK5105.5.T36 2011
- 6. Wendell Odom, 2008. CCENT/CCNA ICND1 Official Exam Certification Guide, Second Edition, Cisco System Inc.

DAT 20902 Information Technology Ethics and Professionalism

Synopsis

This course introduces students to information technology computer ethics, intellectual copyright, censorship issue, cyber safety and cyber law in Malaysia for safe computing.

References

- 1. Kennedy, Helen (2012) Net Work: Ethics and Values in Web Design New York: Palgrave Macmillan. TK5105.888 .K46 2012
- 2. Reynolds, George W.2015. Ethics in Information Technology. 5th ed. Australia: Cengage Learning. HC79.I55 .R49 2015
- 3. Tavani, Herman T. (2011) Ethics and Technology: Controversies, Questions, and Strategies for Ethical Computing. 3rd ed. Hoboken: Wiley. TK5105.5 .T38 2011
- 4. Winston, Morton Emanuel. (2012) Society, Ethics, and Technology. 4th ed. Boston: Wadsworth Cengage Learning. T14.5 .S62 2012
- 5. Whiteman, Natasha. (2012) Undoing Ethics: Rethinking Practice in Online Research. New York: Springer. ZA4228 .W44 2012

DAT 21004 Diploma Project

Synopsis

This course is designed to apply theoretical knowledge and improve student skills in the process of mastering problem solving and practise professionalism in managing project.

References

- 1. Shelena Soosay Nathan, Mazniha Berahim, Rafizah Mohd Hanifa, 2018. Learning Module: DAT 21104 Project Diploma DAT 21104, UTHM
- 2. John W. Satzinger, Robert B. Jackson, Stephen D. Burd. 2015. Systems Analysis and Design in a Changing World. 7th Edition. Cengage Learning.
- 3. Tilley S. 2016. Systems Analysis and Design (Shelly Cashman Series), 11th Edition, Course Technology.
- 4. Kendall, K. E. & Kendall, J. E. 2013. Systems Analysis and Design. 9th Edition. New Jersey: Prentice Hall.
- 5. Schwalbe K. 2015. Information Technology Project Management, 8th Edition, Course Technology.
- 6. George R, Ralph M. S. 2017. Principles of Information Systems, 13th Edition. Cengage Learning, Inc.

DAT 21103 Cyberpreneurship

Synopsis

This course is designed to provide students with basic knowledge of entrepreneurship and cyberpreneurship as well as to increase students' interest to involve in cyber entrepreneurship. Besides that, it will increase the understanding and knowledge about cyber entrepreneurship encompassing commercialization, business idea creation, business proposal preparation, financial and marketing strategies.

References

- 1. Kariv, Dafna. (2011). Entrepreneurship: an international introduction. Taylor & Francis, Call number: HB615 .K37 2011.
- 2. Hisrich, Robert D. (2014). Advanced introduction to entrepreneurship. Edward Elgar Publishing, Call Number : HB615 .H576 2014.
- 3. Kuratko, D. F. (2016). Entrepreneurship: Theory, process, and practice. Cengage Learning.
- 4. Devinney, T. M., Markman, G., Pedersen, T., & Tihanyi, L. (2016). Global Entrepreneurship: Past, Present & Future. Emerald Group Publishing.
- 5. Mohd Nazri Khan, (2006). Cyberpreneurship. Pearson. Call Number: HB615 .M52 2006

DAT 21203 Visual Programming

Synopsis

This course is intended to provide an introduction to Visual Studio.NET programming concepts through the use of high level languages such as C#, VB.NET or ASP.NET. The students will learn on how to define and solve problems before coding the program. The development of interfaces for portable devices is also covered.

References

- 1. J.C.Bradley & A.C.Millspaugh. 2005. *Programming in Visual Basic .NET*. Mc-Graw Hill. QA76.73.B3.B724.
- 2. N.Randolph & D.Gardner. 2009. Visual Studio 2008. Wrox Publisher. TK5105.8885.M57.R36
- 3. J.Plenderleith & S.Bunn. 2009. *Microsoft Visual Studio 2008 Programming*. Mc-Graw Hill. TK5105.8885.M57.P53
- 4. D.I.Schneider. 2006. An Introduction to Programming using Visual Basic 2005. Pearson Education. QA76.76.M525 .S36

DAT 21303 Artificial Intelligence

Synopsis

This course provide students an introduction to artificial intelligence, with an emphasis on the design of agents that act intelligently. The lesson focus on agents that can reason from their stored knowledge, using logic-based and/or probability-based techniques as appropriate.

References

- 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
- 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. Call number: -
- 5. Rich, E., Knight, K. & Shivashankar B. N. 2008. *Artificial intelligence*. 3rd ed., New York: Mc Graw Hill. Call number: HD30.2 .R52 2008

DAT 30112 Industrial Training

Prerequisite: Students are required to take at least 80% of the entire course.

Synopsis

Students are required to attend 24 weeks practical training at government or private sector. During this period, they will be given assignments or projects that approved by the faculty and agency in advanced. The approved assignments or project are related to their respective areas of specialization.

References

Buku Panduan Latihan Industri UTHM, Penerbit UTHM, 2007.

Career and Further Education Prospect

Graduate Diploma in Information Technology program has career opportunities in the workplace, particularly those involving the field of computing. A conducive learning

environment with an emphasis on practical learning concept allows the graduates from this group into career opportunities include:

- Website Developer.
- IT Project Executive.
- Database Administrator.
- IT Security Executive.
- Website Designer.
- Computer Programmer.
- Multimedia Designer.



In addition, with the recognition that has been given by the Public Service Department and the Malaysian Qualifications Agency (MQA), graduates of this program are eligible to continue their studies to degree level, whether in or outside the State subject to the conditions set by the university admission applicable.

Education pathway in UTHM according to Malaysian Qualifications Framework as shown in the diagrams on the next page.





MQF BASED ON QUALIFICATION LEVEL AND EDUCATIONAL PATHWAY

Malaysian Qualification Framework

NOF		Sectors		Sectors		Lifelana
evels	Skills	Vocational and Technical	Higher Education	Learning		
8			Doctoral Degree			
			Masters Degree			
7			Postgraduate Certificate & Diploma	earning		
	_		Bachelors Degree	cperiential L		
6			Graduate Certificate & Diploma	on of Prior E) (APEI		
5	Advanced Diploma	Advanced Diploma	Advanced Diploma	Accreditati		
4	Diploma	Diploma	Diploma			
3	Skills Certificate 3	Vocational and Technical Certificate	Certificate			
2	Skills Certificate 2					
1	Skills Certificate 1					

MALAYSIAN QUALIFICATIONS FRAMEWORK: QUALIFICATIONS AND LEVELS

Malaysian Qualification Framework

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Centre for Academic Development and Training Universiti Tun Hussein Onn Malaysia 86400 Batu Pahat, Johor Darul Ta'zim www.uthm.edu.my