



Universiti Tun Hussein Onn Malaysia

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ACADEMIC PROFORMA 2024/2025



DIPLOMA IN INFORMATION TECHNOLOGY



Centre for Academic
Development and Excellence
Universiti Tun Hussein Onn Malaysia



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CENTRE FOR DIPLOMA STUDIES



PUSAT PENGAJIAN DIPLOMA
UNIVERSITI TUN HUSSEIN ONN MALAYSIA
KAMPUS PAGOH
HUB PENDIDIKAN TINGGI PAGOH
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Universiti Tun Hussein Onn Malaysia
July 2024

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Foreword by the Vice Chancellor



Assalamualaikum Warahmatullahi Wabarakatuh and greetings.

I would like to begin by extending my congratulations and a warm welcome to all the new students at UTHM. As each of you embarks on your formal education journey, you have chosen us as a significant milestone, and I am truly honoured by your trust and commitment.

Speaking about the pressure of intertwined economic, social, and sustainability (ESG) during the post-endemic era, changes are imminent. As an academic institution, we not only recognise the significance of these interconnected dimensions but also wholeheartedly embrace the responsibility to contribute to their advancement actively. We are firmly committed to strengthening our main pillar of business by focusing on various crucial aspects.

Firstly, we prioritise enhancing our academic delivery to ensure that our students receive the highest quality education in a rapidly evolving world. By continuously refining our curriculum, integrating innovative teaching methods, and nurturing critical thinking skills, we aim to empower our students with the knowledge and capabilities needed to address complex societal challenges. Secondly, we place great emphasis on research efforts that contribute to the broader goal of sustainability. By fostering a culture of interdisciplinary collaboration, we seek to generate groundbreaking research and innovative solutions that address pressing economic, social, and environmental issues. Our aim is to make meaningful contributions to the sustainable development of our local and global communities.

Furthermore, we actively seek to enrich our services by engaging with various stakeholders. Through partnerships, community outreach programs, and knowledge exchange initiatives, we aim to create a positive impact beyond the confines of our institution. By leveraging our expertise and resources, we aspire to address societal needs and promote inclusive growth and well-being. Lastly, all our endeavours are underpinned by a commitment to good governance. We strive to uphold the highest standards of transparency, accountability, and ethical practices. By promoting responsible decision-making and fostering a culture of integrity, we aim to create an environment that nurtures trust, fosters collaboration, and ensures the long-term sustainability of our institution.

In summary, we are dedicated to pursuing dynamically synergistic sustainability by strengthening our main pillar of business, encompassing academic delivery, research efforts, and services enrichment, and supported by our unwavering commitment to good governance. We believe that by embracing these principles, we can actively contribute to shaping a more sustainable and resilient future for all.

Lastly, but certainly not of lesser importance, I wholeheartedly extend a warm welcome to all new students, inviting you to become valued members of our community. As you embark on this transformative journey, I am dedicated to ensuring that your experiences are enriching and enjoyable. Furthermore, I earnestly pray for your success in all endeavours as you navigate through this educational path.

“With Wisdom, We Explore”

Best wishes.

YBHG. PROFESSOR Ir. Ts. Dr. RUZAIRI BIN ABDUL RAHIM

Vice-Chancellor

Universiti Tun Hussein Onn Malaysia

Foreword by the Deputy Vice Chancellor (Academic and International)



Assalamualaikum Warahmatullahi Wabarakatuh and greetings.

First and foremost, I would like to extend my heartfelt congratulations and a warm welcome to all new students joining Universiti Tun Hussein Onn Malaysia (UTHM) for the academic session 2023/2024. Rest assured, we possess unique qualities and offerings that set us apart from others. I assure you that we are fully committed to upholding our promises and ensuring that you have an exceptional educational experience. You can trust in our unwavering dedication to your success, and we will strive tirelessly to exceed your expectations.

Secondly, I would like to express my gratitude and extend congratulations to the Centre for Academic Development and Excellence (CAD) and the faculties for the successful publication of this academic proforma. It is indeed a valuable resource that provides concise information about the various programs offered. This proforma serves as a guiding tool for students, assisting them in planning their learning journey effectively. By providing essential details and insights, it enables students to make informed decisions and navigate their educational path with clarity.

As we focused on the nation's academic matters, recent initiatives by the Ministry of Higher Education Malaysia (MoHE), such as enhancing current academic infrastructures and infostructures, including digitalisation, have taken place. The move was to ensure that conduciveness, safety, efficiency, and quality education will be achieved - without sacrificing innovativeness, flexibility, and globalisation needs.

Additionally, to ensure sustainability in terms of students' interest and enrolment, several bold actions, namely; hybrid programmes and shortening the duration of study have been introduced. Therefore, as an institution under MoHE, please expect our changes towards those positive programs. On the other hand - for ourselves, we remain agile and dedicated to advocating the Technical and Vocational Education and Training (TVET) based academics and gradually headed for a global technopreneur university by 2030.

Within our capacity and per micro-perspective, lest we forget to enhance, strengthen, and upholding very own programmes and human capital. All of our programmes (specifically 107 in number) have been accredited by the Malaysian Qualification Agency (MQA) and their respective professional bodies. These are achieved through our qualified staff (academic and non-academic), which continuously undergo upskilling and reskilling from time to time.

In conclusion, my sincere wish is for the agendas implemented by UTHM to provide you with invaluable experiences for the exploration and acquisition of competencies. Beginning with this proforma, I envision remarkable academic achievements and success for each of you. This juncture marks a significant turning point where you can make a positive impact on our nation, and perhaps even the global community at large.

Best wishes,

PROFESSOR DR. SHAHRUDDIN BIN MAHZAN @ MOHD ZIN
Deputy Vice Chancellor (Academic and International)
Universiti Tun Hussein Onn Malaysia

Foreword from Dean



Assalamualaikum Warahmatullahi Wabarakatuh and Warm Greetings

Congratulations, and welcome to Universiti Tun Hussein Onn Malaysia (UTHM), a leader in TVET higher education. We are thrilled to have you join the Centre for Diploma Studies (CeDS), where our mission is to support and train you to become semi-professionals in engineering, science, and technology.

CeDS is dedicated to managing and operating the Diploma programs at UTHM. Our vision and mission are clear: to produce graduates who contribute to national development through holistic academic programs. We offer seven multidisciplinary programs in civil engineering, mechanical engineering, electrical engineering, chemical engineering, applied science, information technology, and animation technology.

To ensure our academic programs meet the highest standards, all our programs are accredited by the Malaysia Qualification Agency (MQA). Additionally, four of our engineering programs are accredited by the Board of Engineers Malaysia (BEM). A variety of programs and activities are designed to develop students' personalities and prepare them for the Industrial Revolution IR 4.0 workforce.

UTHM is renowned for its excellent infrastructure and teaching facilities, meeting the standards set by accreditation bodies. The ongoing development of our campus ensures a comfortable and conducive learning environment, with amenities such as libraries, residential colleges, cafeterias, sports facilities, wireless internet, and more.

As you embark on your diploma journey at UTHM, we encourage you to use this proforma as a guide and reference to help you plan and complete your studies with excellence.

Wishing You Success.

"CeDS: Creating Dynamic Students"

"WITH WISDOM WE EXPLORE"

DR. MUHAMMAD FAIZAL BIN ISMAIL

Dean

Centre for Diploma Studies (CeDS)

Universiti Tun Hussein Onn Malaysia



Vision

To be a global technical university in sustainable technology and transportation

Mission

Provide technical solution for industry and community based on tauhidic paradigm

Education Philosophy of University

UTHM education and training, founded on the tauhidic paradigm, strive to produce competent, professional and entrepreneurial graduates, driven by advanced technologies for global development.

Logo of University

The logo of UTHM displays a proton, a book, a tiered mortar board (levels of learning), a book-rest and a shield.

Symbolism:

- | | |
|----------------|---|
| • Red | Bravery |
| • Blue | Collaboration |
| • Silver | Quality/ Prestige |
| • Book-rest | Knowledge |
| • Proton | Science and Technology |
| • Book | Knowledge |
| • Mortar board | Levels of study |
| • Circle | Resilient and related to global characteristics |
| • Shield | Confidence |

The whole concept of the logo represents UTHM as a learning institution that supports knowledge expansion and development at all levels of study in science and technology.

Blue represents the close relationship among UTHM community in ensuring successful and resilient implementations of the University programmes as well as its education and research activities that are carried out for the benefit of mankind.

Red symbolises the adventurous nature of UTHM in exploring new fields to establish itself as a leader in the applications of science and technology. Thus, this reflects the spirit and self-esteem of the UTHM community.

Chancellor



HIS ROYAL HIGHNESS
TUNKU ISMAIL IBNI SULTAN IBRAHIM
Tunku Mahkota Johor

Pro-Chancellor



Yang Amat Mulia Tunku Idris Iskandar Al-Haj Ibni Sultan Ibrahim
Tunku Temenggong Johor



Yang Berhormat Tan Sri Dato' Dr. Haji Azmi Bin Rohani
Setiausaha Kerajaan Johor

Board of Directors of University

Chairman

YBhg. Dato' Sri Ibrahim bin Ahmad

Members

YBhg. Prof. Ir. Ts. Dr. Ruzairi Bin Abdul Rahim

Vice-Chancellor, Universiti Tun Hussein Onn Malaysia

Mrs. Mahfuzah binti Baharin

Deputy Under-Secretary (Sector of Tax Incentive & Sectoral)

TSBC (GCS) Tax Division

Ministry of Finance Malaysia

YB. Dato' (Dr.) Haji Nooh bin Gadot

Advisor, Johor Islamic Religious Council

YBrs. Prof. Ir. Dr. Mohd Amri bin Lajis

Professor, Universiti Tun Hussein Onn Malaysia

YBrs. Mr. Shahril Anwar bin Mohd Yunus

Managing Partner, Virtus Capital Partners Sdn Bhd

YBrs. Mdm. Elain binti Lockman

Chief Executive Officer and Co-Founder, Ata Plus Sdn. Bhd.

YBrs. Dato' Dr. Mohd Sharil bin Abdullah

Director of Industrial Relations Division

Department of Higher Education

YBrs. Ir. Ts. Abdul Rahman bin Bahasa

Chief Executive Officer, Recove Group

YBrs. Encik Hasry bin Harun

Chief Executive Officer

Malaysia Rail Development Corporation

YBhg. Datuk Md Jais bin Haji Sarday

Board Member, Universiti Tun Hussein Onn Malaysia

Secretary

YBrs. Mr. Naim bin Maslan

Registrar/Chief Operating Officer (COO), Universiti Tun Hussein Onn Malaysia

Members of Senate

Chairman

YBhg. Prof. Ir. Ts. Dr. Ruzairi Bin Abdul Rahim

Vice Chancellor

Members

Prof. Dr. Shahrudin bin Mahzan @ Mohd Zin

Deputy Vice Chancellor (Academic and International)

Prof. Ts. Dr. Rabiah Binti Ahmad

Deputy Vice Chancellor (Research and Innovation)

Deputy Vice Chancellor (Student Affairs and Alumni)

Assoc. Prof. Dr. Afandi bin Ahmad

Provost UTHM Pagoh Branch Campus

Prof. Ir. Dr. Md Saidin Bin Wahab

Assistant Vice Chancellor / Chief Digital Officer (CDO) (Digital and Infrastructure)

Prof. Dr. Mas Fawzi bin Mohd Ali

Assistant Vice Chancellor (Strategic and Quality)

Assoc. Prof. Dr. Mohamad Zaky bin Noh

Dean, Centre for Graduate Studies

Prof. Ir. Ts. Dr. Mohd Haziman bin Wan Ibrahim

Dean, Faculty of Civil Engineering and Built Environment

Assoc. Prof. Ts. Dr. Asmarashid Bin Ponniran

Dean, Faculty of Electrical and Electronic Engineering

Prof. Ts. Dr. Amir Bin Khalid

Dean, Faculty of Mechanical and Manufacturing Engineering

Assoc. Prof. Dr. Shafie Bin Mohamed Zabri

Dean, Faculty of Technology Management and Business

Prof. Ts. Dr. Abdul Rasid bin Abdul Razzaq

Dean, Faculty of Technical and Vocational Education

Ts. Dr. Azizul Azhar bin Ramli

Dean, Faculty of Computer Science and Information Technology

Assoc. Prof. Ts. ChM. Dr. Hatijah binti Basri

Dean, Faculty of Applied Science and Technology

Assoc. Prof. Ts. Dr. Jumadi bin Abdul Sukor

Dean, Faculty of Engineering Technology

Dr. Muhammad Faizal bin Ismail
Dean, Centre for Diploma Studies

Dr. Lutfan Jaes
Dean, Centre for General Studies and Co-curricular

Assoc. Prof. Dr. Hj. Azmi Bin Abdul Latiff
Dean, Centre for Language Studies

Assoc. Prof. Dr. Rosli Bin Omar
Director, Centre for Academic Development and Excellence

Prof. Emeritus Dr. Jailani bin Md Yunos
Director, Malaysia Research Institute for Vocational Education and Training

Dr. Zahrul Akmal bin Damin
Institute for Social Transformation and Regional Development (TRANSFORM)

Prof. Ts. Dr. Mohd Khairul bin Ahmad
Insitute for Integrated Engineering(I²E)

Prof. Ir. Dr. Noridah Binti Mohamad
Faculty of Civil Engineering and Built Environment

Prof. Ts. Dr. Aeslina Binti Abdul Kadir
Faculty of Civil Engineering and Built Environment

Prof. Ts. Dr. Norzila binti Othman
Faculty of Civil Engineering and Built Environment

Prof. Ir. Dr. Erwan bin Sulaiman
Faculty of Electrical and Electronic Engineering

Prof. Dr. Nafarizal Nayan
Faculty of Electrical and Electronic Engineering

Prof. Dr. Zawati Binti Harun
Faculty of Mechanical and Manufacturing Engineering

Prof. Dr. Hasan Zuhudi bin Abdullah
Faculty of Mechanical and Manufacturing Engineering

Prof. Sr. Dr. Wan Zahari Wan Yusof
Faculty of Technology Management and Business

Prof. Ts. Dr. Alina Shamsuddin
Faculty of Technology Management and Business

Prof. Ts. Dr. Soew Ta Wee
Faculty of Technology Management and Business

Prof. Ts. Dr. Ishak Baba

Faculty of Technical and Vocational Education

Prof. Ts. Dr. Rosziati Binti Ibrahim

Faculty of Computer Science and Information Technology

Prof. Dr. Rozaida Ghazali

Faculty of Computer Science and Information Technology

Prof. Ts. Dr. Zaidi Embong

Faculty of Applied Sciences and Technology

Prof. Ir. Dr. Mohd Amri bin Lajis

Faculty of Engineering Technology

Prof. Ir. Dr. Chan Chee Ming

Faculty of Engineering Technology

Ts. Dr. Khalid bin Isa

Director Student Development Centre

Prof. Dr. Nazri Bin Mohd Nawi

Director Centre Information Technology

Prof. Eur Ing. Ir. Ts. Dr. Shahiron bin Sahidan

Faculty of Civil Engineering and Built Environment

Mr. Naim Bin Maslan

Registrar / Chief Operating Officer (COO) / Secretary of Senate

Mr. Norzaimi Bin Hamisan

Bursar / Chief Financial Officer (CFO)

Mdm. Zaharah Binti Abd Samad

Chief Librarian

Mdm. Norliah Binti Yaakub

Legal Advisor

Centre for Diploma Studies

Centre Vision

Excellent in providing multidisciplinary education in science and technology

Centre Mission

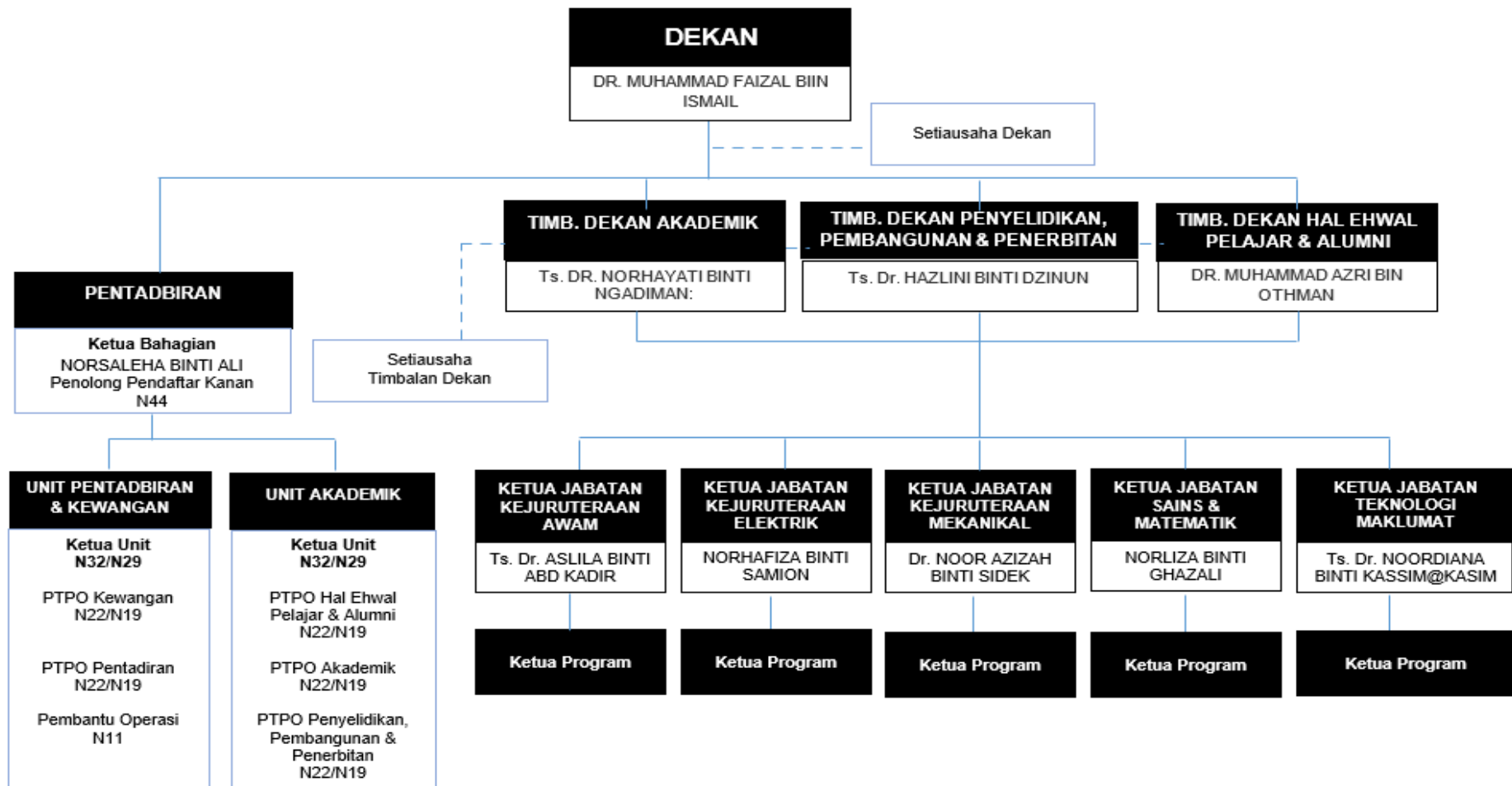
Producing graduates who contribute to national development through a holistic academic program

Diploma programmes had been offered in UTHM since the establishment of Pusat Latihan Staf Politeknik (PLSP) in 1994. It started with only three programmes which are managed by the respective departments. All were transferred to the corresponding faculties when Kolej Universiti Teknologi Tun Hussein Onn (KUiTTHO) was established in 2001.

The establishment of the Centre for Diploma Studies was announced by the Vice Chancellor on the 1st of August 2009. This enabled all the diploma programmes to be centrally managed under one roof which would increase the competitiveness of the programmes offered.

It is the aim of the Centre for Diploma Studies to offer diploma programmes at UTHM which are going to be the main choice of applicants. Students are expected to show academic excellence as well as participating in co-curriculum activities which will further develop their potential in order to achieve the quality needed to fulfil the global occupational market. In addition, graduates of these programmes also have the wide opportunity to further their studies at Bachelor's Degree level at various faculties in UTHM.

Now, the Centre for Diploma Studies, offer seven (7) diploma programmes which are managed by five (5) departments and is led by a Dean who is assisted by three (3) Deputy Deans. The organizational chart of the Centre for Diploma Studies is shown in the next page:



CeDS Organization Chart

Centre External Examiner and Industrial Advisor

Department of Information Technology

Programme External Examiner

Assoc Prof. Dr. Mohd Yazid bin Idris

PhD Network Security (UTM), MSc. Software Engineering (UTM), BSc. Computer Science (UTM)

Programme Industrial Advisor

Mr. Nizamuddin bin Ariffin

Head of Business Architecture
Petronas Dagangan Berhad (M)

Staff Directory

Administration

Dean

Dr. Muhammad Faizal bin Ismail

PhD. (Electrical Engineering)(UTM), M. Eng. (Electrical Engineering)(UTM), B. Eng. (Hons) (Electrical Engineering - Telecommunication.) (UTM)

Deputy Dean (Academic)

Ts. Dr. Norhayati Binti Ngadiman

PhD. (Environment) (UKM), Master of Technical and Vocational Education (UTHM), B. Eng. (Mineral Resources.) (USM)

Deputy Dean (Student Affairs and Alumni)

Dr. Muhammad Azri Bin Othman

PhD. (Manufacturing Engineering) (UTeM), M.Eng (Manufacturing System) (UPM), B. Eng. Manufacturing (Robotic & Automation) (UTeM)

Deputy Dean (Development , Research and Publication)

Ts. Dr. Hazlini binti Dzinun

PhD (Gas Engineering)(UTM), M. Eng. (Civil Engineering – Environment)(UTM), B. Eng. (Hons)(Chemical Engineering.) (UTM)

Office Secretary

Nor Suraya binti Abdul Samad

BSc. Computational Mathematics(UiTM), 2010, Diploma in Computer Science (UiTM), 2008

Administrative Assistant (Deputy Dean Secretary)

Siti Nurfaridah binti Fakri

Dip. (Hotel & Catering Management) (Politeknik Sultan Ibrahim)

Senior Assistant Registrar

Puan Norsaleha Binti Ali

M. Business Administration (UiTM), Bach. (Hons). Business Management (Finance), Diploma in Banking (UiTM)

Assistant Administrative Officer (Academic)

Latifah binti Mohd Nasir

Dip.(International Business) (Politeknik Shah Alam)

Assistant Administrative Officer (Administrative and Finance)

Zainizan bin Md Esa

Dip. (Islamic Management & Administration) (Kolej Tek. Islam Antarabangsa Melaka)

Administrative Assistant (Clerical & Operation) Student Affairs and Alumni

Dorazi bin Md Noh

Malaysian Certificate of Education SMK Dato' Sulaiman,

Administrative Assistant (Clerical & Operation) Administrative and Finance

Razali bin Ahmad

Malaysian Certificate of Education Sek Tinggi Batu Pahat

Administrative Assistant (Clerical & Operation) Administrative

Siti Nur Hasanah binti Hasan

Diploma in Science UiTM

Administrative Assistant (Clerical & Operation) Academic
Muhammad Rashid Amran Bin Zainudin

Diploma in Industrial Design, IKBN Kuala Langat

Administrative Assistant (Clerical & Operation) Academic
Muhammad Firdaus bin Yaacob

Malaysian Certificate of Education (SMK KhirJohari)

General Office Assistant
Mohammad Ismael Bin Mizad

Lower Secondary Assesment, Sek Menengah Kebangsaan Dato' Bentara Luar

Department of Information Technology

Academic Staff

Head of Department

Ts. Dr. Noordiana binti Kasim @ Kassim

P. Tech., PhD. Mechanical Engineering (UTHM). MSc. Mechanical Engineering (UTHM), BSc. Information Studies (UiTM), Post Graduate Diploma in Higher Education (UTHM)

Ts. Inv. Dr. Rafizah binti Mohd Hanifa

P. Tech., PhD. Electrical Engineering (UTHM), MSc. Information Technology (UUM), BSc. Computer Science (USM), Post Graduate Diploma in Higher Education (UTHM)

Ts. Inv. Dr. Shelena a/p Soosay Nathan

P. Tech., PhD. Information Technology (UUM), MSc. Information Technology (UUM), BSc. (Information Technology) (UUM), Post Graduate Diploma in Higher Education (UTHM)

Dr. Hazwani binti Rahmat

PhD. Software Engineering (UPM), MSc. Computer Science (UPM), BSc. Information Technology (UTHM), Dip. Information Technology (KUITTHO)

Dr. Muhamad Hanif bin Jofri

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

Dr. Syarizul Amri bin Mohd Dzulkifli

PhD. Information Technology (UTHM), MSc. Information Technology Management (UTM), BSc. Computer (UTM)

Dr. Zuraida binti Ibrahim

PhD. Educational Technology (UTHM), MA Visual Communication and New Media (UiTM), BSc. Information Technology (UKM)

Ts. Dr. Mazniha binti Berahim

P. Tech., PhD Information Technology(UTHM), MEd. Mathematics (UTM), BSc. Computer Science (UTM), Dip. Information Technology (UTM), Post Graduate Diploma in Higher Education (UTHM)

Ts. Mohd Hatta bin Mohamed Ali @ Md Hani

P. Tech., MSc. Information Technology (UiTM), BSc. Software Engineering (UPM), Dip. Computer Science (UPM), Post Graduate Diploma in Higher Education (UTHM)

Ts. Rosni binti Ramle

P. Tech., MSc. Information Technology (UiTM), BSc. Business Computing (UiTM), Post Graduate Diploma in Higher Education (UTHM)

Inv. Juliana binti Mohamed

MSc. Information Technology (UTHM), BSc. Multimedia (UUM)

Hj. Hannes bin Masandig

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

Mr. Abdul Halim bin Omar

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

Miss Bakhreza binti A. Talip

MSc. Interaction Design (University of Queensland), BSc. Computer Science (UTM)

Mr. Fawwaz bin Mohd Nasir

MPhil. Computer Science (UTM), BSc. Computer Science (Hons) (UTM)

Mrs. Mariam binti Abdul Hamid

MSc. Management Information System (UiTM), BSc. Information Technology (UiTM), Post Graduate Diploma in Higher Education (UTHM)

Mr. Mohd Suhaimi bin Md. Yasin

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

Mr. Mokhtar bin Yahya

MA. Art and Design (Design Technology) (UiTM), BA. Art and Design (Industrial Design) (UiTM), Dip. Art and Design (Industrial Design) (UiTM)

Dr. Rosfuzah binti Roslan

PhD. Educational Technology (UPM), Sc. Computer (UTM), BSc. (Computer) (UTM), Dip. (Computer Science) (UTM)

Mr. Muhammad Fazrulhelmi Bin Ahmad

MEd. Technical and Vocational (UTHM), BEd. Vocational (Multimedia Creative) (UTHM), Dip IT (Network System) (Politeknik Mersing)

Mr. Mohamad Fazirul Rafiq Bin Afandi

MSc Edu (Multimedia) (UPSI), BSc Design (Animation) (UPSI), Dip. Computer Graphic Design (Kolej Poly-Tech MARA Batu Pahat)

Technical Staff

Tc. Muhd Amin bin Saad

Dip. Electronic Engineering (Computer) (Politeknik Sultan Idris Shah Selangor)

Mr. Ammirul Daniel bin Azizan

Dip. Electronic Engineering (Communication) (Politeknik Ibrahim Sultan)

Mr. Mohd Niza bin Shamsudin

Dip. Electronic Engineering (Politeknik Ibrahim Sultan), Cert. Electric and Electronic Engineering (Politeknik Kota Melaka)

Mr. Muhamad Hisamuddin bin Pasori

Cert. Electric and Electronic Engineering (Politeknik Johor Bahru)

Programme Name

Diploma in Information Technology (DAT)

Programme Aims

To produce a semi-professional workforce in solving ICT problems whether in the public, private or self-employed sectors. The program also prepares students to continue their studies to a bachelor's degree at a local or foreign university.

Programme Educational Objectives (PEO)

- PEO 1 Prepare computer technicians with basic numeracy and technical skills to solve well-defined and routine computing problems in line with industry requirements.
- PEO 2 Prepare computer technicians who possess supervisory abilities, as well as strong interpersonal and communication skills, enabling them to effectively engage in diverse environments.
- PEO 3 Prepare computer technicians who have a commitment to lifelong learning and an entrepreneurial mindset for self and career development.
- PEO 4 Prepare computer technicians who are committed to ethical conduct and professional practices in the organisation and society.

Programme Learning Outcomes (PLO)

- PLO 1 Explain concepts, principles and theories relating to Information Technology.
- PLO 2 Apply design and architecture to Information Technology solutions using appropriate tools and techniques.
- PLO 3 Perform support and development tasks on Information Technology solutions related to job functions.
- PLO 4 Demonstrate effective interaction with stakeholders and society in a work-related environment.
- PLO 5 Exhibit effective communication with stakeholders and society in a work-related environment.
- PLO 6 Use appropriate digital tools on computing related to job functions.
- PLO 7 Apply appropriate numerical skills in computing related to job functions.
- PLO 8 Demonstrate supervisory skills and responsibility in executing instructions related to job functions.
- PLO 9 Commit to principles of lifelong learning in academic and career development.
- PLO 10 Demonstrate an entrepreneurial mindset in performing tasks.
- PLO 11 Commit to professional and ethical practices in executing instructions related to the job and organisational functions.

Curriculum Structure

Table 1: Summary of Curriculum for Diploma in Information Technology

Year	Semester	Course Code	Courses	Credit	Total
	Special	UQI 11103	Integrity dan Anticorruption	3	8
		UHB 11*02	Foreign Language	2	
		DAT 10003	Ethics and Safety in Computing	3	
1	I	UHB 13003	Introduction to English Communication	3	18
		UQI 10*02	Islamic Studies / Moral Studies	2	
		UQ* 1***1	Co-Curriculum 1	1	
		DAT 10203	Discrete Mathematics	3	
		DAT 10103	Software Fundamentals and Solution Design	3	
		DAT 10803	System Analysis and Design	3	
		DAT 10903	Operating Systems	3	
	II	UHB 23003	English for Career Development	3	18
		UQI 11402	Philosophy and Current Issues	2	
		UQ* 1***1	Co-Curriculum 2	1	
		DAT 11203	Algebra and Calculus	3	
		DAT 11503	Programming Fundamentals	3	
		DAT 11003	Network and Data Communication	3	
		DAT 10703	Computer Architecture	3	
2	I	DAT 20803	Cyberpreneurship	3	19
		DAT 21703	Statistics and Probability	3	
		DAT 20103	Database	3	
		DAT 21303	Web Development	3	
		DAT 21503	Mobile Application	3	
		DAT 21603	Intelligent User Experience Design	3	
	II	DAT 22003	Cybersecurity Fundamentals	3	19
		DAT 22103	Cloud Computing	3	
		DAT 22203	Integrated System Technology	3	
		DAT 22303	Advanced Networking	3	
		DAT 22403	Information Technology Project Management	3	
		DAT 22104	Diploma Project 2	4	
3	I	DAT 30108	Industrial Training	8	8
Overall Total Credit					90

University Courses

Table 2: Summary of University Courses

Year	Semester	Course Code	Courses	Credit	Total
1	Special	UHB 11*02	Foreign Language	3	5
		UQI 11103	Integrity dan Anticorruption	2	
	I	UHB 13003	Introduction to English Communication	3	6
		UQI 10*02	Islamic Studies / Moral Studies	2	
		UQ* 1***1	Co-Curriculum 1	1	
	II	UHB 23003	English for Career Development	3	6
		UQI 11402	Philosophy and Current Issues	2	
		UQ* 1***1	Co-Curriculum 2	1	
Overall Total Credit					17

Synopsis of University Courses

UQU 11103 Integrity and Anticorruption

Synopsis

This course covers the basic concepts of corruption, including the values of integrity, anti-corruption, forms of corrupt behavior, abuse of power in daily activities and organizations, and methods of preventing corruption. Corruption-related cases are also discussed. The teaching and learning methods are implemented in the form of 'experiential learning' through individual and group activities. By the end of this course, students will be able to understand the practices of integrity, concepts of corruption, anti-corruption, and abuse of power, as well as the prevention of corruption in society and organizations.

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1. Mohamad Tarmize Abdul Manaf (2020). Nota Pencegahan rasuah. Bahagian Pendidikan Masyarakat, Suruhanjaya Pencegahan Rasuah Malaysia. Putrajaya.
2. Mohamad Tarmize Abdul Manaf et al. (2020). Kursus Integriti dan Rasuah IPT. Bahagian Pendidikan Masyarakat, Suruhanjaya Pencegahan Rasuah Malaysia. Putrajaya.
3. Mohd Firdaus Ramlan (2021). Tumbuk Rusuk: Pengkisahan Dari Tirai Besi. Akademi Kajian Rantau Nusantara Akar. Batu Caves, Selangor.
4. Pusat Governans, Integriti dan Antirasuah Nasional (2019). Pelan Antirasuah Nasional 2019-2023. Jabatan Perdana Menteri, Putrajaya
5. Syed Hussein Alatas (1999). Corruption and the Destiny of Asia. Simon and Schuster Asia
6. Syed Hussein Alatas. (2009). Rasuah: Sifat, Sebab dan Fungsi. Kuala Lumpur: Dewan Bahasa dan Pustaka.
7. Zulkanain Abdul Rahman, Ahmad Kamal Ariffin Mohd Rus & Noor Ain Mat Noor (2017). Sejarah Perjuangan SPRM: Satu Perjalanan. Universiti Malaya, Kuala Lumpur.

UWB 1**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

1. Booth, Trudie Maria, 2008. French Verbs Tenses. Mc Graw-Hill. Call no.: P 2271, 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

UHB 13003 Introduction to English Communication

Synopsis

This course aims to enhance the students' level of proficiency in the four language skills (listening, speaking, reading & writing) and to equip them with adequate communicative abilities at the tertiary level. Through guided or independent learning, students will be able to identify relevant information in texts on topics of interest and to write on familiar topics.

References

1. Argentar, D. M., Gillies, K. A. N., Rubenstein, M. M., & Wise, B. R. (2020). Reading and writing strategies for the secondary English classroom in a PLC at work: A guide to closing literacy achievement gaps and improving student ELA standards skill development. Solution Tree.
2. Bottomley, J., Maude, K., Prymachuk, S., & Waugh, D. (2019). Communication skills for your education degree. Critical Publishing.
3. Brownlie, F. (2019). Grand conversations, thoughtful responses: A unique approach to literature circles. Portage & Main Press.
4. Raymond Murphy (2019). English Grammar in Use Books and Interactive eBooks 5th edition: A self- study Reference and Practice Book for Intermediate Learners of English (5th). Cambridge University Press.

UHB 23003 English for Career Development

Prerequisite Course: UHB 13003 Introduction to English Communication

Synopsis

This course employs a task-based learning approach and focuses on developing students' delivery of speech in oral interactions relevant to their career development. 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 the skills necessary in preparing their professional advancement.

References

1. Md. Zamin, A. A., et al. Workplace Communications for Graduating Students: A Quickguide, ISBN978-967-19771, Printed by Ultimate Print Sdn Bhd.
2. Shivananda,S., Doddawad, V. G. The Usefulness Of Hybrid Platform Meetings For Research Ethics Committees Review Meetings. Volume 127, 2022, ISSN1368-8375. <https://doi.org/10.1016/j.oraloncology.2022.105811>.
3. Standaert, W., Muylle, S., Basu, A. Business Meetings in A Postpandemic World: When and How to Meet Virtually. Volume 65, Issue 3, 2022, Pages 267-275, ISSN 0007-6813, <https://doi.org/10.1016/j.bushor.2021.02.047>.
4. Standaert, W., Muylle, S., Basu, A. How Shall We Meet? Understanding The Importance of Meeting Mode Capabilities for Different Meeting Objectives. Volume 58, Issue 1, 2021, 103393, ISSN 0378-7206, <https://doi.org/10.1016/j.im.2020.103393>.
5. Termini, C. M., et al. Using Virtual Interviewing to Create A More Accessible Hybrid Academic Job Market. Volume 184, Issue 26, 2021, Pages 6217- 6221, ISSN 0092-8674, <https://doi.org/10.1016/j.cell.2021.11.027>.

UQI 10402 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. Nik Kamal Wan Mohammed dan Lain-lain (2018), Modul Pembelajaran Pengantar Pengajian Islam (UQI10402), cetakan keempat 2018, Batu Pahat: Penerbit UTHM.
2. Roziah Sidik (2011), Pengajian Islam, Selangor: Oxford Fajar. (BP42 .R69 2011)
3. Al-Anjari, Fouzi (2013), Al-Asya'irah: Akidah Sebenar Ahli Sunnah Wal Jamaah, Seremban: Creative Publika. (BP166.14 .A54 2013)
4. Mohd Fauzi Mohd Amin (2011), Pemerkasaan Fardhu Kifayah berteraskan al-Quran dan al-Sunnah, Negeri Sembilan: USIM. (BP130.8 .P45 2011)
5. Azzam, Abdul Aziz Muhammad (2010), Fiqh Muamalat: Sistem Transaksi dalam Fiqh Islam, Jakarta: Amzah. (BP158.C59 .A99 2010)

UQI 11502 Moral Studies

Synopsis

This course explains about the introduction to moral concepts, moral aspects and their importance in daily life. Western moral theory as well as the pure values of the great religions of the world. Morality in various fields of employment, ethics in science and technology and finally current moral issues.

References

1. Eow Boon Hin. 2008. Moral Education. Longman. (LC268.E48 2008)
2. Ahmad Khamis. 1999. Etika Untuk Institusi Pengajian Tinggi. Kuala Lumpur. Kumpulan Budiman. (LC315.M3.A35 1999)
3. Mohd Nasir Omar. 1986. Falsafah Etika; Perbandingan Islam dan. Kuala Lumpur. JPM.

UQI 11402 Philosophy and Current Issues

Synopsis

This course covers the relationship of philosophy with the Philosophy of National Education and Rukunegara. The use of philosophy as a tool to purify the culture of thought in life through art and thinking methods as well as human concepts. The main topics in philosophy namely epistemology, metaphysics and ethics are discussed in the context of current issues. Emphasis is given to philosophy as the basis for inter-cultural dialogue and fostering common values. At the end of this course, students will be able to see the disciplines of knowledge as a comprehensive body of knowledge and related to each other.

References

1. Al-Attas, S.M. Naquib. (1991). The Concept of Education in Islam. Kuala Lumpur: ISTAC.
2. Al-Farugi, I.R. (1994). Al-Tawhid: Its Implications for Thought and Life, (2nd Ed.). Herndon: IIIT.
3. Phillips, D.C. (Ed.) (2014). Encyclopaedia of Educational Theory and Philosophy, (1st Ed.). SAGE Publication.
4. Dzulkifli, A.R. & Rosnani, H. (2019) Pentafsiran Baharu Falsafah Pendidikan Kebangsaan dan Pelaksanaannya Pasca 2020. Kuala Lumpur: IIUM Press.
5. Hospers, J. (1997). An Introduction to Philosophical Analysis, (4th Ed.). London: Routledge.

UQ* 101 Co-Curriculum I**

Synopsis

The course offers various form of activities for student of Bachelor's Degree and Diploma. Eight fields of activities offer are Public Speaking, Entrepreneurship, Sports, Community Services, Volunteership, Leadership, Culture and Innovation

UQ* 101 Co-Curriculum II**

Synopsis

The course offers various form of activities for student of Bachelor's Degree and Diploma. Eight fields of activities offer are Public Speaking, Entrepreneurship, Sports, Community Services, Volunteership, Leadership, Culture and Innovation.

Synopsis of Centre Core Courses

DAT 20803 Cyberpreneurship

Synopsis

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

References

1. Mohd Nazri Khan, (2006). Cyberpreneurship. Pearson. Call Number: HB615 .M52 2006
2. Jack Ma, (2016). Jack Ma: Never Give Up (2016). Kanyin Publication. Call Number; HF5548.325.W65 2016.
3. E-Marketing: The Essential Guide to Marketing in a Digital World
Link:
<https://ezproxy.uthm.edu.my/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=3508047&site=ehost-live&scope=site>
4. Amazon Top Seller Secrets: Insider Tips From Amazon's Most Successful Sellers
Link:<https://ezproxy.uthm.edu.my/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=274189&site=ehost-live&scope=site>
5. Dave Caffey, (2015). Digital business and E-commerce management : strategy, implementation and practice. Pearson Education Limited. Call Number ; HF5548.32 .C42 2015

Synopsis of Programme Courses

DAT 10003 Ethics and Safety in Computing

Synopsis

This course introduces students to computer ethics, health and social issues, reliability and safety of computer systems, protecting software and other intellectual property, issues on privacy, impact and computer technology control, as well as introducing professional codes of ethics.

References

1. Kauffman, K. D., & Rybicki, E. (2022). Legal Ethics (4th ed.). Delmar. ISBN: 978-0-357-62054-0.
 2. Reynolds, G. W. (2019). Ethics in Information Technology (6th ed.). Cengage. ISBN: 978-1-337-40587-4.
<https://drive.google.com/file/d/1hjIDjEjU1bMVE-DMQe8H7HQ94vWUuhz-/view?usp=sharing>
 3. Holden, O. L., Norris, M. E., & Kuhlmeier, V. A. (2021, July). Academic integrity in online assessment: A research review. In *Frontiers in Education* (Vol. 6, p. 639814). Frontiers Media SA. <https://www.frontiersin.org/articles/10.3389/feduc.2021.639814/full>
 4. Green, B. (2021). The contestation of tech ethics: A sociotechnical approach to technology ethics in practice. *Journal of Social Computing*, 2(3), 209-225.
<https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9684741>
 5. Awari, G. K., Warjurkar, Sarvesh, V. (2022). Ethics in Information Technology : A Practical Guide. CRC Press. ISBN 10: 1032163798 / ISBN 13: 9781032163796
 6. Occupational Safety and Health Act and Regulations. MDC Publishers Printer Sdn. Bhd. 2001. Call Number KPG1390.M34 2001 rw.
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DAT 10203 Discrete Mathematics

Synopsis

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

References

1. Hanifa, R.M., Mohamad, S., Berahim, M., Mohd Nasir, F. (2024). Discrete Mathematics. Learning Module.
2. Rosen, K. H. (2019). Discrete Mathematics and its Applications (8th ed.). McGraw-Hill. ISBN: 978-1-259-67651-2.
3. [E-Book] Lipschutz, S. (2022). Schaum's Outline of Discrete Mathematics. McGraw Hill. <https://www-accessengineeringlibrary-com.ezproxy.uthm.edu.my/content/book/9781264258802>
4. Levin, O. (2019). Discrete Mathematics: An Open Introduction (3rd ed.). Open Textbook Library. ISBN: 978-1-79290-169-0.
5. Kwong, H. (2015). A Spiral Workbook for Discrete Mathematics. Open SUNY Textbooks. ISBN: 978-1-942341-16-1.

DAT 10103 Software Fundamentals and Solution Design

Synopsis

This course emphasizes the design of algorithms for problem-solving, utilizing both textual and graphical representations. Students will be introduced to techniques for solving problems through a modular approach. The course aims to equip students with the skills to define, analyze, and design efficient algorithmic solutions.

References

1. Chaudhuri, A.B. (2020). Flowchart and Algorithm Basics: The Art of Programming. Mercury Learning and InforMation LLC. <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=6404903>
2. Alsuwaiyel, M.H. (2016) Algorithms : design techniques and analysis .New Jersey: World Scientific.ISBN:9789814723640. Call Number: QA9.58 .A57 2016
3. Dubey, et al.(2023).Visualizing Algorithms: A Comprehensive Exploration of Sorting and Computational Problem-Solving. 2023 International Conference on Integrated Intelligence and Communication Systems (ICIICS), 1-6 Nov, 2023; Database: IEEE Xplore Digital Library.
4. Backhouse, R. (2011). Algorithmic Problem Solving. Wiley. ISBN: 978-0-470-68453-5. Call number: QA76.9.A43 .B32 2011.
5. Parnas, D. L (2001). Software fundamentals : Addison-Wesley, Language: English, Database: PTTA Library Catalog. Call Number: QA76.754 .P37 2001 N1.

DAT 10803 System Analysis and Design

Synopsis

This course introduces students to the essential concepts, skills, methodologies, techniques, tools, and perspectives required for systems analysis. It offers a practical approach to developing systems analysis and design skills. By the end of the course, students will be able to create a prototype design that addresses a real-life problem

References

1. Valacich, J.S.,George, J. F. 2020. Modern Systems Analysis and Design, Global Edition. 2nd Edition. eBook
2. Dennis,A., Wixom,B.,Tegarden,D. 2020. Systems Analysis and Design An Object-Oriented Approach with UML. 2nd Edition. *QA402 D464 2005
3. Wasson, Charles S. 2016. System Analysis, Design, and Development: Concepts, Principles, and Practices. 2nd Edition. QA76.9.S88. W37 2016
4. Paradice, D. 2010. Emerging Systems Approaches in Information Technologies: Concepts, Theories, and Applications. eBook Collection (EBSCOhost)

DAT 10903 Operating Systems

Synopsis

This course covers the essential components of a typical operating system and its services. Additionally, it explains the function of each manager and its role in coordinating system operational tasks.

References

1. Valacich, J.S., George, J. F. 2020. Modern Systems Analysis and Design, Global Edition. 2nd Edition. eBook
2. McHoes, A. M. (2014). Understanding operating systems. 7th ed., Boston: Cengage Learning. [QA76.76.O63 .M46 2014].
3. Silberschatz, A., Gagne, G., & Galvin, P. B. (2021). Operating System Concepts (10th ed.). Wiley. ISBN: 978-1-119-80036-1.
4. Stallings, W. (2018). Operating Systems: Internals and Design Principles (9th ed.). Pearson. ISBN: 978-1-292-21429-0.
5. Halochkin O., Ivashko V. (2024) Basics of Operating Systems LAP LAMBERT ISBN-10 : 6207460979

DAT 11203 Algebra and Calculus

Synopsis

The course introduces the fundamental principles of algebra, forming the foundation for advanced mathematics disciplines. It emphasizes key concepts essential for understanding vector analysis, geometry, and differential and integral calculus. Additionally, the course covers the practical applications of differential and integral calculus in various contexts.

References

1. Moyer, Robert E., and Murray R. Spiegel. 2019. Schaum's Outline of College Algebra. 5th ed. New York: McGraw-Hill Education. <https://www-accessengineeringlibrarycom.ezproxy.uthm.edu.my/content/book/9781260120769>
2. Ryan, Mark. Calculus Essentials for Dummies, John Wiley & Sons, Incorporated, 2019. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5750072>.
3. Gustafson, R.D. and Hughes, J. College Algebra. Boston, MA: Cengage Learning. 2017. ISBN:781305652231

DAT 11503 Programming Fundamentals

Synopsis

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

References

1. Gaddis, T., Walters, J., & Muganda, G. (2022). Starting Out with C++: From Control Structures to Objects (10th ed.). Pearson.
2. Savitch, W. (2023). Problem Solving with C++ (10th ed.). Pearson.
3. Ebook.Tuleuov, Berik I.; Ospanova, Ademi B..2024 In: Beginning C++ Compilers : An Introductory Guide to Microsoft C/C++ and MinGW Compilers.:119-130; Berkeley, CA: Apress,
4. Malik, D. S. (2017). C++ Programming: From Problem Analysis to Program Design (8th ed.). Cengage Learning.
5. Ebook. Dmitrović, Slobodan.2023. In: Modern C++ for Absolute Beginners : A Friendly Introduction to the C++ Programming Language and C++11 to C++23 Standards. :3-3; Berkeley, CA: Apress

DAT 11003 Network and Data Communication

Synopsis

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

References

1. Forouzan, B. A. (2021). Data Communications and Networking with TCP/IP Protocol Suite (6th ed.). McGraw-Hill. ISBN: 978-0-07-802209-8.
2. Stallings, W., & Case, T. (2013). Business Data Communications: Infrastructure, Networking and Security (7th ed.). Pearson. ISBN: 978-0-13-302389-3.
3. Stallings, W. (2014). Data and Computer Communications (10th ed.). Pearson. ISBN: 978-0-13-350648-8. Call number: TK5105 .S73 2014.
4. Comer, D. E. (2014). Computer Networks and Internets (6th ed.). Pearson. ISBN: 978-0-13-358793-7.
5. Comer, D. E. (2014). Computer Networks and Internets (6th ed.). Pearson. ISBN: 978-0-13-358793-7.

DAT 10703 Computer Architecture

Synopsis

This course introduces students to the fundamental of computer architecture, computer components and functions, data representation in computer systems, arithmetic logic operation, digital logic, input and output, memory organization and set instruction.

References

1. Clements, A. (2014). Computer Organization and Architecture: Themes and Variations. Cengage Learning. ISBN: 978-1-111-98704-6. Call number: QA76.9.C643 .C63 2014
2. Hennessy, J. L., & Patterson, D. A. (2019). Computer Architecture: A Quantitative Approach (6th ed.). Morgan Kaufmann Publishers. ISBN: 978-0-12-811905-1.
3. Null, L., & Lobur, J. (2019). The Essentials of Computer Organization and Architecture (5th ed.). Jones & Bartlett Learning. ISBN: 978-1-284-12304-3.
4. Stallings, W. (2022). Computer Organization and Architecture: Designing for Performance (11th ed.). Pearson Education Limited. ISBN: 978-1-292-42010-3.
5. Jan Friso Groote, Rolf Morel Julien Schmaltz Adam Watkins (2021) Modern Approach to Electronic Circuitry, Logic Gates, and Processors 1st ed. Springer

DAT 21703 Statistics and Probability

Synopsis

This course discusses the mathematical concepts of statistics and how they can be applied practically in IT. It covers Descriptive and Inferential statistics, Descriptive Measures, Random Variables, Special Probability Distributions, Estimation, Hypothesis Testing, and Simple Linear Regression and Correlation.

References

1. Fein, E. C., Gilmour, J., Machin, T., & Hendry, L. (2022). Statistics for Research Students. University of Southern Queensland. ISBN 978-0-6453261-0-9.
2. Hsu, Hwei P. 2020. Schaum's Outline of Probability, Random Variables, and Random Processes. 4th ed. New York: McGraw-Hill Education. <https://www-accessengineeringlibrarycom.ezproxy.uthm.edu.my/content/book/9781260453812>
3. Barbara Illowsky. (2020). Statistics. OpenStax. <https://openstax.org/books/statistics/pages/1-introduction>
4. Green, Don W., and Marylee Z. Southard, eds. 2019. Perry's Chemical Engineers' Handbook. 9th ed. New York: McGraw-Hill Education. <https://www-accessengineeringlibrarycom.ezproxy.uthm.edu.my/content/book/9780071834087>
5. William Navidi (2019). Statistics for Engineers and Scientists 5th Edition. McGraw-Hill Education
6. Spiegel, Murray R., and Larry J. Stephens. 2018. Schaum's Outline of Statistics. 6th ed. New York: McGraw-Hill Education. <https://www-accessengineeringlibrarycom.ezproxy.uthm.edu.my/content/book/9781260011463>

DAT 20103 Database

Synopsis

This course covers database concepts, including file systems, database types, history, and models. It delves into the relational database model, SQL, data modeling, tables, and normalization. Effective database design techniques, network integration, web integration, and contemporary database advancements are also explored.

References

1. Hanifa, R.M., Mohd Nasir, F., Soosay Nathan, S. & Mohamad, S. (2022). Database. Learning Module.
2. Powell, G. (2020). Database Modeling Step-by-Step. Auerbach. ISBN: 978-0-367-42217-2.
3. Coronel, C., & Morris, S. (2019). Database Systems: Design, Implementation, and Management (13th ed.). Cengage. ISBN: 978-1-337-62790-0.
4. Paul, B. (2024). Database Management for Beginners: A Step-by-Step 2 in 1 Guide to Understanding Database Systems.
5. Shield, W. (2019). SQL QuickStart Guide: The Simplified Beginner's Guide to Managing, Analyzing, and Manipulating Data With SQL (Coding & Programming - QuickStart Guides)

DAT 21303 Web Development

Synopsis

This course provides an introduction to web development technologies and techniques. Students will learn the fundamentals of front-end and back-end web development, including HTML, CSS, PHP, JavaScript, and server-side scripting. The course will cover topics such as responsive design, web frameworks, and database integration

References

1. Ahmed, R. (2021). Full Stack Web Development for Beginners. ISBN: 979-8-7389-5126-8. Thomas, V. (2023). Database-Driven Web Development Fundamentals. Database: Springer Nature eBooks.
2. Thomas, V. (2023). Database-Driven Web Development Fundamentals. Database: Springer Nature eBooks.
3. Shaw, B. et al. (2023). Web Development with Django : A definitive guide to building modern Python web applications using Django 4. Database: IEEE Xplore Digital Library.
4. Tolaram, N. & Glynn, N. (2023). Full-Stack Web Development with Go : Build your web applications quickly using the Go programming language and Vue.js. Database: IEEE Xplore Digital Library.

DAT 20503 Mobile Application

Synopsis

This course introduces students to the principles and practices of mobile application development. Students will learn the fundamental concepts of mobile platforms, user interface design, and development techniques for creating applications on commonly used mobile operating systems such as Android besides integration of the application with Internet of Things services. The course will include hands-on exercises and projects to reinforce theoretical knowledge and practical skills.

References

1. Gookin, Dan, and Sandra Geisler. Android Tablets for Dummies, John Wiley & Sons, Incorporated, 2014. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=1707092>.
2. DiMarzio, Jerome. Beginning Android Programming with Android Studio, John Wiley & Sons, Incorporated, 2016. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=4714030>.
3. Nilanjan Dey, et al., Walter de Gruyter GmbH, 2019. The Internet of Everything : Advances, Challenges and Applications, ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5994776>.
4. McLoughlin, Ian Vince. 2018. Computer Systems: An Embedded Approach. 1st ed. New York: McGraw-Hill Education. <https://www-accessengineeringlibrary-com.ezproxy.uthm.edu.my/content/book/9781260117608>
5. Arora, Sumeet, Ramachandra Gambheer, and Meenakshi Vohra. 2021. Design of Secure IoT Systems: A Practical Approach Across Industries. 1st ed. New York: McGraw Hill. <https://www-accessengineeringlibrary-com.ezproxy.uthm.edu.my/content/book/9781260463095>

DAT 21603 Intelligent User Experience Design

Synopsis

This course provides students with a comprehensive understanding of user experience design principles, human factors, effective interface design, application domain considerations, affective user experiences, human-centered evaluation, assistive technologies, and user advocacy. Students will learn how to create impactful and accessible user experiences across various application domains with artificial intelligent essentials.

References

6. Don Norman (2013), The Design Of Everyday Things, Basic Books; Revised edition (November 5, 2013), ISBN-10 : 9780465050659, ISBN-13 : 978-0465050659.
7. Mendoza-González, R., Luna-García, H., & Mendoza-González, A. (Eds.). (2020), UXD and UCD Approaches for Accessible Education, IGI Global, ISBN13: 9781799823254|ISBN10: 1799823253.
8. Jesse James Garrett (2009), The Elements of User Experience: User-Centered Design for the Web, Peachpit Pr, ISBN-10 : 0735712026 ISBN-13 : 978-0735712027
9. Jonathan Lazar et. al, (2017), Research Methods in Human Computer Interaction, Elsevier Inc., ISBN 978-0-12-805390-4

DAT 22003 Cybersecurity Fundamentals

Synopsis

This course give knowledge and skills to the student about fundamental of Information Security. Topics cover are Introduction to Information Security, Security Management, Authentication and Access Control, Introduction to Cryptography, Virus and Malicious Code, Media Security, E-Commerce Security and Database and Issues and Ethics In Information Security.and risk mitigation.

References

1. Pfleeger, C. P. dan Pfleeger, S. L. (2007). Security in Computing. 4th Edition, New Jersey: Prentice Hall. Call Number: QA76.9.A25 .P45 2007
2. Whitman, M. E. dan Mattord, H. J. (2009). Principles of Information Security, Canada: Thomson/Course Technology. Call Number: TK5105.59 .W45 2009
3. Fisch, E. A. dan White, G. B. (2002). Secure Computers and Networks: Analysis, Design and Implementation, Boca Raton: CRC Press.
4. Keith Martin, Konstantinos Mersinas, et al. (2025) Cyber Security Foundations: Fundamentals, Technology and Society, Kogan Page ISBN-10 : 1398614742
5. Paul J. Springer (2024) Encyclopedia of Cyber Warfare 2nd Edition, Bloomsbury Academic, ISBN-10 : 144088160X
6. Ed Adams, (2024) See Yourself in Cyber: Security Careers Beyond Hacking 1st Edition, Wiley ISBN-10 : 1394225598

DAT 22103 Cloud Computing

Synopsis

This course emphasises knowledge and skills in producing web applications and transferring existing applications into a cloud computing environment. This course will discuss an introduction to cloud computing, technology, architecture, and the role of cloud computing, security and data protection in a cloud computing environment.

References

1. [E-Book] Marinescu, D. C. (2023). Cloud Computing: Theory and Practice (3rd ed.). Elsevier. <https://doi.org/10.1016/C2020-0-02233-4>
2. Chandrasekaran, K. (2015). Essentials of Cloud Computing. CRC Press. Call number: QA76.585 .C42 2015
3. Kale, V. (2015). Guide to Cloud Computing for Business and Technology Managers: From Distributed Computing to Cloudware Applications. CRC Press. Call number: QA76.585 .K35 2015
4. Fundamentals, Techniques, and Applications. CRC Press. Call number: QA76.585 .C57 2014
5. Yang, C., & Huang, Q. (2014). Spatial Cloud Computing: A Practical Approach. CRC Press. Call number: G70.217.G46 .Y36 2014

DAT 22203 Integrated System Technology

Synopsis

This course explores the principles of integration at the system level, data encoding techniques, data storage methods, data conversion necessity, and commonly used intersystem communication protocols. It equips Information Technology students with the knowledge and skills to effectively design, implement, and manage integrated IT systems. Through theoretical study and practical exercises, students will gain the necessary knowledge and skills to effectively design, implement, and manage integrated IT solutions.

References

1. Mani, K. (2023). REST API - Complete Handbook: for Python, Javascript, Java and more. Amazon Digital Services LLC - Kdp. ISBN: 979-8864564004
2. Cathal, M. (2023). RESTful API Design: Quick Guide (HandBook for Professionals Series). ISBN: 978-3-319-04156-8.
3. Panherkar, O. (2023). Laravel REST API Made Easy: LEARN TO WRITE FLUENT LARAVEL API with Omkar Panherkar (Become Full Stack Developer). ISBN: 979-8373957571
4. Sharma, S. (2023). Modern API Development with Spring 6 and Spring Boot 3 - Second Edition: Design scalable, viable, and reactive APIs with REST, gRPC, and GraphQL using Java 17 and Spring Boot 3 (2nd ed. Edition). Packt Publishing. ISBN: 978-1804613276
5. Perscheid, M., Siegmund, B., Taeumel, M., & Hirschfeld, R. (2017). Studying the advancement in debugging practice of professional software developers. Software Quality Journal, 25, 83-110.

DAT 22303 Advanced Networking

Synopsis

This course provides students with a comprehensive understanding of advanced networking concepts essential for designing, implementing, and managing telecommunication systems and cloud-based enterprise networks. Through analysis, comparison, and practical application, students gain the knowledge and skills necessary to address the complex challenges of modern networking environments.

References

1. White, R., & Banks, E. (2017). Computer Networking Problems and Solutions: An innovative approach to building resilient, modern networks. Addison-Wesley Professional.
2. Vacca, J. R. (2015). Handbook of sensor networking: advanced technologies and applications. CRC Press. ISBN: 978-1-4665-6972-0
3. Olivier Bonaventure (2016). Computer Networking : Principles, Protocols and Practice. Lulu.com.
4. Edelman, J., Lowe, S. S., & Oswalt, M. (2018). Network Programmability and Automation: Skills for the Next-Generation Network Engineer. " O'Reilly Media, Inc."

DAT 22403 Information Technology Project Management

Synopsis

This course introduces project management processes, integration, time management project cost, project quality management, human resources management and communication, risk management and purchasing for information technology project.

References

1. Schwalbe, K. (2018). Information technology project management 9th edition. Cengage Learning.
2. Marchewka, J.T. (2015). Information Technology Project Management: Providing Measurable Organizational Value, 5th Edition. Wiley. ISBN: 9781118911013.
3. Schwalbe, K. (2019). Information Technology Project Management 9th Edition. Cengage Learning. ISBN: 9781337101356.
4. Perera, S. & Eadie, R. (2023). Managing Information Technology Projects: Building A Body Of Knowledge In It Project Management. WSPC. ISBN: 978-9811240577.

DAT 21101 Diploma Project 1

Pre-requisite: Pass 36 credits (40%) of total graduating credit (90 credits)

Synopsis

This course is designed to help students with the skills and knowledge necessary for effective project proposal development and decision-making processes. Through a combination of theoretical learning and practical application, students will learn how to identify project opportunities, conduct feasibility assessments, formulate clear and compelling proposals, and make informed decisions regarding project selection and implementation.

References

1. Shelena Soosay Nathan, Rafizah Mohd Hanifa, Hazwani Rahmat (2023) Panduan Umum Projek Diploma Dat 21104, UTHM (ebook).
2. Brewer, Jeffrey L., and Kevin C. Dittman. Methods of IT Project Management : Third Edition, Purdue University Press, 2018. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5515329>.
3. Wysocki, Robert K.. Effective Project Management : Traditional, Agile, Extreme, Hybrid, John Wiley & Sons, Incorporated, 2019. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5747804>.
4. Hamilton, Boni. Integrating Technology in the Classroom : Tools to Meet the Needs of Every Student, International Society for Technology in Education, 2018. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5880825>

DAT 22104 Diploma Project 2

Pre-requisite: DAT 21101 Diploma Project 1

Synopsis

This course helps students with the skills and knowledge required to successfully navigate the complexities of project development in Information Technology. Through practical application, students will learn industry-standard methodologies, tools, and techniques to deliver IT projects on time, within budget, and according to specifications

References

1. Shelena Soosay Nathan, Rafizah Mohd Hanifa, Hazwani Rahmat (2023) Panduan Umum Projek Diploma Dat 21104, UTHM (ebook).
2. Brewer, Jeffrey L., and Kevin C. Dittman. Methods of IT Project Management : Third Edition, Purdue University Press, 2018. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5515329>.
3. Wysocki, Robert K.. Effective Project Management : Traditional, Agile, Extreme, Hybrid, John Wiley & Sons, Incorporated, 2019. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5747804>.
4. Hamilton, Boni. Integrating Technology in the Classroom : Tools to Meet the Needs of Every Student, International Society for Technology in Education, 2018. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/uthm-ebooks/detail.action?docID=5880825>

DAT 30108 Industrial Training

Pre-requisite: Taken 60% of the total graduating credit.

Synopsis

Students are required to attend the practical training for 16 weeks, either in the government or private sector. During this period, they will be given assignments or projects, that are approved by the faculty and organisation in advance. The approved assignments or projects are related to their respective areas of specialisation.

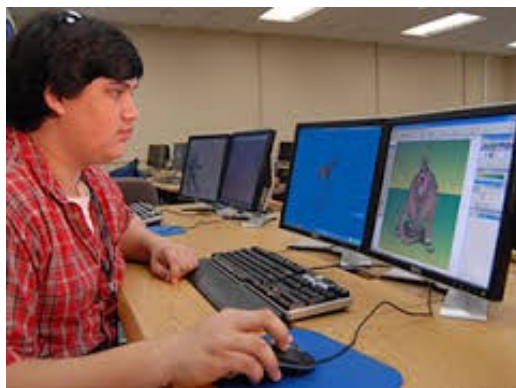
References

1. Universiti Tun Hussein Onn Malaysia. (2020). Garis Panduan Latihan Industri Pelajar (Program Sarjana Muda dan Diploma) (5th ed.). UTHM.

Career and Further Education Prospect

Graduates of the program have a wide range of career opportunities. A conducive learning environment with an emphasis on practical skills allow graduates to have careers related to information technology as follows:

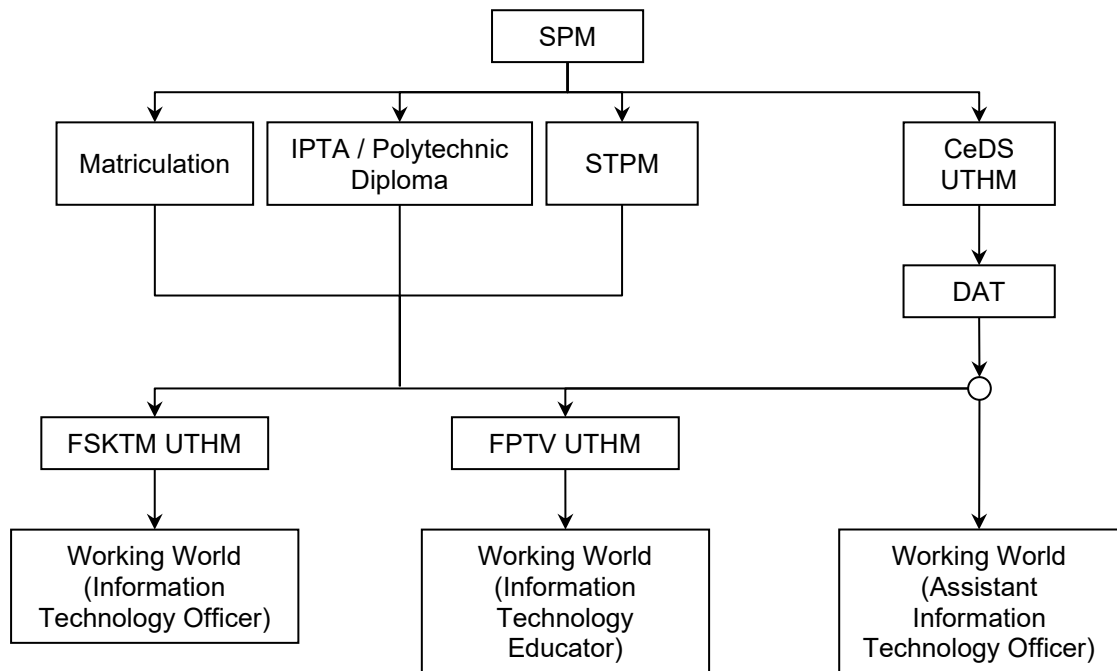
- application and web development
- database
- cyber security
- computer network
- cloud computing
- technical support
- analyst
- multimedia
- technical sales representative
- project manager



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.

Further Education Pathway



Abbreviations:

- CeDS – Centre for Diploma Studies
- DAT – Diploma in Information Technology
- FPTV – Faculty of Technical and Vocational Education
- FSKTM – Faculty of Computer Science and Information Technology
- SPM – Sijil Pelajaran Malaysia
- STPM – Sijil Tinggi Persekolahan Malaysia

MQF BASED ON QUALIFICATION LEVEL AND EDUCATIONAL PATHWAY

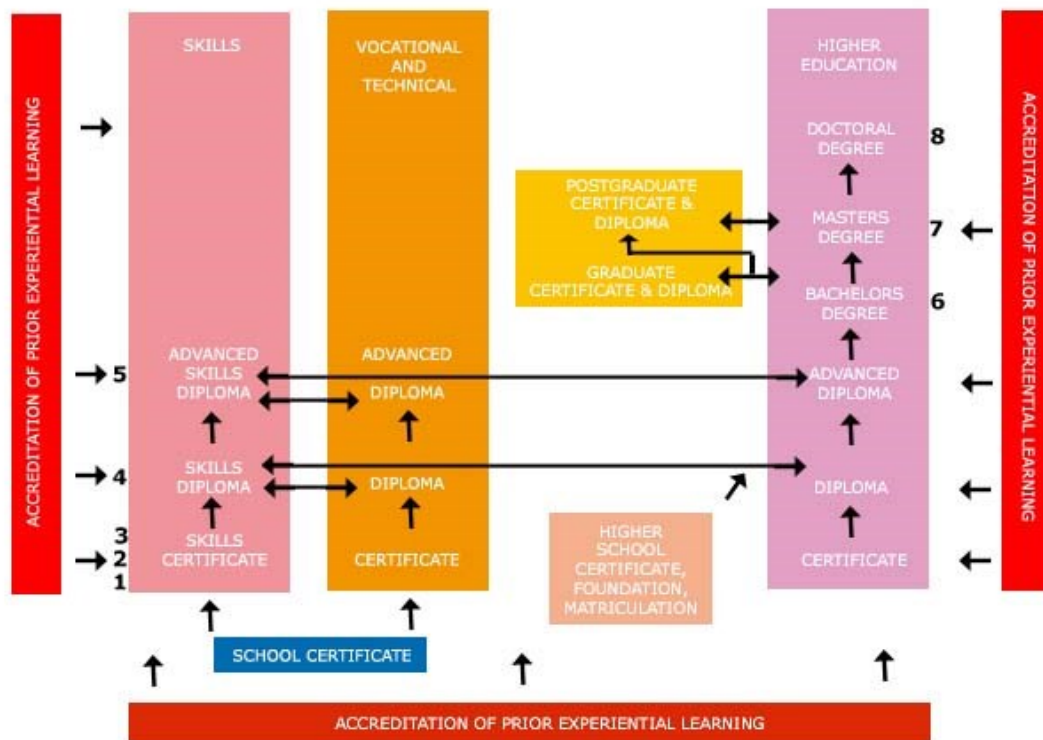


Figure 1: Educational Pathway According to the Malaysian Qualification Framework