UTHM
Universiti Tun Hussein Onn Malaysia

Universiti Tun Hussein Onn Malaysia
Is Ranked 1001-1200 QS WORLD UNIVERSITY RANKINGS

ACADEMIC PROFORMA
2024/2025

DIPLOMA IN CIVIL ENGINEERING

Centre for Academic Development and Excellence
Universiti Tun Hussein Onn Malaysia

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https://cad.uthm.edu.my

CENTRE FOR DIPLOMA STUDIES
CEDS

PUSAT PENGAJIAN DIPLOMA
UNIVERSITI TUN HUSSEIN ON MALAYSIA
KAMPUS PAGOH
HUB PENDIDIKAN TINGGI PAGOH
KM1, JALAN PANCHOR, 84600
PANCHOR, JOHOR

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

Contents

Foreword by the Vice Chancellor

Assalammualaikum Warahmatullahi Wabarakatuh and Salam Sejahtera.

I extend heartfelt congratulations and a warm welcome to each of you as you embark on your academic journey with us. Your decision to join UTHM marks a significant milestone, and I am deeply honored by your trust and commitment.

As an academic institution, we not only recognize the importance of the intertwined dimensions of economic, social, and sustainability (ESG) factors in the post-pandemic era but also embrace our responsibility to actively contribute to their advancement. Our commitment is unwavering as we strive to strengthen our core business pillar by focusing on various crucial aspects.

Firstly, we are dedicated to enhancing our academic delivery to ensure our students receive the highest quality education in today's rapidly evolving world. This commitment involves continually refining our curriculum, integrating innovative teaching methods, and cultivating critical thinking skills. We aim to equip students with the knowledge and capabilities needed to effectively address complex societal challenges. Secondly, we place significant emphasis on research efforts that contribute to sustainability objectives. By fostering a culture of interdisciplinary collaboration, we strive to generate pioneering research and innovative solutions that tackle pressing economic, social, and environmental issues. Our goal is to make meaningful contributions to the sustainable development of both local and global communities.

In addition to our core priorities, we actively enhance our impact by engaging with diverse stakeholders. Through partnerships, community outreach programs, and knowledge exchange initiatives, we aim to extend our positive influence beyond our institution. By leveraging our expertise and resources, we seek to address societal needs, promote inclusive growth, and enhance well-being. Furthermore, our efforts are guided by a commitment to good governance. We uphold the highest standards of transparency, accountability, and ethical practices. By fostering responsible decision-making and cultivating a culture of integrity, we aim to create an environment that builds trust, encourages collaboration, and ensures the long-term sustainability of our institution.

In summary, our dedication centers on achieving dynamically synergistic sustainability. We reinforce our core business pillar through enhanced academic delivery, impactful research endeavors, and enriched services. Upheld by our unwavering commitment to good governance, we believe these principles empower us to actively contribute to shaping a more sustainable and resilient future for all.

Last, but certainly not least, I extend a heartfelt welcome to all new students. I invite you to become valued members of our community. As you embark on this transformative journey, rest assured that my commitment is to ensure your experiences are enriching and enjoyable. Additionally, I sincerely wish you success in all your endeavors as you navigate this educational path.

“With Wisdom, We Explore”

Best wishes.

YANG BERHORMAT PROFESSOR DATO’ Ir. Ts. Dr. RUZAIRI BIN ABDUL RAHIM
Vice-Chancellor
Universiti Tun Hussein Onn Malaysia

Foreword by the Deputy Vice Chancellor (Academic and International)

Assalammualaikum Warahmatullahi Wabarakatuh and Salam Sejahtera.

We extend our heartfelt congratulations and a cordial welcome to all the fresh faces embarking on their academic journey at Universiti Tun Hussein Onn Malaysia (UTHM) in the upcoming academic term of 2024/2025. Here at UTHM, we take pride in our distinct qualities and educational opportunities that distinguish us from the rest. Our pledge to provide an exceptional learning experience remains unwavering, as we are dedicated to helping you achieve academic success and surpass your expectations.

I want to extend my sincere appreciation and congratulations to the Centre for Academic Development and Excellence (CAD) and the faculties for successfully creating this academic proforma. This resource is incredibly valuable as it provides a concise overview of the different programs offered. Serving as a helpful tool, it not only guides students but also assists them in effectively planning their academic journey. By providing essential information and perspectives, it enables students to make informed choices and navigate their educational endeavors with confidence.

The Ministry of Higher Education Malaysia (MOHE) has set in motion new initiatives to enhance academic facilities and digital resources to meet the country's educational requirements. This effort includes a focus on digitalization to establish a more conducive, secure, and efficient learning environment, while also promoting innovation, adaptability, and global competitiveness.

To keep students engaged and boost enrolment numbers, we are implementing several effective measures. These measures include introducing hybrid programs and shortening the study period. As a university affiliated with the Ministry of Higher Education (MOHE), we request your support and understanding as we endeavor to execute these beneficial initiatives. Moreover, we are committed to promoting Technical and Vocational Education Training (TVET) programs as part of our long-term objective to become a leading Global Technopreneur University (GTU) by 2030.

It is crucial, from our perspective, to enhance, strengthen, and sustain our programs and workforce. We are proud to mention that all 110 of our programs are accredited by the Malaysian Qualification Agency (MQA) and their relevant professional organizations. This accreditation is maintained through the commitment of our knowledgeable staff, both in academic and support roles, who consistently engage in skill-building and training programs.
I truly believe that the programs implemented by UTHM will offer invaluable opportunities for you to develop and improve your skills. With the introduction of this new system, I anticipate great academic accomplishments and successes for all of you. This is a pivotal moment for you to create a positive impact not only in our country but also in the broader international community.

Best wishes,

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

Foreword by the 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

YB. 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

YBhg. Datuk Md Jais bin Haji Sarday
Board Member, Universiti Tun Hussein Onn Malaysia

YBhg. Dato' Dr. Mohd Sharil bin Abdullah
Director of Industrial Relations Division, Department of Higher Education

YBrs. Mr. Shahril Anwar bin Mohd Yunos
Managing Partner, Virtus Capital Partners Sdn Bhd

YBrs. Mdm. Elain Lockman
Chief Executive Officer and Co-Founder, Ata Plus Sdn. Bhd.

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. Prof. Ir. Dr. Mohd. Amri bin Lajis
Professor, 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

YB. Prof. Dato' Ir. Ts. Dr. Ruzairi Bin Abdul Rahim
Vice Chancellor

Members

Prof. Dr. Shahruddin 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

Prof. Ts. Dr. Mohd Farhan bin Md. Fudzee
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 bin 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(I^2E)

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 bin 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 binti Shamsuddin
Faculty of Technology Management and Business

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

Prof. Ts. Dr. Ishak bin Baba
Faculty of Technical and Vocational Education

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

Prof. Dr. Rozaida binti Ghazali
Faculty of Computer Science and Information Technology

Prof. Ts. Dr. Zaidi bin 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

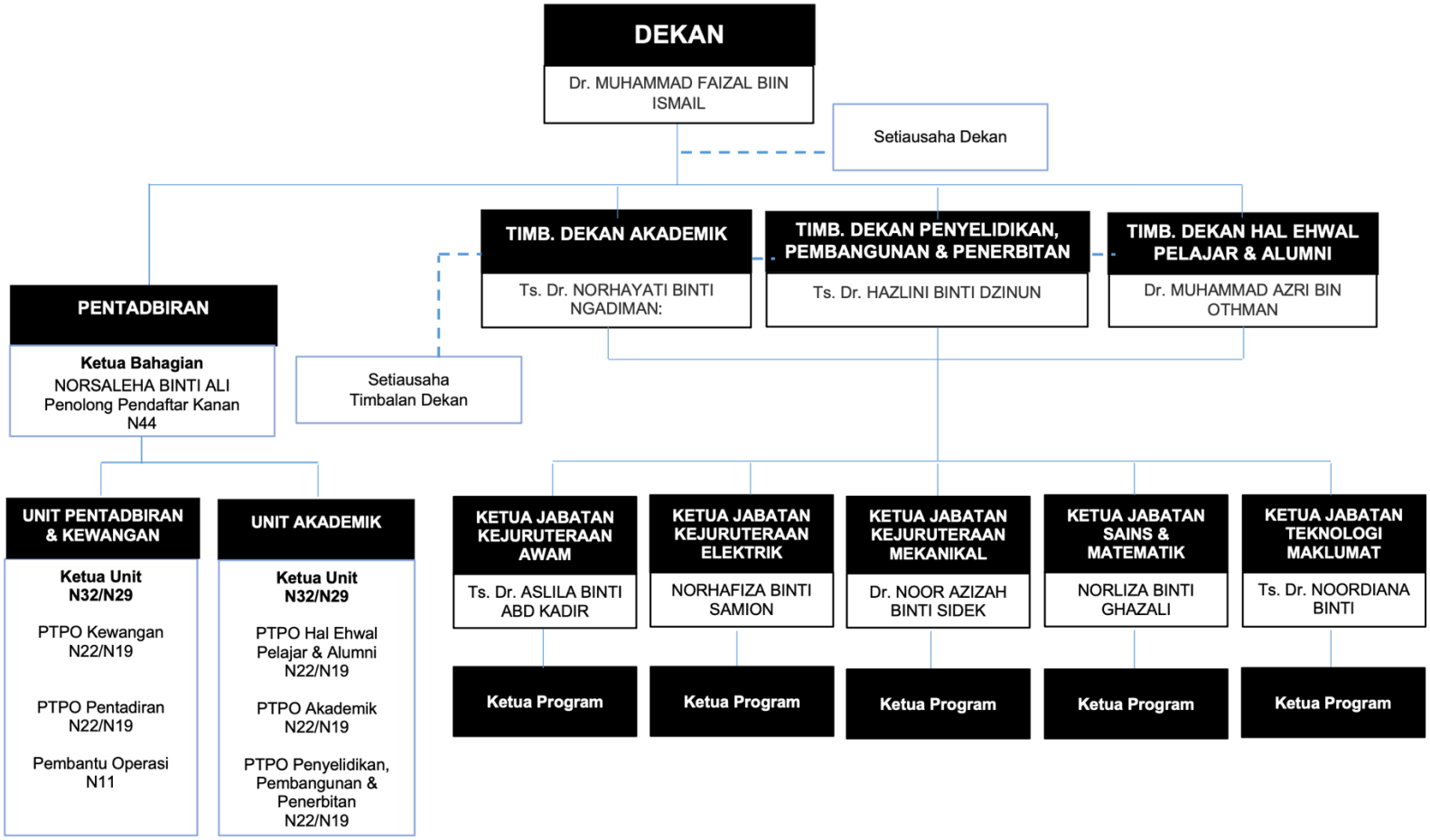
Producing graduates who contribute to national development through a holistic academic program

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 fulfill the global occupational market. In addition, graduates of these programmes also have the wides opportunity to further their studies at Bachelor 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 Civil Engineering

External Examiner

Prof. Dr. Ir. Hjh. Che Maznah Mat Isa
PhD (Civil) (UiTM), MSc. (Integrated Construction Project Management) (UiTM), BEng (Hons) (Civil Engineering) (Univ. North Carolina, US), Pre-Eng. (Columbia Greene-Community College, US).

Industrial Advisor

Ts. Mohd Dhiya Hafreez B. Kamil
BEng. (Civil)(UTM), Mara Found. (Sci. Eng.) (UTM)

Dr. Mohamad Niizar Bin Abdurahman
PhD. (Civil Engineering) (Geotechnic) (UTHM), MEng. (Civil) (UTHM), BEng. (Civil)(UTHM)

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. (Enviroment) (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),
Diploma in Computer Science (UiTM)

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 Bangking (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 Men. Kebangsaan Dato' Bentara Luar

Department of Civil Engineering

Academic Staff

Head of Department
Ts. Dr. Aslila binti Abd Kadir
PhD. (Civil Engineering) (UTHM), MSc. (Construction Management) (UTM), BSc. (Hons) (Housing, Building and Planning) (USM), Cert.(Quantity Survey) (POLIMAS)

Head of Programme
Ts. Dr. Mohamad Azim bin Mohammad Azmi
PhD. (Civil Engineering) (UTHM), MEng. (Civil) (UTHM), BEng. (Civil)(UTHM)

Professor Madya Ts. Hj. Masiri bin Kaamin
MSc. (Land Survey-GIS) (UTM), BSc.(Land Survey) (UTM)

Ts. Mohd Erwan bin Sanik
MSc. (Civil Engineering) (USM), BEng. (Civil Engineering) (USM)

Ts. Dr. Norhayati binti Ngadiman
PhD. (Environment and Development) (UKM), M Ed. (Technic and Vocational Ed.) (UTHM), BSc, (Mineral Resources) (USM)

Ir. Ts. Hj. Salman bin Salim
MEng. (Civil Engineering) (UTHM), BEng. (Civil Engineering) (UTM), Dip. (Civil Engineering) (UTM), Cert. (Civil Engineering)(Politeknik Ungku Omar)

Ts. Ahmad Hakimi bin Mat Nor
MEng. (Civil Engineering) (UTHM), BEng. (Civil Engineering) (UTHM), Dip. (Civil Engineering) (UTHM)

Ts. Dr. Izat bin Yahya
PhD. (Civil Engineering) (UTHM), MEng. (Civil Engineering) (UTHM), BEng. (Civil Engineering) (UTM), Dip. (Civil Engineering) (UiTM)

Br. Dr. Hairuddin bin Mohammad
PhD (Built Environment) (UiTM), MSc. (Construction Management) (UTM), BEng. (Civil)(UTM), Dip. (Civil) (Politeknik Kota Bharu)

Dr. Noorul Hudai binti Abdullah
PhD. (Civil Engineering) (UTM), BEng. (Civil Engineering) (UTHM), Dip. (Civil Engineering) (UTHM)

Ts. Dr. Khairi bin Supar
PhD. (Civil Engineering) (UTHM), BEng. (Civil)(UTHM), Dip. (Civil Engineering) (Politeknik Port Dickson)

Ts. Dr. Nur'ain binti Idris
PhD. (Civil & Structure Engineering) (Kyushu University), MEng. (Civil) (UTM), BEng. (Civil)(UTM)

Dr. Muhammad Azraie Bin Abdul Kadir
PhD. (Civil Engineering) (USM), MEng. (Civil) (UiTM), BEng. (Hons) (Civil) (UiTM), Dip. (Civil) (UiTM)

Dr. Nor Farah Atiqah binti Ahmad
PhD. (Civil Engineering) (UTM), MEng. (Civil – Hydraulic and Hydrology) (UTM), BEng. (Civil Engineering) (UTM)

Pn. Nor Baizura binti Hamid
MSc. (Railway) (UTHM), BSc. (Hons) (Civil Engineering), (UTHM)

Ts. Dr. Mardiha binti Mokhtar
PhD. (Civil Engineering) (UTHM), MSc. (Civil Engineering) (UTHM), BSc. (Hons)(Civil Engineering) (UTHM), Dip. (Civil Engineering Technology) (UTHM)

Pn. Suhaila binti Sahat
MEng. (Hydrology and Water Resources) (UTM), BEng. (Civil Engineering) (UTM), Dip. (Civil Engineering) (UTM)

Pn. Siti Nooraiin bin Mohd Razali
MEng. (Civil Engineering) (UTHM), BEng. (Civil Engineering) (UTHM)

Pn. Hazirah Binti Bujang
MEng. (Civil Engineering) (UTHM), BEng. (Civil Engineering) (UTHM)

Sr. Nornajihah Binti Mohammad Yazid
MEng. (Geomatic Engineering) (UTM), BEng. (Geomatic Engineering) (UTM)

Programme Name

Diploma in Civil Engineering (DAA)

Programme Aims

To produce graduates who are more mature and competent to fulfill the nation needs of skill and expert workers in the field of Civil Engineering whether in the public, private or self-employed sector. The programme also prepares students to further their studies to degree level at any university locally or internationally.

Programme Educational Objectives (PEO)

Program Educational Objectives are to produce a Civil Assistant Engineer that are able to:

PEO 1	Technically competent in solving civil engineering problems and produce work of quality accepted locally and globally.
PEO 2	Demonstrate professionalism, ethics and sustainable values in civil engineering practice.
PEO 3	Communicate effectively and demonstrate good leadership at workplace and community.
PEO 4	Practice entrepreneurship skills and integrating lifelong learning in career development.

Programme Learning Outcomes (PLO)

Upon graduation, a graduate should acquire the followings:

PLO 1	Apply knowledge of applied mathematics, applied science, engineering fundamentals and specialization to wide practical procedures and practices in the field of Civil Engineering.
PLO 2	Identify and analyse well-defined civil engineering problems reaching substantiated conclusions using codified methods of analysis specific to civil engineering activities.
PLO 3	Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
PLO 4	Conduct investigations of well-defined civil engineering problems with ability to locate and search relevant codes and catalogues, conduct standard tests and measurements.

PLO 5 Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined civil engineering problems, with an awareness of the limitations.

PLO 6 Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice and solutions to well-defined civil engineering problems.

PLO 7 Understand and evaluate the sustainability and impact of engineering technician work in the solution of well-defined civil engineering problems in societal and environmental contexts.

PLO 8 Understand and commit to professional ethics and responsibilities and norms of technician practice.

PLO 9 Function effectively as a leader, and as a member in diverse technical teams.

PLO10 Communicate effectively on well-defined civil engineering activities with the learned community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instruction.

PLO11 Demonstrate knowledge and understanding of civil engineering management principles and apply these to one's own work in a technical team and to manage projects in multidisciplinary environments.

PLO12 Recognise the need for and have the ability to engage in independent updating in the context of specialised technical knowledge.

Curriculum

Table 1: Summary of curriculum for Diploma in Civil Engineering

Year	Semester	Course Code	Courses	Credit	Total
	Special	UQU 11103 UQI 10402/ UQI 11502 DAC 22202	Integrity and Anticorruption Islamic Studies/ Moral Studies Occupational Safety and Health	3 2 2	7
1	I	UHB 13003 UQ* 1***1 DAC 11402 DAC 11203 DAC 11603 DAC 11703 DAC 11803	Introduction to English Communication Co-Curriculum I Algebra Engineering Mathematics I Civil Engineering Materials Engineering Drawing Statics and Dynamics	3 1 2 3 3 3 3	18
	II	UQI 11402 UQ* 1***1 DAC 12102 DAC 12302 DAC 12203 DAC 21502 DAC 12403 DAC 12503	Phylosophy and Current Issues Co-Curriculum II Physics for Civil Engineering Construction Engineering Environmental Engineering Hydrology Engineering Mathematics II Mechanics of Material	2 1 2 2 3 2 3 3	18
	III	-	-	-	-
2	I	UHB 10*02 DAC 21903 DAC 21803 DAC 22303 DAC 21403 DAC 21703 DAC 21801	Foreign Language Highway and Traffic Engineering Contract and Estimation Fluid Mechanics Geomatic Engineering Structural Analysis Diploma in Civil Engineering Project I	2 3 3 3 3 3 1	18
	II	UHB 23003 DAN 20103 DAC 22103 DAC 21302 DAC 22402 DAC 22502 DAC 22603	English for Career Development Business and Entrepreneurship Geotechnical Engineering Statistics Project Management Structural Design Diploma in Civil Engineering Project II	3 3 3 2 2 2 3	18
	III				
3	I	DAC 31011	Industrial Training	11	11
Total Credit					**90**

Synopsis of University Courses

Year	Sem	Course Code	Courses	Credit	Total
	Special	UQU 11103	Integrity and Anticorruption	3	5
		UQI 10402/ UQI 11502	Islamic Studies/ Moral Studies	2	
1	I	UHB 13003	Introduction to English Communication	3	4
		UQ* 1***1	Co-Curriculum I	1	
	II	UQI 11402	Phylosophy and Current Issues	2	3
		UQ* 1XXX1	Co-Curriculum II	1	
2	I	UHB 10*02	Foreign Language	2	8
	II	UHB 23003 DAN 20103	English for Career Development Business and Entrepreneurship	3 3	
3	-	-	-	-	-
					20

Synopsis of 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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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 & 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. Ramli Awang (2013). Akidah Penghayatan Tauhid al-Quran, Johor: Penerbit UTM Press. BP165.5 .R35 2013
5. T. Nama (2013). Pengurusan, Etika Kerja dan Personaliti: Perspektif Islam, Perlis: UMP. BP190.5.M28 .P46 2013
6. Mohd Fauzi Mohd Amin (2011). Pemerkasaan Fardhu Kifayah berteraskan al-Quran dan al-Sunnah, Negeri Sembilan: USIM. BP130.8 .P45 2011
7. Azzam, Abdul Aziz Muhammad (2010). Fiqh Muamalat: Sistem Transaksi dalam Fiqh Islam, Jakarta: Amzah. BP158.C59 .A99 2010

8. Harun Din (Dr.) (2015). Manusia Dan Islam, cetakan pertama, Kuala Lumpur: Dewan Bahasa dan Pustaka. BP174 .M36 2015
9. Muhammad Ahmad Abdul Jawwad (2004). Pengurusan Yang Profesional Dalam Islam, Kuala Lumpur: Penerbit Berlian. BP173.77. J39 2004
10. Mustafa Abdul Rahman (1998). Hadith 40, Kuala Lumpur: Dewan Pustaka Fajar. BP135. A2 .M87 1998
11. Ismail Haji Ali, (1995). Pengertian dan Pegangan Iktikad yang benar: Ahli Sunnah Wal Jamaah: Kuala Lumpur: Penerbitan al-Hidayah. BP166.78. P46 1995
12. Abdur Rahman I.Doi (1995). Undang-undang Syariah, terjemahan Rohani Abdul Rahim, Kuala Lumpur: Dewan Bahasa dan Pustaka. BP173.6 .A72 1995
13. Paizah Haji Ismail (1991). Undang-undang Jenayah Islam, Kuala Lumpur: Dewan Pustaka Islam, Angkatan Belia Islam Malaysia. BP144 .P35 1991
14. Mohammad Muslehudin (1989). Insuran dan Hukum Islam, Kuala Lumpur: Dewan Bahasa dan Pustaka. BP190.5. I67 M65 1989
15. Muhammad Sulaiman Haji Yasin (1988). Pengantar Aqidah, Kuala Lumpur: Dewan Bahasa dan Pustaka. BP166. M67 1984

UQI 11502 Moral Studies

Synopsis

This course explains on concepts of morality, aspects of moral and its importance in daily lives. Western moral theories and moral values of great religions of the world. Morality values in various fields of employment, ethics in science and technology and current moral issues.

References

1. Eow Boon Hin (2008). Moral Education. Shah Alam: 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 Barat. Kuala Lumpur: JPM. BL240.3.H87 2009

DAC 22202 Occupational Safety and Health

Synopsis

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, Accident Investigation, Investigations and Causes Of Incident, Incident Analysis and Data Collection Method.

References

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

5. Anton, Thomas J. (2009). Occupational Safety and Health Management. 3rd ed. New York: McGraw-Hill. T55.A57 1989

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., Pryjmachuk, 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 Edisi : 5 / No. Semakan : 2
5. Vorholt, J. (2018). New ways in teaching speaking, second edition. TESOL Press.

UQ* 1*1 Co-Curriculum I**

Synopsis

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

References

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DAC 11402 Algebra

Synopsis

Algebra is the most basic of the higher mathematics disciplines. Without the fundamentals taught in algebra, it is virtually impossible to deal with geometry, trigonometry or statistics.

References

1. Gustafson, R.D. and Hughes, J. (2017). College algebra. Boston, MA : Cengage Learning. ISBN: 9781305652231
2. Larson, R. (2016). College algebra. Boston, MA : Cengage Learning. ISBN: 978137282291
3. Miller, M. (2014). Beginning algebra. New York : McGraw-Hill. ISBN: 9780073384481
4. Raji et al. (2002). Matematik asas. Skudai, Johor, Malaysia : Penerbit Universiti Teknologi Malaysia. ISBN: 98302567

DAC 11203 Engineering Mathematics I

Synopsis

Function : Relation and function, graph, algebra function, piecewise function, trigonometry, exponent, logarithm, hyperbolic and its inverse. Limits: Limit of functions. One-sided limits. Limits at infinity. Continuity. Differentiation: Techniques of differentiation: Sum and differences rule, product rule, quotient rule. Chain rule. Differentiation of exponent functions, logarithm functions, implicit functions, parametric equations, inverse trigonometric functions and higher derivatives. Application of differentiation: Rates of change. Maximum and minimum problem, graph sketching. L' Hôpital's Rule. Integration: Integration as inverse of differentiation. Integration of standard functions. Definite integrals. Techniques of integration: by substitution, by parts, by partial fraction, by table method. Numerical methods: Simpson's rule and Trapezium rule. Improper integrals : Integrals at infinity. Application of integration: Area of a region. Volumes by cylindrical shells. Arc length and surface area.

References

1. Nurhana Binti Mohamad (2018). Notes Engineering Mathematics I (DAS 10203). Centre for Diploma Studies, UTHM Publisher.
2. Nafisah@Kamariah Md. Kamaruddin el. al. (2016). Engineering Mathematics I (DAS10203). Centre for Diploma Studies, UTHM Publisher
3. Abd Wahid Md Raji (2013). The first course of calculus for science and engineering students. UTM. QA303 .F57 2013
4. Arif, Mohamed (2013). Calculus. Oxford UK. QA303.2 .A74 2013
5. Bird, John (2010). Basic Engineering Mathematics. Newnes, Amsterdam. TA330 .B574 2010
6. Steward, James (2012). Calculus. BCengage Learning, Belmont, CA. QA303.2 .S73 2012

DAC 11603 Civil Engineering Materials

Synopsis

This module introduce to students about: Cement, Aggregates, Concrete, Brick and Brick Work, Wood, Steel, Other Building Materials and Project.

References

1. Amir Khan Suwandi, Norhayati Ngadiman, Mohd Erwan Sanik, Ahmad Hakimi Mat Nor, Salman Salim, Mohammad Soffi Md Noh, Ahmad Fahmy Kamarudin & Noor Azlina Abdul Majib (2016). Civil Engineering Materials (DAC10402), UTHM. ISBN: 08-0172
2. Achmad Fauzi A. Wahab (2011). Civil Engineering Materials. Pahang: Penerbit Universiti Malaysia Pahang. TA403.A23 2011
3. Day, Ken W. (2006). Concrete Mix Design, Quality Control and Specification 3rd Edition. London: Taylor & Francis. TA439.D39 2006
4. Hegger (2006). Construction Materials Manual. Switzerland: Birkhäuser. TA402.5.G3.C66 2006
5. Hegger, Manfred (2007). Basic Materials. Switzerland: Birkhäuser. TA403.H43 2007
6. Marotta, Theodore W. (2005). Basic Construction Materials, 7th Edition. USA: Prentice Hall. TA403.M37 2005

DAC 11703 Engineering Drawing

Synopsis
Introduction to Engineering Drawing, Basic Geometrical Construction, Orthographic Projection, Pictorial Projection, Computer Aided Design; Using CAD in Civil Engineering Drawing.

References

1. Smith Douglas; Technical drawing 101 with AutoCAD 2019 : a multidisciplinary guide to drafting theory and practice with video instruction; 8th ed., Mission, KS : SDC Publications, 2018. (T386.A97 .S54 2018)
2. Gupta, B.V.R.; Engineering drawing with auto cad; New Delhi : I.K. International , 2016. (T385 .G87 2016)
3. Hj. Adanan Hj. Ohman; Learning Module: DAC 10103 Engineering Drawing, 1st Edition; Penerbit UTHM; Batu Pahat, Johor; 2011. (T353.A26.2011a)
4. David A, Madsen and Terence M. Shumaker; Civil Drafting Techology; 4rd Edition; Perentice Hall; New Jersey; 2010. (T353.M324 2010)
5. Grabowski. Ralph;Using AutoCAD 2009. Delmar Learning: New York 2009. (T385.G76 2009)

DAC 11803 Statics and Dynamics

Synopsis
Introduction to static, force and state of equilibrium, moment and couple, equilibrium of solid body, centroid, moment of inertia, introduction to dynamic, kinematic of particle and projectile.

References

1. Keith M.Walker (2004). Applied Mechanics for Engineering Technology, 7th Edition; Prentice Hall, USA.
2. Hibbeler, R.C. (2001) Engineering Mechanics:Statics And Dynamics, 9th Edition; Prentice Hall, USA.
3. Bear F.P. and Johnson E. R. (2001). Vector Mechanics For Engineers – Statics, 3rd S.I. Metrik Edition; Mc Graw Hill, USA.
4. Hibbeler, R.C. (2004). Statics and Mechanics of Materials, 2nd Edition; Prentice Hall, USA.
5. David H. Myscka (1999). Machines and Mechanisms : Applied Kinematics Analysis;Prentice Hall, USA.

UQI 11402 Phylosophy and Current Issues

Synopsis
The 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 methods of thinking 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 as well as 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.
6. Mitchell, H.B. (2011). Roots of Wisdom: A Tapestry of Philosophical Traditions, (6th Ed.). Wadsworth: Cengage Learning.
7. Osman Bakar. (1999). The Classification of Knowledge in Islam. Cambridge, U.K.: The Islamic Texts Society.
8. Rosnani Hashim. (2017). Revitalization of Philosophy and Philosophical Inquiry in Muslim Education. Kull of Education, IIUM.
9. Solomon, R.C. & Higgins, K.M. (2010). The Big Questions: A Short Introduction to Philosophy, (8th Ed.). Wadsworth: Cengage Learning.
10. Weiming, T. & Ikeda, D. (2011). New Horizons In Eastern Humanism: Buddhism, Confucianism and The Quest for Global Peace. London: I.B.Tauris.

UQ* 1*1 Co-Curriculum II**

Synopsis

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

References

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DAC 12102 Physics for Civil Engineering

Synopsis

This course introduces students to mechanic physics knowledge needed related to properties of materials, fluids, sound and waves, thermal properties, light and optics. The application involves the concept of density, pressure, Archimedes Principle, Pascal Law, buoyancy in fluid, thermal properties of materials, application of wave such as interference, diffraction and polarization. The course also discusses light and optics such as in geometrical optics.

References

1. Giambattista, A., Richardson, B. M., Richardson, R. C. (2007). College Physics 2nd Ed.New York: Mc Graw Hill.
2. Serway, R. A., Faughn, J. S., Moses, C. J. (2003). College Physics. 6th Ed. USA: Pacific Grove, CA: Thomson Learning.
3. Bueche, F. J., Hecht, E., Hademenos, G. J. (2000). College Physics: based on Schaum's Outline of college physics. New York: McGraw-Hill
4. Urone, P. P. (2001). College Physics. 2nd Ed. USA: Pacific Grove, CA: Brooks/Cole.

DAC 12302 Construction Engineering

Synopsis
This module introduces to students about: The generic sequence of construction process and its engineering perspectives; this including site preparation, substructure works, superstructure works, formwork and joints, temporary works, and related construction equipment.

References

1. Jahiman bin Badron (2007). Teknologi Binaan Bangunan. Kuala Lumpur: IBS BUKU Sdn. Bhd. TH213 .J33 2007
2. Roy Chudley and Roger Greeno (2005). Construction Technology, 4th Edition. Pearson Education Limited. TH145 .C48 2005
3. S.W. Nunnally (2011). Construction Methods and Management. Pearson Education Limited. TH145 .N86 2011
4. Trevor M Holroyd (2003). Buildability: Successful Construction from Concept to Completion, Thomas Telford Publishing. TH145 .H64 2003
5. Derek Osbourn and Roger Greeno (2007). Introduction to Building, 3rd Edition. Pearson Education Limited. TH145 .O82 2007
6. Noor Khazanah A. Rahman (2019). Teknologi Pembinaan Struktur Bangunan. Dewan Bahasa dan Pustaka. ISBN 978-983-49-1569-8

DAC 12203 Environmental Engineering

Synopsis
This module introduces to students about: Basic concept of environmental engineering: Impact of human activities upon the environment and Environmental Quality Act (EQA, 1974) Malaysia. Water quality: Water characteristic, criteria, standards and methods of analysis. Natural purification process of water. Water supply: Water sources, methods of purification and distribution system. Wastewater: Source and characteristics and treatment methods Introduction to solid waste management: Characteristics and types of solid waste, sources and solid waste management. Introduction to hazardous waste. Introduction to noise and air pollution. Environmental Impact Assessment (EIA and EMP).

References

1. Module DAC 12203 Environmental Engineering, Lectures Notes Version 2022, Penerbit UTHM
2. Module DAC 12203 Environmental Engineering, Laboratory Version 2022, Penerbit UTHM
3. Mackenzie Leo Davis, David A. Cornwell (2013). Introduction to Environmental Engineering. USA: McGraw Hill. TD145 .D384 2013
4. Franzle, Stefan (2012). Introduction to Environmental Engineering. USA: John Wiley. TD145 .F72 2012
5. Mackenzie L. Davis, Susan J. Masten (2009). Principles of Environmental Engineering and Science. USA: McGraw Hill. TD145 .D38 2009
6. Eugene R. Weiner (2013). Applications of Environmental Aquatic Chemistry: A Practical Guide. USA: CRC Press. TD193 .W45 2013

DAC 21502 Hydrology

Synopsis
Hydrology courses provide knowledge on the concepts of hydrological cycles involving processes that occur after a rain event. This course also discusses the

management of surface runoff water. Return the rainfall to river and urban drainage design especially in the development of new areas.

References

1. Goyal, Manish Kumar (2016). Engineering Hydrology. TC147.G69 2016
2. Ainger, C.M (2016). Sustainable Water. TD345.S87 2016
3. Chahar, Bhagu R (2015). Groundwater Hydrology. GB1003.2 .C42 2015
4. Madan Mohan Das (2011). Hydrology. India: PHI Learning. GB 661 .D37 2009
5. K. Subramanya (1994). Engineering Hydrology. India: Tata McGraw-Hill. TC 147 .S93 1994

DAC 12403 Engineering Mathematics II

Synopsis

This course explains in detail topics related to calculus. At the start of the course students understand the topic of First order differential equations. The techniques used are the method of separable equation, Homogeneous equation, Linear equation and exact equation. Next, the topic of application of first order differential equation which is population and newton's law cooling. In the next topic, students will be introduced to the second order linear differential equations and generate their knowledge to differentiate undetermined coefficients and variation of parameters. Next, students will apply the knowledge to solve laplace transforms including properties of linearity, first shift and multiply with tn. Student will also learn the method of inverse laplace transforms including the properties, partial fraction and convolution theorem. Later on, they will extend their laplace transform application knowledge to solving differential equations for intial and boundary value problems.

References

1. Nurhana Binti Moharnad (2018). Engineering Mathematics (DAS 20403). Centre for Diploma Studies, UTHM Publisher.
2. Brannan, James R. (2010). Differential equations with value problems: an introduction to modern methods applications. John Wiley. QA371 .873 2010
3. James, Glyn. (2008). Modem Engineering Mathematics. 4th Edition Prentice Hall, Essex. TA330 .M62 2008
4. Abd Wahid Md Raji (2013). The first course of calculus for science and engineering students. UTM. QA303 .F57 2013
5. Vrabie, Ioan 1 (2011). Differential equations: an introduction basic concepts, results, and applications. World Scientific, N Jersey. QA371 .Y'72 20111

DAC 12503 Mechanics of Material

Prerequisite: DAC 11803 Statics and Dynamics

Synopsis

The introduction to the basic principles of mechanics of material, apply the knowledge in solving problem in civil engineering and perform the basic laboratory tests regarding structural analysis.

References

1. R. C. Hibbeler (2019). Statics and Mechanic of Materials, Fifth Edition in SI Units, Pearson
2. Russell C. Hibbeler (2018). Mechanics of Materials in SI Units, 10th Edition
3. Ferdinand Beer (2020). Mechanics of Materials in SI Units, 8th Edition

UHB 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 sentence 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. 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 a
3. Nurulisyazila Othaman, Abu Hanifa Abu Mukhtar, Nurul Sabrina Zan, Idayu NuriIlyana Daud (2017). Bahasa Arab Tahap 1. Batu Pahat: Penerbit UTHM.
4. Surie, Network (2009). AE Minna no Nihongo 1-1 Elementary: Translation and Grammatical Notes, Tokyo: 3A Corporation. PL539.3 .M567 2009
5. Henry J. Amen IV, Kyubyong Park, (2010). Korean for Beginners: Mastering Conversational Korean. North Clarendon: Tuttle Publishing.
6. Luscher, R, & Stevens, J (2011). Deutsch ganz leicht A1:Selbslernenkurs Deutsch für Anfänger: Zweisprachiges Arbeitsbuch = A german self-study course for beginners: Bilingual workbook. Ismaning, Regensburg: Hueber Verlag.
7. Nurul Sabrina Zan. (2016). UWB11102 La lengua espanola –Nivel 1. 2nd Edition, Batu Pahat: Penerbit UTHM. 10-0150
8. Henry J. Amen IV, Kyubyong Park, (2010). Thai for Beginners: Mastering Conversational Thai. North Clarendon: Tuttle Publishing.
9. Majendra, Maheswara (2010). Kamus lengkap Indonesia-Jawa, Jawa-Indonesia / Majendra Maheswara. Pustaka Mahardika. XX(131732.1)

DAC 21803 Contract and Estimation

Synopsis

Contract procedures and rules, including general principles of contracting, parties involved, and standards of building and civil engineering contracts. Meanwhile for contract documents, it will touch on type and purpose, instructions to tenderers, specifications, tender forms, contract terms, quantity lists, technical drawings and letter of acceptance. Additionally, for conditions of contract, several clauses will be discussed, including variation order, additions and omissions, Interim payment and measurements, delays and extension of time. The module also touches on arbitration and adjudication process in construction. Finally, the module end with introduction to estimation, comprises of unit rate, methods of estimating, and quantity measurement.

References

1. Noor Khazanah A. Rahman, Aslila Abd Kadir, Zarizi Awang & Shamsulakmar Abdul Munir (2022). Kontrak Pembinaan dan Taksiran. Batu Pahat :Penerbit UTHM
2. Aslila Abd Kadir dan Noor Khazanah A. Rahman : DAC 31802 Kontrak dan Taksiran, Penerbit UTHM, 2015 (08-0030)
3. Aminah Md Yusof (2017). Kontrak Dalam Sektor Pembinaan. Kuala Lumpur:DBP
4. PWD Form 203/203A (2010), Government of Malaysia.
5. Laws of Malaysia, Act 746, Construction Industry Payment and Adjudication Act 2012

DAC 22303 Fluid Mechanics

Synopsis
This course aim to develop an understanding of fluid mechanics including basic concepts of fluids, hydrostatic and fluid dynamics, momentum and forces in fluid, flow in pipes, dimensional analysis and similarity.

References

1. K. Subramanya (2015). Flow In Open Channels. India: Tata McGraw-Hill. TC 175 .S92 2015
2. Kundu, Pijush K. Cohen, Ira M. Dowling, David R. (2012). Fluid Mechanics; 5th Editions. QA901 .K86 2012.
3. White, Frank M. (2011). Fluid Mechanics, 7th Editions. TA357 .W44 2011
4. Cengel, Y.A. and Cimbala, J.M. (2006). Fluid Mechanics: Fundamentals and Applications. McGraw Hill. TA357 .C46 2006
5. Crowe, C.T. Elger, D.F. Roberson, John A. (2005). Engineering Fluid Mechanics; 8th Editions. TA357 .R63 2005

DAC 21403 Geomatic Engineering

Synopsis
This course is an introduction to the science of survey: the definitions and basics of measurements, the measurement of distances and angles, working methods and procedures and data count. The survey of horizontal control that includes survey traverse, work methods, and data count. The survey of levels consists of sub topics vertical control surveying, heights datum and mean sea level, equipment and methods of levelling and contour lines survey. The field of particle survey includes tachometry, the basic of survey and work operation. The calculation of areas and volumes.

References

1. Ghilani, Charles D. ; Elementary surveying : an introduction to geomatics; Prentice Hall; 2008., No. Panggilan: TA545 .G44 2008
2. Kavanagh, Barry F. ; Surveying : principles and applications, 8th Edition; Pearson/Prentice Hall; 2009., No. Panggilan: TA545 .K37 2009
3. Kavanagh, Barry F. ; Surveying with construction applications, 7th Edition; Prentice-Hall; 2010., No. Panggilan: TA625 .K38 2010
4. Abd. Shukor Sarif dan Masiri Kaamin; Modul Kejuruteraan GeomatikI & II, Penerbit UTHM; 2006., No. Panggilan: TA549 .M37 2006
5. Watson, Paul; Surveying and engineering : principles and practice ; Blackwell; 2008., No. Panggilan: TH438 .S97 2008.

DAC 21703 Structural Analysis
Prerequisite: DAC 12503 Mechanics of Material

Synopsis
Analysis of forces in determinate and indeterminate trusses including determinate space trusses. Analysis of indeterminate beam and frame including drawing the shear force and bending moment diagram. Introduction to plastic analysis for beam.

References

1. R.C. Hibbeler, Structural Analysis, 10th Edition, Pearson Education Limited
2. R.C. Hibbeler, Statics and Mechanics of Materials, 5th Edition, Ier, Pearson Education Limited.
3. Roslan Kolop, Khairul Zaman Abdul Malek, Ahmad Hakimi Mat Nor (2016). Structural Analysis Module. Penerbit UTHM

DAC 21903 Highway and Traffic Engineering

Synopsis
Students will be introduced to the definition of the Highway and Traffic Engineering. In Highway Engineering, students will learn about pavement materials and testing. Basic design of pavements and road construction are also introduced. Road maintenance and drainage topic are also taught to students. While for Traffic Engineering, students will be introduced to common parameters in traffic study such as volume and speed as well as data collection procedures. The elements in a road cross section and sight distances calculation will be also introduced. Students will also learn to determine the green time of an intersection traffic control. Lastly, students will be introduced to traffic engineering software used to analyse intersection's performance. For practice-oriented element, students will carry out laboratory testing along with the lectures.

References

1. Mohd Erwan et al. DAC 20903 Highway and Traffic Engineering Module.
2. Garber N.J, Hoel L.A. (2015). Traffic and Highway Engineering, (5th Edition). USA: Cengage Learning. TE145.G35 2015
3. Currin, Thomas R. (2013). Introduction to Traffic Engineering: A Manual for Data Collection and Analysis. USA: Cengage Learning. HE333 .C87 2013
4. Mannering, Fred L. (2013). Principles of Highway Engineering and Traffic Analysis, (5th Edition). USA: John Wiley. TE145 .M36 2013
5. Pande, Anurag (2016). Traffic Engineering Handbook, (7th Edition). New Jersey, John Wiley & Sons. HE333.T68 2016
6. Rogers, Martin (2016). Highway Engineering, (3rd Edition). West Sussex, Wiley Blackwell. TE145.R63 2016
7. O'Flaherty, Coleman A. (2016). Highways: the location, design, construction and maintenance of road pavement. (5th Edition). London, ICE Publishing. TE278.H53 2016

DAC 21801 Diploma in Civil Engineering Project I

Prerequisite: Student Has Taken 40% of the total number of credits to graduate

Synopsis
The course aims to provide students with knowledge and training related to project implementation and production. The project should be from the draft proposal level to the project implementation plan. Project output is in the form of hardware construction, software development, and system analysis or data collection. This course focuses on initial planning, project selection, project proposal preparation, project proposal presentation and project expected result.

References

1. Related reference books.
2. Manual Guideline for implementation of Diploma Engineering Project, UTHM.

UHB 23003 English for Career Development

Prerequisite: A pass in Introduction to English Communication (UHB13003)

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. (https://www.sciencedirect.com/science/article/pii/S1368837522001002)
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. (https://www.sciencedirect.com/science/article/pii/S0007681321 000665)
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, 103 393, ISSN 0378-7206, https://doi.org/10.1016/j.im.2020.103393.(https://www.sciencedirect.com/science/article/pii/S0378720620303311)
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. (https://www.sciencedirect.com/science/article/pii/S0092867421 013751)

DAN 20103 Business and Entrepreneurship

Synopsis

This course aims nurturing an entrepreneurial culture and exposed students to the basics of entrepreneurial concept and entrepreneurial attributes. The course also provide an overview the development of creative and innovative skills that allow students to identify business opportunities and evaluation. This course is designed to prepare the students with the knowledge and skill related to fundamental of business and entrepreneurship such as business legal structure and regulations, business support system, business planning skills and also engaging the student to develop and propose a viable Business Plan.

References

1. Norliza Ghazali & Raudah Mohd Adnan (2016). Perniagaan dan Keusahawanan, Penerbit UTHM
2. Sarimah Hanim Aman Shah & Cecilia Soon Teik Lan (2016). Entrepreneurship. (4th ed). Oxford Fajar
3. Mohd Nor Hakimin Bin Yusoff & Fakhrul Anwar Zainol. (2020). Rancangan Perniagaan Untuk Keusahawanan. Penerbit UMK
4. Kamal M.Y., Lukman Z.M. & Mazdan Ali Amaran. (2019). Keusahawanan Konsep Dan Asas Pengurusan. UNIMAS Publisher. ISBN 978-967-2298-02-1.
5. Abdul Aziz Ab Latif, Izaidin Abdul Majid, Mohd Abdullah Jusoh, Mohd Isnain Ali, Nur Asyikah Azahari, Mohamad Naim Idris (2018). Asas Keusahawanan : Perusahaan Mikro, Kecil Dan Sederhana. UMK Publisher. ISBN 978-967-22292-6-1

DAC 22103 Geotechnical Engineering

Synopsis
This course introduces to student properties of soil, soil classification and soil investigation. This course also provide knowledge on the foundation and stress distribution in soil, soil permeability, consolidation and soil shear strength.

References

1. Braja M. Das (2014). Principles of Geotechnical Engineering. TA710 .D37 2014
2. Braja M. Das (2013). Fundamental of Geotechnical Engineering. TA775 .D376 2013
3. Silvia, Garcia (2016). Principle of Geotechnical Engineering. TA705 .P746 2016
4. Jing, Ma (2016). Geotechnical Engineering: Pile Design and Construction. TA780 .G46 2016
5. Braja M. Das (2016). Principle of Foundation Engineering. TA775.D37 2016
6. Amir Khan Suwandi, Ahmad Hakimi Mat Nor (2018). Geotechnical Engineering (Volume 1).

DAC 21302 Statistics

Synopsis
Statistics : Ungrouped Data : Measure of Central Tendency - mean, mode, median. Measure of Dispersion - variance, standard deviation. Grouped Data : Measure of Central Tendency - mean, mode, median. Measure of Dispersion - variance, standard deviation. Probability: Independent event. Conditional probability. Bayes theorem. Random variables : Discrete random variables - Expected value and variance. Continuous random variables - Expected value and variance. Probability Distributions : Binomial distribution. Poisson distribution. Normal distribution. Sampling distribution : Sampling distribution for single mean. Sampling distribution for difference of two means. Estimation : Point estimate. Confidence interval for single mean. Confidence interval for difference of two means. Hypothesis Test : Type 1 and type 2 errors. Hypothesis test for single mean. Hypothesis test for difference of two means. Simple Linear Regression : Graphical method. Coefficient of determination. Least square method.

References

1. Akritas, Michael G. (2016) Probability and Statistics for Engineers and Scientists with R. [TA340 .A37 2016]
2. Navidi, William Cyrus. (2015) Statistics for Engineers and Scientists. [QA276.4 .N38 2015]
3. Barragues, Jose I. (2014). Probability and Statistic: A Didactic Introduction. [QA273 .P764 2014]
4. Bluman, Allan G. (2014). Elementary Statistics, A step by Step Approach. [QA276.12 .B58 2014]

DAC 22402 Project Management

Synopsis
This course introduces students to the project management process and Projects Participants in the civil engineering project. Project organization and method of Project Delivery will be discussed. To achieve specific goals and meet specific success criteria at the specified time, the student will be exposed to project planning and scheduling technique. Student also introduces to the resource management, communication and documentation in civil engineering project.

References

1. Peter Fewings (2012). Construction Project Management: An Integrated Approach, 2nd Edition. UK: Spon Press. TH438 .F48 2012
2. Robert K. Wysocki (2012). Effective Project Management: Traditional, Agile, Extreme, 6th Edition. USA: Wiley Publishing. HD69.P75 .W98 2012
3. Omar Osman (2006). Pengurusan Pembinaan: Konsep, Strategi dan Aplikasi. Pulau Pinang, Malaysia: Penerbit USM. HD9715 .O42 2006
4. Omar Osman (2010). Pengurusan Projek dan Kelestarian Titik Pertemuan. Pulau Pinang, Malaysia: Penerbit USM. HD69.P75 .O52 2010

DAC 22502 Structural Design

Synopsis

Reinforced concrete structure: Design of simply supported beam, slab and short column. Steel structure: Design of restrained simply supported beam, simple column, roof trusses and connections. Timber structure: Timber properties, Design of timber members.

References

1. Chanakya, Arya. (2009). Design of Structural Elements: Concrete, Steelwork, Masonry and Timber Design to British Standards and Eurocodes.UK: Spon Press. TA658 .A79 2009
2. British standard BS 5950: Part 1; Structural Use of Steelwork in Building: Code of Practice for Design in Simple and Continuous Construction; Hot Rolled sections; SCI. 2000.
3. British Standard BS 8110. Part 1; Structural Use of Concrete; Code of Practice for Design and Construction; BSI;1997. TA439 .H36 1987
4. Chu-Kia Wang, Charles G. Salmon, Jose A. Pincheira (2007). Reinforced concrete design. John Wiley. TA683.2 .C48 2007
5. Dennis Lam, Thien-Cheong Ang, and Sing-Ping Chiew; Structural design of steelwork to EN 1993 and EN 1994, BH.TA684 .M37 2008

DAC 22603 Diploma in Civil Engineering Project II

Prerequisite: DAC 21801 Diploma in Civil Engineering Project I

Synopsis

This project basically focuses on identification, problem solving, method or approach to a system being studied. The project is a project focused on areas of problem solving, project planning, innovative design, analysis and testing. The project is a method of realizing the understanding gained from the theory by using existing principles or concepts into practical applications. Implementing such projects will shape students who are skilled in interacting, using and selecting solution solutions as well as proficient in relevant applications. It also serves as a training in teamwork. Students are also required to present proposals and studies and project progress reports in seminars held at the end of the semester.

References

1. Related referrence books.
2. Manual Guideline for implementation of Diploma Engineering Project, UTHM.

DAC 31011 Industrial Training

Prerequisite: Student Has Taken 60% of the total number of credits to graduate

Synopsis

Students are required to undergo industrial training in civil engineering field for 16 weeks. They will undergo training to be set by the industry as planning, management, design, evaluation, project supervision etc..

References

Buku Panduan Latihan Industri UTHM, Penerbit UTHM, 2007.

Career and Further Education Prospect

Upon successful completion of the diploma course, the graduates have the opportunity either to further their study in the degree level program or apply for a job in the construction industry has a civil engineer assistant.

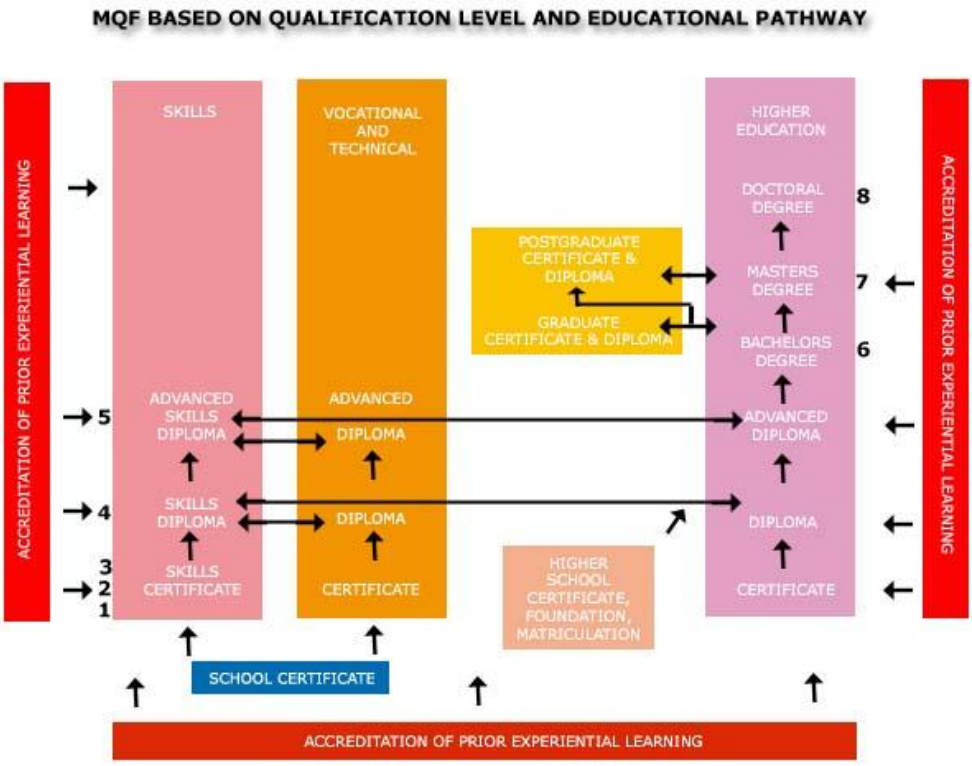
If they decided to further their study in UTHM, they can apply for a place in the Engineering Technology Faculty or Civil Engineering and Built Environment Faculty to obtain the respective degree in Civil Engineering Technology or Civil Engineering.

For those interested to work, the civil engineer assistant job is to provide technical support to civil engineers on construction projects in the following areas:

- Structural – bridges, dams, buildings, offshore platforms and pipelines
- Transportation – roads, railways, tunnels and airports
- Environmental – public water supply networks, irrigation, drainage, waste disposal and sewage treatment
- Maritime – ports, harbours and sea defences.

Civil engineering offers many opportunities as well as the satisfaction of helping to improve and enhance public quality of life in many settings.

Figures below show examples of jobs and career pathway in Centre of Diploma Studies UTHM and according to Malaysian Qualification Framework



Educational Pathway according to Malaysian Qualification Framework

MALAYSIAN QUALIFICATIONS FRAMEWORK: QUALIFICATIONS AND LEVELS

MQF Levels	Sectors			Lifelong Learning
	Skills	Vocational and Technical	Higher Education	
8			Doctoral Degree	Accreditation of Prior Experiential Learning (APEL)
7			Masters Degree	
			Postgraduate Certificate & Diploma	
6			Bachelors Degree	
			Graduate Certificate & Diploma	
5	Advanced Diploma	Advanced Diploma	Advanced Diploma	
4	Diploma	Diploma	Diploma	
3	Skills Certificate 3	Vocational and Technical Certificate	Certificate	
2	Skills Certificate 2			
1	Skills Certificate 1			

Qualifications and Levels of Education according to Malaysian Qualification Framework

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