



ACADEMIC PROFORMA 2025/2026

DIPLOMA IN ELECTRICAL ENGINEERING



Universiti Tun Hussein Onn Malaysia

Is Ranked 1001-1200



Universiti Tun Hussein Onn Malaysia

Is Ranked 248



Universiti Tun Hussein Onn Malaysia

Is Ranked 60



Centre for Academic
Development and Excellence
Universiti Tun Hussein Onn Malaysia



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Universiti Tun Hussein Onn Malaysia
July 2025

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Foreword by the Vice Chancellor



Assalamualaikum Warahmatullahi Wabarakatuh and greetings.

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 **honoured** 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. Our aim is 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 endeavours, 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.

Lastly, 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 endeavours as you navigate this educational path.

"With Wisdom, We Explore"

Best wishes.

PROFESSOR. DR. MAS FAWZI BIN MOHD ALI
Vice-Chancellor

Universiti Tun Hussein Onn Malaysia Foreword by the Vice Chancellor



Assalamualaikum Warahmatullahi Wabarakatuh and Salam Sejahtera, Salam Malaysia Madani.

Firstly, congratulations and a warm welcome to all new students joining Universiti Tun Hussein Onn Malaysia (UTHM) for the academic session 2025/2026. Rest assured, at UTHM, we stand out with unique qualities and offerings that set us apart from others. We are fully committed to upholding our promises and ensuring you receive an exceptional educational experience. We are committed to your success with unwavering dedication, striving tirelessly to exceed your expectations.

Secondly, I extend my gratitude and congratulations to the Centre for Academic Development and TVET (CAD) and the faculties for their successful publication of this academic proforma. It is indeed a valuable resource that offers concise information about the various programs available. This proforma offers concise information about the various programs available and serving as a guiding tool for students, as well as assisting them in effectively planning their learning journey. By providing essential details and insights, it empowers students to make knowledge-based decisions and navigate their educational paths with clarity.

In addressing the nation's academic priorities, the Ministry of Higher Education Malaysia (MoHE) has recently initiated enhancements to academic infrastructures and infostructures, as well as emphasizing digitalization. These efforts are geared towards achieving conducive, safe, efficient, and high-quality education, while maintaining innovation, flexibility, and global competitiveness.

Additionally, to sustain students' interest and enrollment, several impactful steps being taken including hybrid programs and shortening the duration of study. Therefore, as an institution under MoHE, please anticipate our efforts toward these beneficial programs. Furthermore, we remain agile and committed to promoting Technical and Vocational Education and Training (TVET)-based academics as part of our vision to transform into a Global Technopreneur University (GTU) by 2030.

From our specific perspective, it is crucial to enhance, strengthen, and uphold our own programs and human capital. All our programs, totaling 110, are accredited by the Malaysian Qualification Agency (MQA) and their respective professional bodies. This accreditation is maintained through our qualified staff, both academic and non-academic, who undergo continuous upskilling and reskilling initiatives.

In conclusion, I sincerely hope that the initiatives implemented by UTHM will offer you invaluable experiences in exploring and acquiring competencies. With the introduction of this proforma, I envision outstanding academic accomplishments and success for each of you. This stage signifies a pivotal opportunity for you to positively impact both our nation and the global community.

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. Dr. Mas Fawzi bin Mohd Ali

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

YBrs. Mr. Shahril Anwar bin Mohd Yunos

Managing Partner, Virtus Capital Partners Sdn Bhd

YBhg. Datuk Haji Mohd Lassim bin Burhan

Board Member, Universiti Tun Hussein Onn Malaysia

YBrs. Ir. Ts. Abdul Rahman bin Bahasa

Chief Executive Officer, Recove Group

YBrs. Encik Hasry bin Harun

Chief Executive Officer, Malaysia Rail Development Corporation

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

Professor, Universiti Tun Hussein Onn Malaysia

YBrs. Mohamad Irza bin Dahari @ Zahari

Administration and Diplomatic Officer, Department Of Higher Education

Secretary

YBrs. Mr. Naim bin Maslan

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

Members of Senate

Chairman

Prof. Dr. Mas Fawzi bin Mohd Ali

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)

Prof. Ts. Dr. Abdul Rasid bin Abdul Razzaq

Deputy Vice Chancellor (Student Affairs and Alumni)

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. 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

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

Ts. Dr. Mohd Hasril bin Amiruddin

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

Prof. Dr. Abd Rahman bin Ahmad
Dean, Johor Business School

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

Assoc. Prof. Dr. Badaruddin bin Ibrahim
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
Institute for Integrated Engineering(I²E)

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. Hasan Zuhudi bin Abdullah
Faculty of Mechanical and Manufacturing Engineering

Prof. Dr. Ahmad Jais bin Alimin
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. 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 Naw
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. Ismail bin Harun
Bursar / Chief Financial Officer (CFO)

Mdm. Zaharah binti Abd Samad
Chief Librarian

Mdm. Norliah Binti Yaakub
Legal Advisor

Prof. Ir. Ts. Dr. Mohd Irwan bin Juki
Pengerusi Majlis Profesor Universiti

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

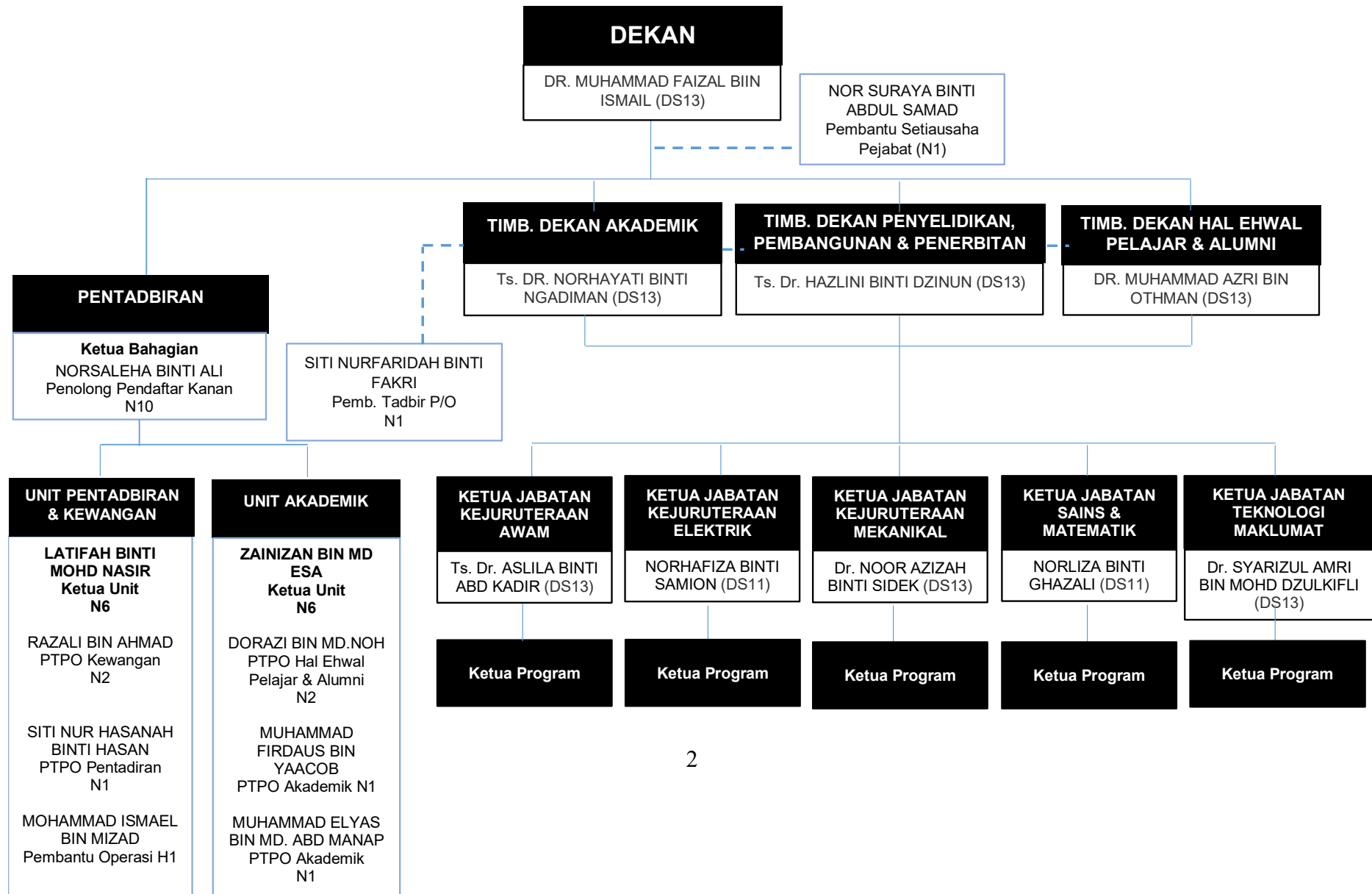
Diploma programmes had been offered in UTHM since the establishment of Pusat Latihan Staf Politeknik (PLSP) in 1994. It started with only three programs which are managed by the respective departments. All were transferred to the corresponding faculties when Kolej Universiti Teknologi Tun Hussein Onn (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 programs to be centrally managed under one roof which would increase the competitiveness of the programs offered.

It is the aim of the Centre for Diploma Studies to offer diploma programs 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 programs also have the wide opportunity to further their studies at Bachelor Degree level at various faculties in UTHM.

Now, the Centre for Diploma Studies, offer seven (7) diploma programs 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:

CARTA ORGANISASI PUSAT PENGAJIAN DIPLOMA



**CERTIFICATE OF ACCREDITATION
DIPLOMA OF ELECTRICAL ENGINEERING**



LEMBAGA JURUTERA MALAYSIA

DENGAN INI MEMPERAKUKAN BAHAWA PROGRAM PENGAJIAN

DIPLOMA IN ELECTRICAL ENGINEERING

(3-Year Programme after SPM)

YANG DIKENDALIKAN OLEH:

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

TELAH MENDAPAT PENGIKTIRAFAN RASMI BAHAWA KELAYAKAN AKADEMIK
YANG DIANUGERAHKAN ADALAH SELARAS DENGAN
STANDARD DAN KUALITI YANG TELAH DITETAPKAN OLEH
LEMBAGA JURUTERA MALAYSIA

**PERAKUAN BAGI GRADUAT
TAHUN 2023 HINGGA 2028**

DATO' SERI Ir. HAJI MOHAMAD ZULKEFLY BIN SULAIMAN
Yang Dipertua

Ir. Dr. MEGAT ZUHAIRY BIN MEGAT TAJUDDIN
Pendaftar



(Penandatanganan Penuh Dublin Accord
mulai 27 Jun 2018)

Penganugerahan Perakuan Akreditasi ini
tertakluk kepada peraturan-peraturan dan
syarat-syarat yang dinyatakan di sebelah.

Tarikh Perakuan Dikeluarkan: 15.12.2022
No. Sijil: 0015
Ref. No: BEM/ETAD/02-8/DA/03-00-33 (003)

External Examiner

Ir. Prof. Dr. Wong Hin Yong

Associate Director, Engineering Accreditation Department, Board of Engineers
Malaysia

Vice President, Academic and Innovative Learning Multimedia University, Cyberjaya

Industrial Advisor

Ir. Ts. Hj. Kamaruzzaman Bin Kasimin

Ketua Jurutera Elektrik Negeri, Cawangan Kejuruteraan Elektrik Johor, Jabatan Kerja
Raya Malaysia (JKR)

Ir. Ts. Mohd Noramin Bin Ab Aziz

Kejuruteraan Ezet Niaga Sdn. Bhd

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 and Development) (UKM), M Ed. (Technic and Vocational Ed.) (UTHM), BSc, (Mineral Resources) (USM)

Deputy Dean (Student Affairs and Alumni)

Dr Muhammad Azri bin Othman

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

Senior Assistant Registrar

Norsaleha binti Ali

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

Administration Staff

Office Secretary

Nor Suraya binti Abdul Samad

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

Office Secretary

Siti Nurfaridah binti Fakri

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

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 Elyas Bin Md. Abd Manap

Malaysian Certificate of Education (SMK Taman Indah, Tampin)

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 Electrical Engineering

Head of Department

Norhafiza bt Samion

Msc. (Railway Engineering) (UTHM), B. Eng. (Hons) (Electrical Engineering) (UTHM), Diploma (Electronics Engineering) (UTM)

Academic Staff

Dr. Muhammad Faizal bin Ismail

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

Dr. Mohd Nurul Al-Hafiz bin Sha'abani

PhD (Electrical Engineering), (UTHM), MSc. Mechatronic Eng. (UTeM), Bac. of Mechatronic Eng. (UTeM)

Dr. Zainab binti Zainal

PhD. (Industrial Automation & Control System) (USM), MSc. (Electronics System Design) (Manchester Metropolitan University), B.Sc. (Electric & Electronics Eng.) (University of Manchester), Diploma Electronics Eng. UTM

Ts. Muhammad Shukri bin Ahmad

M.Eng. (Electrical) (KUiTTHO), B.Eng. (Hons) (Electrical)(KUiTTHO).

Ts. Ahmad Alabqari bin Ma'Radzi

MSc. (Micro Eng. & Nanoelectronic) (UKM), B. (Microelectronic)(UKM)

Ts. Tengku Nadzlin bin Tengku Ibrahim

Master (Electrical, Electronics & Information Engineering) (Nagaoka University of Technology) B. (Electrical, Electronics & Information Engineering) (Nagaoka University of Technology)

Ziana binti Che Ros

M. Eng (Electrical)(UTHM), B. Eng. (Hons)(Electrical Engineering.) (UTM), Diploma (Electrical Engineering) (UiTM)

Nabiah binti Zinal

M. Eng (Electrical)(KUiTTHO), B. Eng. (Hons)(Electrical Engineering.) (UTM)

Ts. Azli bin Yusop

B.Eng. (Hons) (Electrical Power) (UTM), Diploma (Electrical Eng. Power) (UTM)

Ts. Mohd Hamim bin Hj Sanusi@Ikhsan

MSc. (Information Technology, Management) (UTM), B. Eng. (Hons) (Electrical Eng.) (UTHM), Certificate (Electrical Eng.) (Polimas)

Ts. Mohd Sabani bin Mohd

B. Eng. (Hons)(Electrical Engineering)(UKM)

Ts. Azmi bin Sidek

M. Eng (Electrical)(UTHM), B.Eng. (Hons) (Electronic/Computer) (UPM)

Ts. Mohamad bin Md Som

MSc (Information Technology, Management) (UTM), B.Eng. (Computer)(UTM)

Eddy Irwan Shah bin Shadon

M. Eng (Electrical)(UTHM), B. Eng. (Hons) (Electrical Telecommunication) (UTM)

Nor Faezah binti Adan

M. Eng (Electrical)(UTHM), B. Eng. (Hons) (Mechatronic) (University of Leeds)

Nadira binti Johari Halim Shah

MSc (Electrical Power System Engineering), (University of Manchester), B. Eng. (Hons) (Electrical Power Engineering.) (UTHM), Diploma (Electrical Engineering with Education) (UTHM)

Ts. Mohd Muzaffar bin Zahar

M.Eng (Electrical)(UTM), B.Eng. (Hons)(Electrical)(UTM)

Mohd Faizal bin Mohamed Nor

Msc. (Telecommunications and Information Engineering) (UiTM), B.Eng. (Hons) (Electrical) (UTHM)

Ts. Nur Azliza binti Ahmad

M.Eng (Electrical & Electronic)(UTP), B.Eng. (Hons)(Electrical)(UTM)

Program Information

Diploma Of Electrical Engineering

Programme Aims

To produce graduates who are competent to fulfil the nation's needs of skilled and expert workers in the field of Electrical Engineering, whether in the public, private or self employed sector. The programme also prepares students to further their studies to the degree level at any local or international university.

Programme Structure and Assessment

This program consists of 90 credits to be completed within five (5) semesters. Assessment of students' performance is based on formative and summative evaluation conducted throughout each semester. The third semester in Year 3 is occupied for industrial training.

Duration and Award Duration

Duration : 2 Years and 9 Months
Awards : Diploma of Electrical Engineering

Professional Accreditation

This program is recognized by the Public Service Department of Malaysia and accredited by the Malaysian Qualification Agencies (MQA) and Engineering Technology Accreditation Council (ETAC)

Contact Us

Website directory UTHM: <https://uthm.edu.my/>
Website directory CeDS: <https://ceds.uthm.edu.my/>
Regarding Diploma of Electrical Engineering
Mohd Faizal Mohamed Nor
☎ +606 974 2016 ✉ mohdfaizal@uthm.edu.my

Educational Objectives (PEO)

These are the PEOs for Diploma in Electrical Engineering:

- PEO 1 Graduates are competent in Electrical Engineering field to fulfil the needs of organization and industry
- PEO 2 Graduates demonstrate professionalism, ethics and sustainable values in electrical engineering practice.
- PEO 3 Graduates have a vision of developing their self and careers through lifelong learning or involve in the technopreneurs sector.

Programme Learning Outcomes (PLO)

These are the PLOs for the Diploma in Electrical Engineering:

PLO	Domains	PLO Statement
1	Engineering Knowledge	Apply knowledge of applied mathematics, applied science, computing and engineering fundamentals and an electrical engineering as specified in DK1 to DK4 respectively to wide practical procedures and practices;
2	Problem Analysis	Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to electrical engineering activities (DK1 to DK4);
3	Design / Development of solutions	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, as well as cultural, societal, and environmental considerations as required (DK5)
4	Investigation	Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements (DK8);
5	Tool Usage	Apply appropriate techniques, resources, and modern engineering computing and IT tools to well-defined engineering problems, with an awareness of the limitations (DK2 and DK6);
6	The Engineering Technician and the World	Consider sustainable development impacts to society, the economy, sustainability, health and safety, legal frameworks, and the environment, in solving well-defined engineering problems
7	Ethics	Understand and commit to professional ethics and responsibilities and norms of technician practice and including compliance with national and international laws. Demonstrate an understanding of the need for diversity and

PLO	Domains	PLO Statement
8	Individual and Collaborative Team Work	Function effectively as an individual, and as a member in diverse and inclusive teams in multi-disciplinary, face-to-face, remote and distributed settings; (DK9)
9	Communications	Communicate effectively and inclusively on well-defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions;
10	Project Management and Finance	Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member or leader in a technical team and to manage projects in multidisciplinary environments.
11	Life Long Learning	Recognize the need for, and have the ability for i) independent and life-long learning for self-improvement and ii) critical thinking in the face of specialised technical knowledge; (DK8)

Curriculum Structure

Table 1: Summary of curriculum for Diploma in Electrical Engineering

Year	Semester	Course Code	Course	Credit	Total Credit
1	Special	UQU 11402	Integrity and Anti-Corruption	2	6
		UHB 10*02	Foreign Language	2	
		DAE 10102	Occupational Safety and Health	2	
	1	UQ* 1***1	Co-curriculum I	1	18
		UQI 10402/ UQI 11502	Islamic Studies/ Moral Studies	2	
		UHB 13002	Introduction to English Communication	2	
		DAE 13102	Physics for Electrical Engineering	2	
		DAE 13003	Algebra	3	
		DAE 12103	Electrical Principle	3	
		DAE 11102	Electrical Installation Laboratory	2	
		DAE 21403	Electrical Measurement & Instrumentation	3	
	2	UQx 1***1	Co-curriculum II	1	19
		UQI 11402	Philosophy and Current Issues	2	
		DAE 12003	Engineering Mathematic	3	
		DAE 20103	Computer Programming	3	
		DAE 11203	Circuit Analysis	3	
		DAE 21203	Digital Electronic	3	
		DAE 22402	Electrical Power System	2	
		DAE 22502	Computer Aided Design Laboratory	2	
2	1	DAE 22202	Engineering in Society	2	18
		DAE 21303	Electronic	3	
		DAE 32303	Electrical Machines and Drives	3	
		DAE 32203	Microcontroller	3	
		DAE 32603	Communication Engineering	3	
		DAE 32103	Control System	3	
		DAE 31001	Electrical Engineering Project I	1	
	2	UHB 23002	English for Career Development	2	19
		DAE 22203	Technopreneurship	3	
		DAE 23602	Statistic	2	
		DAE 31203	Industrial Automation	3	
		DAE 33403	Power Transmission and Distribution Technology	3	
		DA* ***03	Elective Course*	3	
		DAE 31103	Electrical Engineering Project II	3	
3	1	DAE 23910	Industrial Training	10	10
				Total	90

Elective Courses

Course Code	Course
DAE 33103	Internet of Things
DAE 33203	Renewable Energy Technology
DAE 33303	Robotic Technology
DAM 25003	Additive Manufacturing
DAC 22703	Introduction to Site Supervisory

Synopsis of University Courses

UQU 11402 Integrity and Anti-corruption

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.

References

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.

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 11502 Moral Studies

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.

UHB 13002 Introduction to English Communication Synopsis

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

UHB 23002 English for Career Development

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, teamwork, 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, ISBN 978-967-19771, 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, ISSN 1368-8375.
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,
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
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.

UHB 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

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 Center Core Course

DAE 10102 Occupational Safety and Health

Synopsis

Introduce students to knowledge and skills in occupational safety and health in workplace. Scope of study includes Health, Safety and Environment Managements: introduction to OSH, OSHA 1994 (Act 514), FMA 1967, EQA 1974, occupational safety and health management system, safety, health and environment culture; Risk Management and Assessment: introduction to risk management, risk assessment techniques, HIRARC; Physical Injury & Controls: introduction to physical injury, construction work, electrical work, mechanical work, chemical work; Health Hazards: introduction to health hazards & hygiene, chemical hazards, physical hazards, biological hazards, hygiene; Accident Investigation & Reporting: introduction, 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. Tony Boyle. (2019) Health and Safety: Risk Management. 5 th Ed. London: Taylor and Francis Group.Call number: T55. B69 2019
3. Mark A. Friend and James P. Kohn. (2018). Fundamentals of occupational safety and health. 7th ed. Lanham: Bernan Press. Call number: T55. F74 2018.
4. Stig Ole Johnsen, & Thomas Porathe. (2021). Sensemaking in Safety Critical and Complex Situations: Human Factors and Design. CRC Press.
5. Malaysia, Legal Research Board. (2019). Occupational Safety and Health Act 1994 (Act 514) and regulations and orders. International Law Book Services. Call number: KPG1390 .M34 2019

DAE 22203 Technopreneurship

Synopsis

This course provides a comprehensive understanding of the fundamentals of technopreneurship for launching a starting up an entrepreneurial venture. Topics include assessing the process of identifying business opportunities, idea generation, exploring the economic environment for new business ventures, applying technology in entrepreneurship, social business models and developing sustainable business plans. By the end of the course, students will be exposed to various case studies of successful entrepreneurs and will be equipped with the tools and strategies to launch technology-driven ventures in a rapidly evolving global marketplace.

References

1. Kuratko, D. F. Entrepreneurship: Theory, process and practice. 11th Edition. Mason,OH: South- Western, Cengage Learning. 2020. ISBN-13: 9780357033890
2. Arshad, Azlin Shafinaz, Kamall Khan, Yasmin, Zainal Abidin, Zanariah, Mohammad Kamaruddin, Laila, Syed Marzuki, Sharifah Zannierah. (2022). UiTM Press, Shah Alam, Selangor. ISBN 9789673638376

3. Zulnaidi Yaacob. Keusahawanan: Ekosistem dan Prestasi. Penerbit USM. 2023. ISBN 9789674617578
4. Kyriaki Papageorgiou & Olga Kokshagina. Envisioning the Future of Learning for Creativity, Innovation and Entrepreneurship. De Gruyter. 2022. ISBN:9783110752205
5. Collavo, T. (2022). Foundations of Social Entrepreneurship: Theory, Practical Tools and Skills (1st ed.). Routledge. <https://doi.org/10.4324/9781003121824>

DAE 13003 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. Related topics are Real Number: Set for real numbers. Exponent, radicals, and logarithm. Polynomial: Quadratics equation. Inequalities and absolute value. Partial Fraction. Numerical methods solving non-linear equations: bisection and secant methods. Sequence and Series: Sequence. Arithmetic and geometric series and binomial expansion. Trigonometry: Trigonometric ratios of any angles and trigonometric equation. Matrices: Arithmetic operations. Row operations. System of linear equations: inverse matrices, Gauss Jordan elimination and numerical solution: Gauss-Seidel method. Vector: Dot and cross product. Equation of a Line and plane. Complex Number: Polar form. Euler form. De Moivre theorem.

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: 9781372822291
3. Miller, M. (2014) Beginning algebra. New York: McGraw-Hill. ISBN : 9780073384481
4. Nafisah@Kamariah Md. Kamaruddin et. al. (2010). DAS 10103 Algebra. Centre for Science Studies, UTHM Publisher.
5. Raji et al. (2002) Matematik asas. Skudai, Johor, Malaysia: Penerbit Universiti Teknologi Malaysia. ISBN: 98302567

DAE 13102 Physic for Electrical Engineering

Synopsis

This course will interactively engage students cognitively and scientifically in areas of fundamental physics, electricity, and magnetism. Related topics are units and measurements units; scalar and vectors; kinematics; work, energy and power; heat; electric field; electric potential; current and resistance; magnetism.

References

1. Giambattista, A., Richardson, B. M., Richardson, R. C. (2007). College Physics 2nd Ed. New York: Mc Graw Hill. QC21.3. G52 2007
2. Serway, R. A., Faughn, J. S., Moses, C. J. (2006). College Physics. 6th Ed. USA: Pacific Grove, CA: Thomson Learning. QC21.3. S47 2006 v.2

4. Kramer, L. (2007). College Physics. 8th ed. San Francisco, CA: Pearson. QC23.2. K72 2007
5. Thomas L.Floyd (2009). "Principles of Electric Circuits Conventional Current Version" 7th Edition. Prentice Hall (TK454.F56 2007)

DAE 12003 Engineering Mathematics Synopsis

Synopsis

This course explains in detail topics related to calculus. The first topic describes the limit of a function, one-sided limit, infinite limit, limit at infinity and continuity. Further topics are differentiation and integration techniques as well as their application like rate of change, L'Hopital's rule, area of bounded region, volume and surface area. The topic followed by Laplace transform including the inverse Laplace transform. Finally, the students will gain knowledge on applications of Laplace transform.

References

1. Mendelson, Elliott. 2022. Schaum's Outline of Calculus. 7th ed. New York: McGraw Hill. <https://www-accessengineeringlibrary-com.ezproxy.uthm.edu.my>
2. Abd. Wahid Md. Raji. (2018). Differential Equations for Engineering Students. Johor Bahru. UTM Publication. TA347.A32 2018.
3. Roland E. L. (2014). Calculus. Boston, MA: Brooks Cole, Cengage Learning. [QA303.2. L377 2014]
4. Arif, Mohamed. (2013). Calculus. Oxford, U.K: Alpha Science Int'l. [QA303.2 A74 2013] John, B (2014). Engineering Mathematics 7th Edition. London: Routledge. TA330.B57 2014.
5. Srimanta P. and Subodh C. B. (2015). Engineering Mathematics. New Delhi: Oxford Univ Press. [TA330.P35 2015]

DAE 23602 Statistic

Synopsis

The course covers topics such as 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. Potter, M. C., Nelson, E. W., Best, C. L., & McLean, W. G. (2021). Statics. McGraw-Hill
2. Meriam, J. L., Kraige, L. G., & Bolton, J. N. (2020). Statics, John Wiley & Sons, Inc.

3. Nafisah@Kamariah Md. Kamaruddin et al. (2015). Statistics (DAS20202). Pusat Pengajian Diploma, UTHM Publisher.
4. Wadpole - Mayer. Probability And Statistics for Engineers and Scientists. Prentice Hall. 2007. TA340. W35 2007
5. Douglas C. Montgomery & George C. Runger (2011). Applied Statistics and Probability for Engineers. John Wiley. QA276.12 .M664 2011

DAE 22202 Engineering in Society

Synopsis

This course explores the holistic relationship between engineering and society. It aims to equip students with a comprehensive understanding of the ethical, social, and environmental implications of engineering practices. By examining historical and contemporary case studies, students will develop critical thinking skills and a sense of professional responsibility.

References

1. Professional Practice in Engineering and Computing: Preparing for Future Careers by Riadh Habash, Taylor & Francis Group (2019)
2. Kosky, Philip Balmer, Robert Keat, William Wise, George. (2021). Exploring Engineering - An Introduction to Engineering and Design (5th Edition) - 1.3 What Do Engineers Do?, (pp. 4). Elsevier. Retrieved from <https://app.knovel.com/hotlink/pdf/id:kt012RMFS1/exploring-engineering/what-do-en-engineers>
3. 3) Gulati, Ramesh. (2021). Maintenance and Reliability Best Practices (3rd Edition) - 12.3.6.2 ISO 26000:2010 Social Responsibility. (pp. 610). Industrial Press. Retrieved from <https://app.knovel.com/hotlink/pdf/id:kt012RU9P1/maintenance-reliability/iso-26000-2010-social>

DAE 12103 Electrical Principles

Synopsis

This course aims at developing an understanding of electrical laws and quantities in direct current (DC) and alternating current (AC) circuits, together with their applications. Topics include concepts of electrical measurements; voltage, current, and resistance; electric circuits; series circuits, parallel circuits, series and parallel circuits; principle of magnetism; magnetic circuits; fundamentals of AC circuits and basic transformer fundamentals.

References

1. Zaurin Ali, Azli Yusop, Mohd Kamal Jaafar, Mohd Sabani Mohd, Norhafiza Samion & Ziana Che Ros (2017). "Electrical Technology" Module DAE11003 (08-0212)
2. Thomas L.Floyd (2009). "Principles of Electric Circuits Conventional Current Version" 7th Edition. Prentice Hall (TK454.F56 2007)
3. Edward Huges Revised by John Hiley, Keith Brown, Ian McKenzie (2005) "Electrical and Electronic Technology" 9th. Edition. Pearson (TK146.H83.2005)
4. Charles K. Alexander, Mathew N. O. Sadiku (2009). "Fundamentals of Electric Circuits" 4th edition. MGH (TK454.A43 2009)

5. Thomas L. Floyd, David M. Buchla (2010) "Electric Circuits Fundamentals" 8th edition. Prentice Hall (TK454.F56 2010)

DAE 11102 Electrical Installation Laboratory

Synopsis

The course provides students with basic skills in electrical engineering laboratories, such as assembling, installing, inspecting, and testing electrical installations and wiring. Topics include safety, electrical wiring accessories, domestic and industrial wiring systems, electrical wiring plans and designs, and cost estimation.

References

1. Md. Nasir Abd Manan (2004). Panduan Pendawaian Elektrik Domestik: I.E.E Edisi 16 BS7671:1992 Pindaan 2, 1997. Petaling Jaya: IBS Buku. Shelf No: TK9901
2. .M52 2004 a
3. Linsley, Trevor (2008). Basic Electrical Installation Work, 5th ed. Oxford: Newnes. Shelf No: TK452. L564 2008.
4. Linsley, Trevor (2008). Advanced Electrical Installation Work, 5th ed. Oxford: Newnes. Shelf No: TK452. L564 2008. Shelf No: TK452. L56 2008
5. Smith, Robert L.; Herman, Stephen L. (2008). Electrical Wiring Industrial, 13th ed. Clifton Park, NY: Delmar Cengage Learning. Shelf No: TK3283. S64 2008
6. Stokes, Geoffrey; Bradley, John (2009). A Practical Guide to the Wiring Regulations: 17th Edition IEE Wiring Regulations (BS 7671:2008). Boca Raton: CRC. Shelf No: TK3275. S76 2009

DAE 21403 Electrical Measurement and Instrumentation

Synopsis

This course aims at developing the understanding and skills in the application of electrical and electronic instrumentation as well as measurement principles in electrical and electronic engineering. Related topics are error and measurement; DC and AC analogue meters; digital meters; calibration procedures; bridge instrument; oscilloscope: construction and operation, waveform measurement and analysis; sensors and transducers: characteristics and applications.

References

1. Jones L D, Chin A F, Electronic Instruments and Measurements, Prentice-Hall, 2008. Shelf No. TK7878.B42 2008
2. Tumanski, Slawomir (2006) Principles of Electrical Measurement. Boca Raton, FL: Taylor and Francis. Shelf No: TK275. T85 2006
3. Cheatle, Keith (2006). Fundamentals of Test Measurement Instrumentation. Research Triangle Park, NC: ISA-Instrumentation, Systems, and Automation Society. Shelf No: TK7878.4 .C43 2006.
4. Bhavani, V. (2008). Measurement and Instrumentation. Petaling Jaya: IBS Buku. Shelf No: TK7878. B42 2008.
5. Ghosh, Arun K. (2008). Introduction to Measurements and Instrumentation, 2nd ed. New Delhi: Prentice-Hall. Shelf No: TA165. G46 2007

DAE 20103 Computer Programming

Synopsis

This course introduces the programming development environment and enhances their skills in problem solving and program coding related to the electrical engineering field. Topics covered are software development method, introduction to C++ programming language. Control structures; functions; array; string; pointer and structures.

References

1. P.J. Deitel and H.M. Deitel (2010). C How to Program 6th Ed, Pearson International Edition. QA76.73.C15. D45 2010
2. J.R. Hanly; E.B. Koffman (2009). Problem Solving and Program Design in C, Pearson International Edition.
3. Allert, James (2009). Programming with Visual C++: Concepts and Projects. Boston, MA: Course Technology. Shelf No: QA76.73.C153. A44 2009
4. Malik, D. S. (2009). Introduction to C++ Programming. Boston, MA: Course Technology. Shelf No: QA76.73.C153 .M346 2009
5. Ling, Huo Chong (2009). C Programming for Beginners. Kuala Lumpur: Prentice Hall. Shelf No: QA76.73.C15 .C74 2009

DAE 11203 Circuit Analysis

Synopsis

This course provides a comprehensive introduction of electric circuits, including circuit analysis techniques and its laws. Related topics are circuit elements which covers the units in electrical measurement, voltage and current, power and energy; analyzing the resistive circuits using Ohm's Law and Kirchhoff's Law in series/parallel circuits; circuit analysis using mesh analysis and nodal analysis; network theorems using superposition, Thevenin and Norton; maximum power transfer; inductor, capacitor and mutual inductance; first-order circuits – transient response and steady state analysis for RL and RC circuits; AC circuits – sinusoidal and phasor wave, impedance and admittance; AC power analysis.

References

1. Alexander, Charles K.; Sadiku, Matthew N. O. (2009). Fundamentals of Electric Circuits, 4th ed. Boston: McGraw-Hill. Shelf No: TK454. A43 2009
2. Nilsson, James William; Riedel, Susan A. (2011). Electric Circuits, 9th ed. Boston: Prentice Hall. Shelf No: TK454. N54 2011
3. Irwin, J. David; Nelms, R. Mark (2011). Engineering Circuit Analysis, 10th ed. Hoboken: John Wiley. Shelf No: TK454. I78 2011
4. Dorf, Richard C.; Svoboda, James A. (2011). Introduction to Electric Circuits, 8th ed. Shelf TK454. D67 2011
5. Boylestad, Robert L. (2010) Introductory Circuit Analysis 12th ed. Shelf No: TK454. B69 2010.

DAE 21203 Digital Electronics

Synopsis

This course provides knowledge and understanding of basic combinational logic circuits as well as their applications. Related topics are Introduction to digital, Number systems and codes. Codes and Digital Arithmetic; Basic gates and combinational logic circuit; Boolean Algebra and logic simplification; Combination logic function; Latch and flip-flop; Counters and registers functions: A hands-on laboratory is included in which students work in teams.

References

1. Floyd, Thomas L. (2009). Digital Fundamentals, 10th ed. Indianapolis, IN: Pearson. Shelf No: TK7868.D5. F564 2009
2. Mandal, Soumitra Kumar (2010). Digital Electronics: Principles and Applications. New Delhi: Tata McGraw Hill. Shelf No: TK7868.D5 .M36 2010
3. Tokheim, Roger L. (2008). Digital Electronics: Principles and applications, 7th ed. New York McGraw-Hill. Shelf No: TK7868.D5. T644 2008
4. Tocci, Ronald J.; Widmer, Neal S.; Moss, Gregory L. (2011) Digital Systems: Principles and Applications, 11th ed. Upper Saddle River, NJ.: Prentice Hall. Shelf No: TK7868.D5. T62 2011

Kharate, G. K. (2010). Digital Electronics. New Delhi: Oxford University Press. Shelf No: TK7868.D5. K42 2010
Mark A. Atwater, 2019. "Materials and Manufacturing: An Introduction to How They Work and Why It Matters," 1st Edition, McGraw Hill

DAE 22402 Electrical Power System

Synopsis

This course introduces the concept of electrical power system. The topics covered are introduction to basic electrical power systems, electrical energy generation, basic concepts of circuit analysis, distribution of electrical energy and damage analysis.

References

1. Fardo, Stephen W.; Patrick, Dale R. (2009). Electrical Power Systems Technology, 3rd ed. Lilburn, GA: Fairmont. Shelf No: TK1001. F37 2009
2. Wadhwa, C. L. (2009). Electrical Power Systems. Tunbridge Wells, KY: New Age Science. Shelf No: TK1001. W32 2009
3. Bandyopadhyay, M. N. (2006). Electrical Power Systems: Theory and Practice. New Delhi: Prentice-Hall of India. Shelf No: TK1005. B36 2006
4. Glover, J. Duncan; Sarma, Mulukutla S.; Overbye, Thomas J. (2007). Power System Analysis and Design, 4th ed. Victoria: Thomson. Shelf No: TK1005. G56 2007
5. Gill, Paul (2009). Electrical Power Equipment Maintenance and Testing, 2nd ed. Boca Raton, FL: CRC. Shelf No: TK401. G54 2009

DAE 22502 Computer Aided Design Laboratory

Synopsis

This course aims to develop skills in electronic simulation and design with the aid of computer design software. Emphasize on the fundamental electronic design simulation, printed circuit board design and electrical drawing using computer aided engineering tools.

References

1. Muhammad H. Rashid (2004). Introduction to PSpice Using OrCAD for Circuits and Electronics, 3rd ed. Upper Saddle River, NJ: Prentice Hall. Shelf No: TK454.M83 2004
2. Mitzner, Kraig (2009). Complete PCB Design Using OrCAD Capture and PCB Editor. Boston: Newnes. Shelf No: TK7868.P7 .M57 2009
3. Stephen J. Ethier; Christine A. Ethier. Instant AutoCAD : essentials. OPENACCS. Call No.: T385 .E73 2000
4. Sidek,Azmi. (2010). Modul Rekabentuk Berbantu Komputer. Penerbit UTHM
5. Robbins, Allan H., Miller, W.C (2004).Circuit Analysis: Theory and Practice, 3rd Edition; Thomson Learning.
6. CAD/CIM Technologies; Sham Tickoo. AutoCAD Electrical 2024: A Tutorial Approach, 5th Edition

DAE 22202 Engineering in Society

Synopsis

This course explores the holistic relationship between engineering and society. It aims to equip students with a comprehensive understanding of the ethical, social, and environmental implications of engineering practices. By examining historical and contemporary case studies, students will develop critical thinking skills and a sense of professional responsibility.

References

1. Professional Practice in Engineering and Computing: Preparing for Future Careers by Riadh Habash, Taylor & Francis Group (2019)
2. Kosky, Philip Balmer, Robert Keat, William Wise, George. (2021). Exploring Engineering - An Introduction to Engineering and Design (5th Edition) - 1.3 What Do Engineers Do?, (pp. 4). Elsevier. Retrieved from <https://app.knovel.com/hotlink/pdf/id:kt012RMFS1/exploring-engineering/what-do-engineers>
3. Gulati, Ramesh. (2021). Maintenance and Reliability Best Practices (3rd Edition) - 12.3.6.2 ISO 26000:2010 Social Responsibility. (pp. 610). Industrial Press. Retrieved from <https://app.knovel.com/hotlink/pdf/id:kt012RU9P1/maintenance-reliability/iso-26000-2010-social>

DAE 21303 Electronics

Synopsis

This course introduces electronic principles related to the analysis and operation of basic amplifiers, and basic electronic devices (diodes, BJT and FET transistors) used in electronic systems. Related topics are semiconductor – characteristics, diode models and other types; theory and diode application – rectifier, filter and regulator, limiter and clamper; Bipolar Junction Transistor (BJT) – characteristics and parameter, bias circuits, AC model, voltage amplifier; JFET – characteristic and parameter, biasing, JFET amplifier, power amplifier- Class A, B, AB and C Amplifier; Oscillator – theory of sinusoidal oscillations, Colpitts Oscillator, Hartley Oscillator and 555 Timer.

References

1. Floyd, Thomas L. (2008). Electronic Devices, 8th ed. Upper Saddle River, NJ: Pearson. Shelf No: TK7870. F564 2008.
2. Malvino, Albert; Bates, David J. (2007). Electronic Principles, 7th ed. Boston: McGraw-Hill. Shelf No: TK7816 .M34 2007
3. Schultz, Mitchel E. (2007). Grob's Basic Electronics, 10th ed. New York: McGraw-Hill. Shelf No: TK7816. S384 2007
4. Floyd, Thomas L. (2007). Electronics Fundamentals: Circuits, Devices and Applications, 7th ed.; Upper Saddle River, NJ.: Pearson. Shelf No: TK7816. F56 2007
5. Boylestad, Robert L.; Nashelsky, Louis (2006). Electronic Devices and Circuit Theory, 9th ed. Upper Saddle River, NJ: Pearson. Shelf No: TK7867. B69 2006

DAE 32303 Electric Machines and Drives

Synopsis

This course introduces the knowledge of electrical machines and drives. The topics include DC machine; structure, electromagnetic force, generation, characteristics, and speed control; transformer; parameter determination, equivalent circuit and losses; synchronous machine; structure and characteristics; special motor and single-phase motor; functional and operational concept and application; driver; DC and AC motor speed controller.

References

1. Wildi, Theodore (2006). Electrical Machines, Drives, and Power Systems, 6th ed. Upper Saddle River, NJ: Pearson. Shelf No: TK2182. W54 2006
2. Rajput, R. K. (2006). Electrical Machines, 4th ed. New Delhi: Laxmi Publications. Shelf No: TK2182. E43 2006
3. Salam, M. Abdus (2005). Fundamentals of Electrical Machines. Oxford: Alpha Science. Shelf No: TK2000. S34 2005
4. Kissell, Thomas E. (2003). Industrial Electronics: Applications for Programmable Controllers, Instrumentation and Process Control, and Electrical Machines and Motor Controls, 3rd ed. Upper Saddle River, NJ: Prentice Hall. Shelf No: TK7881. K57 2003
5. Herman, Stephen L. (2010). Industrial Motor Control, 6th ed. Clifton Park: Delmar Cengage Learning. Shelf No: TK2851 .H47 2010

DAE 32203 Microcontroller

Synopsis

This course aims at developing a comprehensive understanding of the architecture, programming, interfacing, and applications of microcontrollers. Topics covered are concepts of microcontroller, microcontroller architecture, memory unit, CPU, bus, I/O unit, communication, timer unit, AD conversion, PWM, C programming language, type of sensors and hardware interfacing.

References

1. Rafiquzzaman, M. (2011). Microcontroller Theory and applications With The PIC18F. Hoboken, N.J.: John Wiley & Sons Inc. Shelf No: TK7895.E42. R33 2011.
2. Lucio, D. J. (2012). Programming 16-Bit Microcontroller in C, 2nd ed. United States of America: Newnes. Shelf No: TJ223 P76. D54 2012
3. Martin, B (2011). PIC Microcontrollers an Introduction to Microelectronics, 3rd ed. United States of America: Newnes. Shelf No: TJ223. P76. B374 2011
4. Sandhu, H. S. (2009). Making PIC Microcontroller Instruments & Controllers, United States of America: McGraw Hill. Shelf No: TJ 223. P76. S28 2009
5. Simon Monk (2014). Programming Arduino Next Steps: Going Further with Sketches, Mc Graw Hill Education

DAE 32103 Control System

Synopsis

This course aims at developing an in-depth understanding of the concepts, theory and applications of basic technologies in control systems engineering. The topics covered are introduction to control engineering; open and closed loop control systems; types of analogue control systems; modelling of electrical, mechanical, and electromechanical systems; digital control systems; introduction to process control elements.

References

1. Nise, Norman S. (2011). Control Systems Engineering, 6th ed. Hoboken, NJ: John Wiley & Sons. Shelf No: TJ213. N57 2011
2. Nagrath, I. J. (2008). Control Systems Engineering, 5th ed. Tunbridge Wells: Anshan. Shelf No: TJ213. N33 2008
3. Golnaraghi, M. F.; Kuo, Benjamin C. (2010). Automatic Control Systems, 9th ed. Hoboken, NJ: John Wiley. Shelf No: TJ213. K86 2010
4. Dorf, Richard C.; Bishop, Robert H. (2008). Modern Control Systems, 11th ed. Prentice Hall: Pearson. Shelf No: TJ216. D67 2008
5. Alavala, Chennakesava R. (2009). Principles of Industrial Instrumentation and Control Systems. Singapore: Cengage Learning Asia. Shelf No: TA165. A42 2009

DAE 32603 Communication Engineering

Synopsis

This course is about the exposure to the basic concepts in electronic communication systems including the introduction to communication systems, signal and noise, modulation schemes for analog and digital systems, signal transmission, antenna and communication systems application.

References

1. Ziemer, Rodger E.; Tranter, William H (2010). Principles of Communications: Systems, Modulation, and Noise, 6th ed. Hoboken, NJ: John Wiley. Shelf No: TK5105. Z54 2010
2. Fitz, Michael P. (2007). Fundamentals of Communications Systems. New York: MacGraw Hill. Shelf No: TK5101. F57 2007
3. Tomasi, Wayne (2004). Electronic Communications Systems: Fundamentals Through Advanced, 5th ed. Upper Saddle River, NJ: Pearson Education. Shelf No: TK5101. T65 2004
4. Frenzel, Louis E. (2008). Principles of Electronic Communication Systems, 3rd ed. New York: McGraw-Hill. Shelf No: TK5101. F744 2008
5. Carlson, A. Bruce; Crilly, Paul B. (2010). Communication Systems: An Introduction to Signals and Noise in Electrical Communication, 5th ed. Boston: McGraw-Hill. TK5102.5 C37 2010

DAE 31203 Industrial Automation

Synopsis

This course introduces the concept of industrial automation system. The topics covered are introduction to basic industrial automation, automation system and programmable logic controller.

References

1. Sharma, Kls., (2011). Overview of Industrial Process Automation, Elsevier. [TS182. S52 2011]
2. Niku, Saeed (2011). Introduction to Robotics: Analysis, Control, Applications, 2nd ed. Indianapolis, IN: Wiley. [TJ211. S24 2011]
3. Gupta, A.K., Arora, S.K., (2016). Industrial Automation and Robotics: An Introduction, Mercury Learning & Information.
4. Manesis, S. Nikolakopoulos, G., (2018). Introduction to Industrial Automation, CRC Press, Taylor & Francis Group.
5. Miller, Rex. & Miller, M.R., (2017). Robots and Robotics: Principles, Systems, and Industrial Applications, McGraw Hill Professional.

DAE 33403 Power Transmission and Distribution Technology

Synopsis

The course aims to provide knowledge and understanding of power transmission and distribution technology, with a focus on the fundamentals of power transmission and distribution theory. Key topics include the components of transmission and distribution systems, types of conductors and insulators, the electrical and mechanical design of overhead transmission lines, and techniques for power factor improvement. Additionally, the syllabus introduces AC distribution systems and underground cables.

References

1. Sioshansi, Fereidoon P. 4th Distributed Generation and Its Implications For The Utility Industry. Kidlington, Oxford : Academic Press, 2014. Call Number : TK1006.D58 2015. Mehta, V. K. Principles of Power System : Including

- Generation, Transmission, Distribution, Switchgear and Protection. New Delhi : S. Chand, 2017.
2. Momoh, James. Smart Grid : Fundamentals of Design and Analysis. Hoboken, N.J. : Wiley, 2012. Call Number : TK3226 .M65 2012.
 3. Grigsby, Leonard L. Electric Power Generation, Transmission, and Distribution. Boca Raton, FL : CRC Press, c2012. Call Number : TK1001 .M43 2012
 4. Bakshi, U. A. Transmission and Distribution of Electrical Power. Technical Pub, 2009. Call Number : TK3226 .R34 2009
 5. Mehta, V. K. Principles of Power System : Including Generation, Transmission, Distribution, Switchgear and Protection. New Delhi : S. Chand, 2009. Call Number : TK1001 .M43 2009

DAE 31001 Electrical Engineering Project I

Synopsis

This course is the first part of a 2-part Final Year Electrical Engineering Diploma Project. In this course, students are introduced to multiple types of electrical engineering technologies, methodologies of research and project development through a series of lectures. Hopefully after this introduction students are able to select the best project suited to industrial trends and standard. Students are required to form a project team group consisting of a number of students as per department requirement. Students are guided through step-by-step practice to complete the initial stages of proposal, planning and design of a project. Students must also meet regularly with supervisor(s) who will monitor their continuous progress. Students are required to prepare a report and present their initial work at the end of semester.

References

1. Panduan Pelaksanaan Projek Akhir Diploma, PPD
2. Books, journals and other information which relates with the research project

DAE 31103 Electrical Engineering Project II

Synopsis

This course is the second part of a 2-part Final Year Electrical Engineering Diploma Project. In this course, students are required to continue the next phase of their project development from Final Year Electrical Engineering Diploma Project 1. Student are required to develop the solution by applying all their electrical engineering knowledge and techniques based on previous project proposal. The project should be tested and verified by using standard industry practice. Students must meet regularly with supervisor(s) who will monitor their continuous progress. Students are required to prepare a final report and present their final product.

References

1. Panduan Pelaksanaan Projek Akhir Diploma, PPD
2. Books, journals and other information which relates with the research project

DAE 23910 Industrial Training

Synopsis

Students are to undergo industrial training in the electrical engineering field for 20 weeks. They will be trained by the agency/organization such as planning, management, design, field investigation, evaluation, and assessment in related industries.

References

1. Pejabat Hubungan Universiti dan Industri, (2012) Industrial Training Guidebook (Bachelor and Diploma Programme), UTHM

Synopsis of Center Elective Course

DAE 33103 Internet of Things

Synopsis

This course introduces the fundamental concepts and applications of the Internet of Things (IoT). It covers the essential building blocks of IoT systems, including sensors, actuators, connectivity protocols, and data processing techniques. Topics covered include various IoT architectures, network technologies, and the role of cloud computing in IoT. The course includes a hands-on workshop with activities like programming ESP32, using Node-RED, and connecting IoT devices to platforms like ThingSpeak and Blynk. Topics include Industry 4.0, interfacing ESP32 with sensors, the MQTT protocol, creating dashboards, and sending data to cloud platforms.

References

1. Langbridge, James A.(2015). Arduino sketches : tools and techniques for programming wizardry. Indianapolis, IN : John Wiley and Sons. Shelf No: TJ223.P76 .L36 2015
2. Rafiquzzaman, M.(2011). Microcontroller Theory and applications With The PIC18F. Hoboken, N.J.: John Wiley & Sons Inc. Shelf No: TK7895.E42 .R33 2011
3. Lucio, D. J. (2012). Programming 16-Bit Microcontroller in C, 2nd ed. United States of America: Newnes. Shelf No: TJ223 .P76 .D54 2012
4. Martin, B (2011). PIC Microcontrollers An Introduction to Microelectronics, 3rd ed. United States of America: Newnes. Shelf No: TJ223 .P76 .B374 2011
5. Simon Monk (2014). Programming Arduino Next Steps: Going Further with Sketches, Mc Graw Hill Education.

DAE 33203 Renewable Energy Technology

Synopsis

This course covers renewable energy advancements, including key technologies, policies, and challenges. Students will learn about different energy sources, their impact on power systems, and how to integrate them for sustainable solutions.

References

1. Mamdouh E. H. A. and Marc A. R. (2021) Design and Performance Optimization of Renewable Energy Systems [<https://doi.org/10.1016/C2019-0-03733-8>]
2. Aldo V. R. and Juan C. O. (2022) Fundamentals of Renewable Energy Processes [<https://doi.org/10.1016/C2015-0-05615-5>]
3. Mejdí J. (2021) Recent Advances in Renewable Energy Technologies [<https://doi.org/10.1016/C2020-0-00529-3>]
4. Kamran M. and Fazal M. R. (2021). Fundamentals of Renewable Energy Systems [<https://doi.org/10.1016/C2019-0-05410-6>]
5. Henrik L. (2024) Renewable Energy Systems [<https://doi.org/10.1016/C2022-0-02551-4>]

DAE 33303 Robotic Technology

Synopsis

This course explore an in-depth robotic technology from foundation principles to advanced applications. The topics cover the introduction of robotics, robotic technology, operating system and ethic and regulation.

References

1. Miller, Rex. & Miller, M.R., (2017). Robots and Robotics: Principles, Systems, and Industrial Applications, McGraw Hill Professional.
2. Niku, Saeed (2011). Introduction to Robotics: Analysis, Control, Applications, 2nd ed. Indianapolis, IN: Wiley. [TJ211. S24 2011]
3. Gupta, A.K., Arora, S.K., (2016). Industrial Automation and Robotics: An Introduction, Mercury Learning & Information.

DAM 25003 Additive Manufacturing

Synopsis

This course introduces students to the principles and applications of Additive Manufacturing (AM), a transformative technology in engineering that allows for the creation of complex designs and customized products. Key topics include the fundamentals of various 3D printing technologies like Fused Deposition Modeling (FDM) and Stereolithography (SLA), and the classification of AM processes such as Material Jetting and Powder Bed Fusion. Students will gain both theoretical knowledge and practical skills through laboratory sessions, where they will create 3D models, generate STL files, and fabricate parts using AM machines. The course emphasizes sustainability, the integration of Industry 4.0 principles, and the evaluation of AM parts to ensure quality and suitability for applications. By the end of the course, students will be prepared to effectively apply additive manufacturing techniques to solve modern manufacturing challenges and implement solutions that meet industry and community needs while fostering innovation and considering ethical implications in their designs.

References

1. Venkata, R. M., Ravi K. B. V. R., Akhil, C., Vikramaditya, M., Shashank, V., (2024). Optimization of FDM Print Parameters for Tensile Strength, Surface Roughness, and Additive Manufacturing of Automobile Component, Volume 1, Recent Advances in Additive Manufacturing, Proceedings of ICAM 2024, Springer Nature eBooks (<https://research.ebsco.com/c/ez2axm/search/details/zppyoxxgmv?limiters=None&q=Additive%20Manufacturing>)
2. Dewang, Y., Khan, A., Sharma, V., Mohan, S. R., (2024). Role of IOT in Additive Manufacturing, Volume 1, Recent Advances in Additive Manufacturing, Proceedings of ICAM 2024, Springer Nature eBooks (<https://research.ebsco.com/c/ez2axm/search/details/impzw7rhbf?limiters=None&q=Additive%20Manufacturing>)
3. Damir G., Joamin Gonzalez-Gutierrez, Axel N., Eujin P., Julia Ureña Alcázar, (2022). A Guide to Additive Manufacturing, ISBN: 978-3-031-05863-9; 978-3-031-05862-2, Springer Nature Switzerland AG. (<https://web.p.ebscohost.com/ehost/ebookviewer/ebook/bmxlYmtfXzM3MzUyNzV>)

[fX0FO0?sid=2cd852c9-7746-4635-9de966027e7c53e0@redis&vid=0&format=EB&rid=1\)](https://www.researchgate.net/publication/328852097_3D_printing_and_additive_manufacturing_principles_and_applications_4th_edition_New_Jersey_London_Singapore_Beijing_World_Scientific)

4. Chee Kai Chua, Murukeshan Vadkke Matham and Young-Jin Kim (2017). Lasers in 3D printing and manufacturing, Singapore : World Scientific [TS155.6 .C49 2017]
5. Chee Kai Chua, Kah Fai Leong (2015). 3D printing and additive manufacturing : principles and applications, 4th edition, New Jersey London Singapore Beijing World Scientific [TS155.6 .C48 2015]
6. Gibson, I. (2014). Additive Manufacturing Technologies, 2nd edition, Springer. [TS156.8 .G52 2015]

DAC 22703 Introduction To Site Supervisory

Synopsis

This course introduces students to the subset of project management, which is site supervisory (SS). Here, students will be exposed to the linkages between the project life cycle (PLC) and the SS, who is the site supervisor, and their roles, tasks, and responsibilities.

References

1. Hairuddin Mohammad, Padzil Fadzil Hassan and Siti Khalijah Yaman(2018) Construction Handbook Series (Project Management, Construction Management And Site Management), UTHM , 1, ISBN:9789672183082
2. Noor Khazanah A Rahman, Hasniza Abu Bakar, Siti Khalijah Yaman, Mohamad Luthfi Ahmad Jeni, Hannifah Tami & Rahmat Muslim(2021) BNC 31303 Pengurusan Projek, UTHM.
3. Siti Khalijah Yaman(2022) BFC 43201 Microsoft Project 01/07, UTHM
4. Peter Fewings (2012). Construction Project Management: An Integrated Approach, 2nd Edition. UK: Spon Press. (TH438 .F48 2012)
5. Robert K. Wysocki (2012). Effective Project Management: Traditional, Agile, Extreme, 6th Edition. USA: Wiley Publishing. (HD69.P75 .W98 2012)
6. Omar Osman (2010). Pengurusan Projek dan Kelestarian Titik Pertemuan. Pulau Pinang, Malaysia: Penerbit USM. (HD69.P75 .O52 2010)
7. Clarke, R. H. (1988). Site Supervision. London : Thomas Telford (TH438 .C53 1988)

Career and Further Education Prospect

Diploma Electrical Engineering is a study focused on the application of electrical engineering in the design, testing and development of electrical equipment for transmission systems, control of machines, appliances, and high-power systems. Graduates are prepared for their future role in the economy by building a solid foundation in technical knowledge and skills related to the field of electrical engineering. The program provides knowledge and skills in the field of electrical engineering that can be applied to a variety of careers in the majority of suppliers of power generation and the manufacturing industry.

Upon successful completion of the diploma course, the graduates have the opportunity to either further their study in the degree-level program or apply for a job in electrical and electronic engineering as a technician or an assistant engineer.

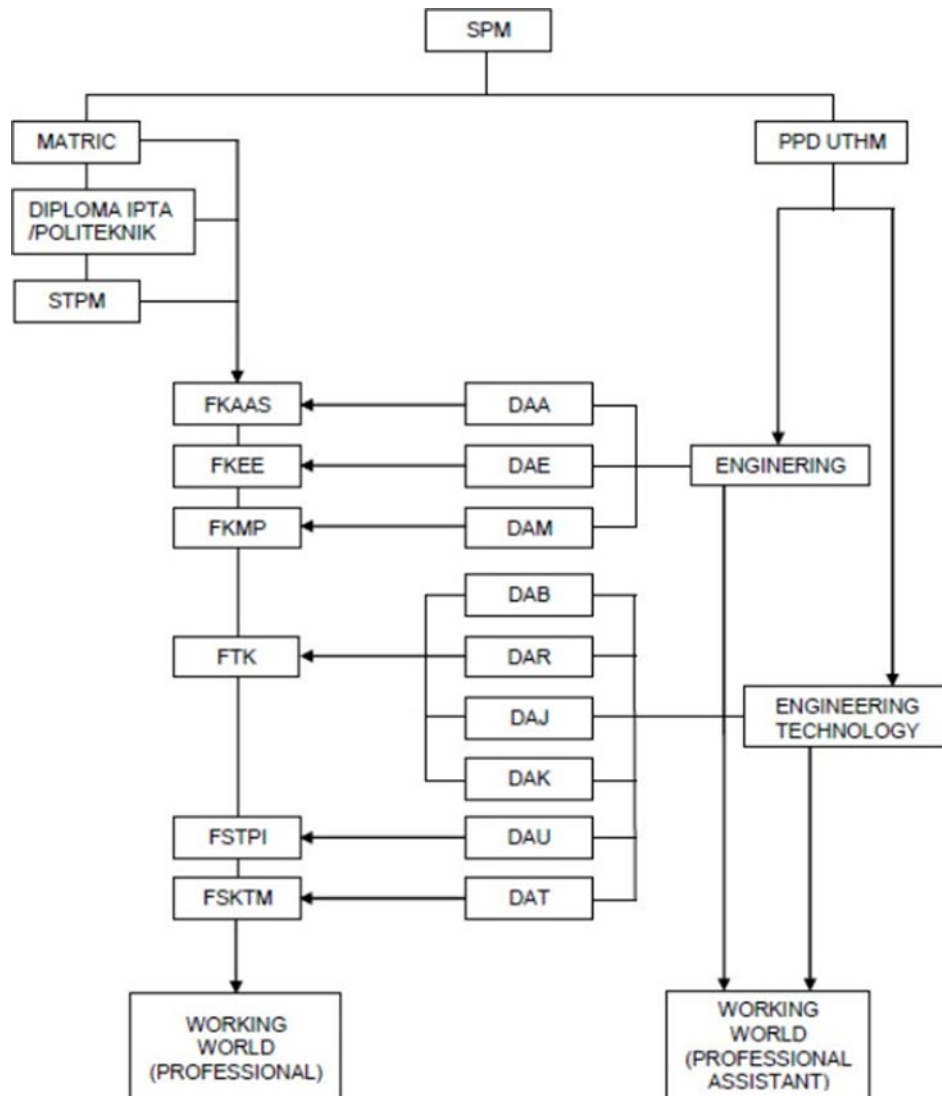
The graduates of this programme are eligible to begin their careers in these fields:

- Authority/ Utilities Example: Energy Commission, DOSH, Niosh, TNB, IPPs
- Engineering in manufacturing, consultancy, research & development and academic.
- Procurement and Business Development Example: Sales and Project
- Construction Examples: Project Management
- Testing and Commissioning

The figures below show examples of jobs and career pathways in the Centre of Diploma Studies (CeDS) UTHM and according to the Malaysian Qualification Framework (MQA).



Further Education Pathway



Legend:
 DAA – Diploma in Civil Engineering
 DAB – Diploma in Civil Engineering Technology
 DAE – Diploma in Electrical Engineering
 DAR – Diploma in Electrical Engineering Technology
 DAM – Diploma in Mechanical Engineering
 DAJ – Diploma in Mechanical Engineering Technology
 DAT – Diploma in Information Technology
 DAK – Diploma in Chemical Engineering Technology
 DAU – Diploma in Applied Sciences

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			