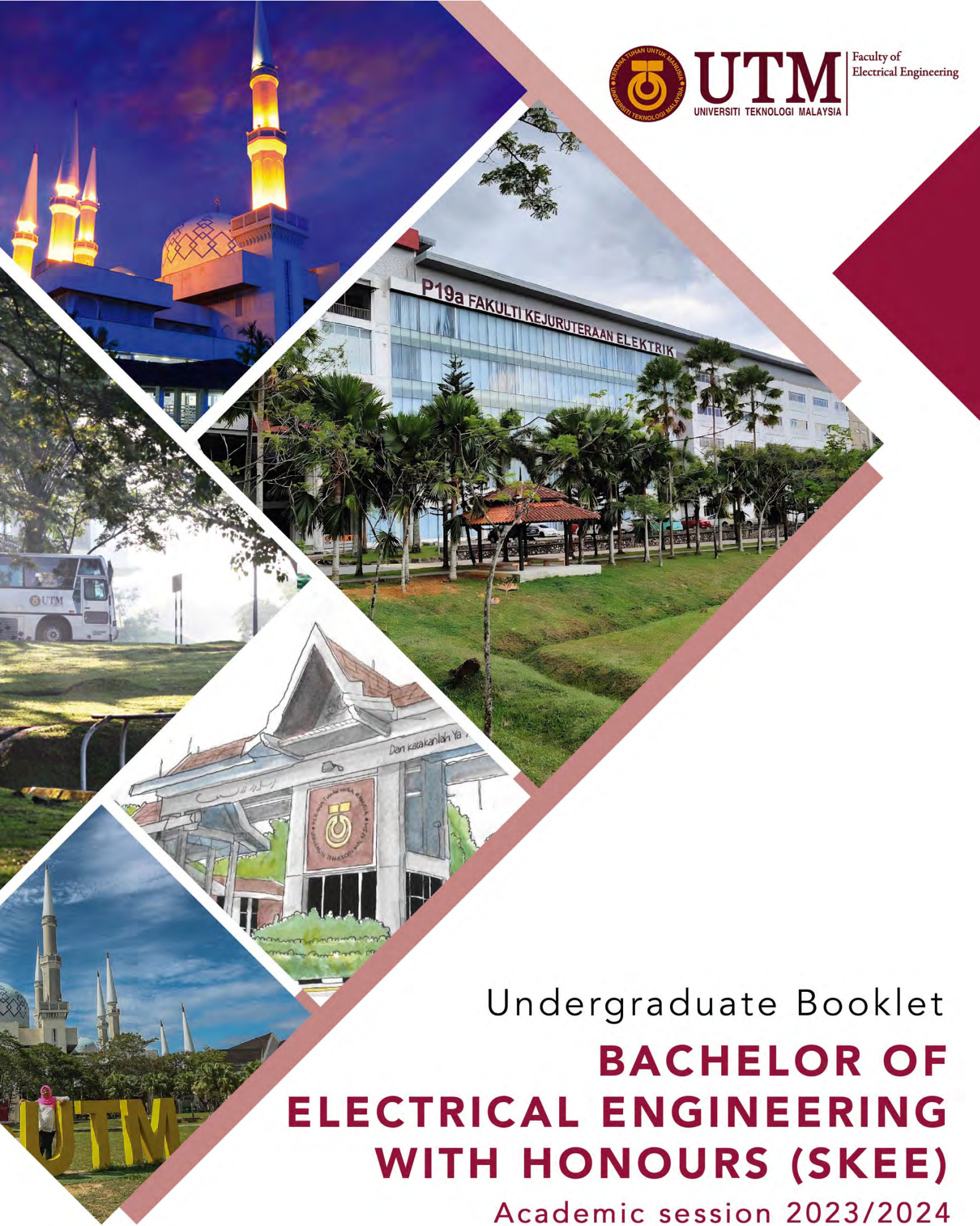




UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Faculty of
Electrical Engineering



Undergraduate Booklet
**BACHELOR OF
ELECTRICAL ENGINEERING
WITH HONOURS (SKEE)**

Academic session 2023/2024

Profile Page

BACHELOR OF ELECTRICAL ENGINEERING WITH HONOURS (SKEE)

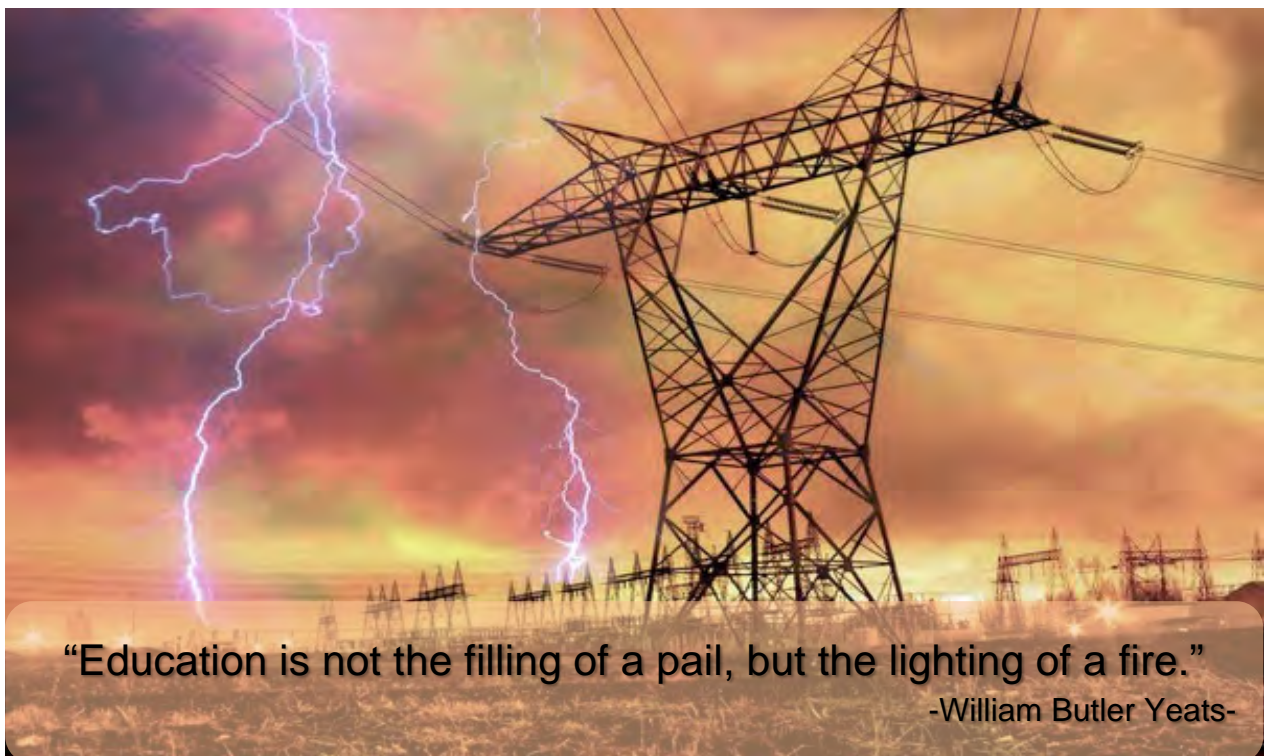
Name of Student : _____

Matric. No. : _____

Phone No. : _____

Email : _____

Name of Academic Advisor : _____



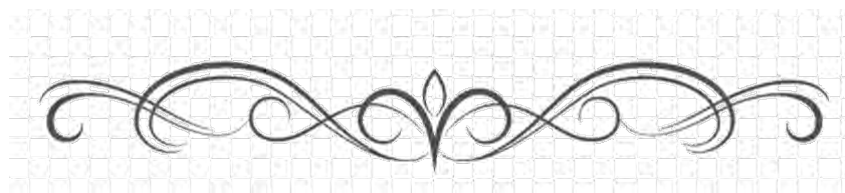
PROGRAMME GUIDELINES

The University adopts the semester system, for an academic year it is divided into two (2) normal semesters, namely Semester I and Semester II, and a short semester at the end of Semester II. New intake of undergraduate students is normally made during Semester I of an academic year. The minimum duration of the programme is 4 years (8 semesters).

All courses offered by the faculty have credits, except for courses which are approved by the University Senate. One (1) credit is equivalent to 14 hours of lectures or 30 hours of practical sessions (studio/project), in a semester. The total number of credits for the Bachelor of Electrical Engineering with Honours (SKEE) programme is 137 credits.

All students' performance and achievements are assessed formally. Normally, every course is assessed based on the coursework, which constitutes not less than 50% of the overall marks, and a final exam paper, which constitutes another 50%. Coursework can be in the form of homework, quiz, test, and presentation. Final examination is held at the end of each academic semester. Students' performance in a course is indicated by the letter grade, generally the passing grade for any course is a 'D+'. Students who failed a course (obtained a grade 'D' and below) are required to repeat the course the following semesters when it is offered. Students may improve the grade of any course with a 'B-' or lower grade with a maximum of 15 credits allowed. Subject to the Faculty and University's Academic Regulation, students may withdraw from a course within the stipulated period. Other information on academic regulation can be retrieved from UTM website (UTM Academic Regulations).

A student must pass all courses specified in his/her programme of study and fulfil all the requirements specified for his/her programme of study set by the Faculty and University in order to be awarded with the Bachelor degree.



Programme Learning Outcomes (PLO)

All undergraduate programme offered in FKE share a common Programme Learning Outcomes (PLO). After having completed the Bachelor degree programme, graduates should be able to demonstrate the following competencies:

PLO	PLO STATEMENTS
PLO1 (Engineering Knowledge)	Apply knowledge of mathematics, science, and electrical engineering to the solution of complex engineering problems. <i>Mengaplikasi pengetahuan matematik, sains dan kejuruteraan elektrik untuk penyelesaian masalah kejuruteraan yang kompleks.</i>
PLO2 (Problem Analysis)	Identify, formulate, and conduct research literature to analyse complex engineering problems using engineering knowledge. <i>Mengenalpasti, merumus dan menjalankan kajian literatur untuk menganalisa masalah kejuruteraan yang kompleks menggunakan pengetahuan kejuruteraan.</i>
PLO3 (Design)	Design solutions for complex engineering problems and design systems and processes that meet specified needs with appropriate consideration for public health and safety, culture, society, and environment. <i>Mereka bentuk penyelesaian untuk masalah kejuruteraan yang kompleks dan mereka bentuk sistem dan proses yang memenuhi keperluan spesifik dengan pertimbangan yang sesuai untuk kesihatan dan keselamatan awam, budaya, masyarakat dan alam sekitar.</i>
PLO4 (Investigation)	Perform research-based analysis, conduct experiments and interpret data for complex engineering problems. <i>Melakukan analisis berasaskan penyelidikan, menjalankan eksperimen dan mentafsir data untuk masalah kejuruteraan yang kompleks.</i>
PLO5 (Modern Tool Usage)	Apply engineering practice and use modern engineering, and IT tools for complex engineering problems with an understanding of the limitations of the technology. <i>Mengaplikasi amalan kejuruteraan dan menggunakan peralatan kejuruteraan dan IT yang moden untuk masalah kejuruteraan yang kompleks dengan pemahaman tentang batasan teknologi.</i>
PLO6 (Engineer & Society)	Comprehend the impact of global and contemporary issues, the role of engineers on society, including health, safety, legal and cultural issues, and the consequent responsibilities relevant to professional engineering practices and engineering problems. <i>Memahami kesan isu global dan kontemporari, peranan jurutera ke atas masyarakat, termasuk isu kesihatan, keselamatan, perundangan dan budaya, serta tanggungjawab yang berkaitan dengan amalan kejuruteraan profesional dan masalah kejuruteraan.</i>

<p>PLO7 (Environment & Sustainability)</p>	<p>Comprehend and evaluate the sustainability and impact of professional engineering work in the solutions of complex engineering problems in societal and environmental contexts.</p> <p><i>Memahami dan menilai kemampuan dan impak kerja kejuruteraan profesional dalam penyelesaian masalah kejuruteraan yang kompleks dalam konteks masyarakat dan alam sekitar.</i></p>
<p>PLO8 (Ethics)</p>	<p>Grasp and execute responsibility professionally and ethically in professional engineering practices.</p> <p><i>Menguasai dan melaksanakan tanggungjawab secara profesional dan beretika dalam amalan kejuruteraan profesional.</i></p>
<p>PLO9 (Individual & Teamwork)</p>	<p>Function effectively as an individual, and as a member or leader in diverse teams.</p> <p><i>Berfungsi secara berkesan sebagai individu, dan sebagai ahli atau ketua dalam pelbagai kumpulan.</i></p>
<p>PLO10 (Communication)</p>	<p>Articulate ideas, communicate effectively, in writing and verbally, on complex engineering activities with the engineering community and with society at large.</p> <p><i>Menyatakan idea, berkomunikasi secara berkesan, secara bertulis dan lisan, mengenai aktiviti kejuruteraan yang kompleks dengan komuniti kejuruteraan dan dengan keseluruhan masyarakat.</i></p>
<p>PLO11 (Project Management)</p>	<p>Demonstrate knowledge and understanding of engineering and management principles, and economic decision-making to manage projects in multidisciplinary environments.</p> <p><i>Menunjukkan pengetahuan dan pemahaman tentang prinsip kejuruteraan dan pengurusan, dan membuat keputusan secara ekonomik untuk mengurus projek dalam persekitaran pelbagai disiplin.</i></p>
<p>PLO12 (Life-Long Learning)</p>	<p>Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.</p> <p><i>Mengenalpasti keperluan dan mempunyai persediaan serta keupayaan untuk melibatkan diri dalam pembelajaran sendiri dan pembelajaran sepanjang hayat merangkumi konteks perubahan teknologi yang luas.</i></p>

PROFESSIONAL SKILLS CERTIFICATE (PSC)

UTM has designed its own UTM Professional Skills Certificate (UTM PSC) programme managed by UTM School of Undergraduate Studies (UGS) to enhance the knowledge and skills of UTM students. It provides students with value-added courses so that they will have a competitive-edge skills when they enter the employment market. Students will receive a Certificate of UTM Professional Skills Programme and the courses taken will appear in the student transcript. Students are required to undertake and must pass five (5) PSC courses as listed as follows in order to graduate:

No.	PSC COURSES	CODE
Compulsory Courses (all THREE (3) courses)		
1	Design Thinking for Entrepreneur	GLRB0010
2	Talent and Competency Management	GLRM0010
3	English Communication Skills for Graduating Students	GLRL0010
Elective Courses (any TWO (2) courses)		
1	Data Analytics for Organization	GLRT0010
2	Professional Ethics and Integrity	GLRM0020
3	Construction Measurement (Mechanical & Electrical)	GLRT0020
4	OSHE For Engineering Industry and Laboratory	GLRT0030
5	Quality Management for Built Environment and Engineering Professionals	GLRT0050
6	Safety and Health Officer Introductory Course	GLT0060

PRISMS (PROGRAM INTEGRASI SARJANA MUDA - SARJANA)

PRISMS is a newly introduced programme that integrates undergraduate high-level elective SE**5**3 courses with the core courses of the Master degree programme. Under PRISMS, students have an opportunity to complete and receive two degrees which are Bachelor degree and Master degree within 5 years (4+1).

Requirements

Students who have completed third year second semester courses with a cumulative grade point average (CGPA) of 3.3 and above are eligible to apply for PRISMS. Students can apply using the PRISMS application form and must be recommended by the Academic Advisor, approved by the Program Director, and certified by the Dean of Faculty. Once the application to join PRISMS is approved, students can register for the SE**5**3 courses during the course pre-registration or compulsory registration period.

PRISMS Credit Transfer

Students must obtain grade B and above of the high-level elective SE**5**3 courses for vertical credit transfer into the Master degree program that students plan to enroll. Maximum unit allowed for the credit transfer is twelve (12) credits.

BACHELOR OF ELECTRICAL ENGINEERING WITH HONOURS (SKEE)

Introduction

The Bachelor of Electrical Engineering with Honours (SKEE) program is offered by the Faculty of Electrical Engineering to prepare graduates for careers in electrical engineering. Throughout the program, emphasis is placed on acquiring a thorough understanding of the basic principles and skills in Electrical Engineering. The curriculum includes core and specialised electrical engineering courses, related general education courses, and non-technical support courses.

The students' exposure to engineering practice is integrated within the curriculum through the combinations of industrial training and invited lectures from the industries. The program also provides the students with the opportunities for analytical, critical and constructive thinking besides communication, team-working and lifelong learning skills in order to prepare them for careers as an electrical engineer in private / public sectors or continuing education at postgraduate level.

Programme Specifications

The Bachelor of Electrical Engineering with Honours is offered either on a full-time or part time basis. The full-time programme is offered only at the UTM Main Campus in Johor Bahru while the part-time programme is offered at various learning centres throughout Malaysia. The duration of study for the full-time programme is subject to the student's entry qualifications and lasts between four (4) years to a maximum of six (6) years.

The programme is offered on full-time basis and is based on a 2-Semester per academic session. Generally, students are expected to undertake courses equivalent to between fifteen (15) to eighteen (18) credit hours per semester. Assessment is based on courseworks and final examinations given throughout the semester

Programme Educational Objectives (PEO)

After having exposed to 3 to 5 years working experience, our graduates should become professionals who demonstrate the following competencies:

Code	Educational Objectives
PEO1	Become Electronic Engineers who are competent, innovative, and productive in addressing stakeholders' needs.
PEO2	Grow professionally with proficient soft skills.
PEO3	Demonstrate high standards of ethical conduct, positive attitude, and societal responsibilities.

PROGRAMME GENERAL INFORMATION

1.	Awarding Institution	Universiti Teknologi Malaysia		
2.	Teaching Institution	Universiti Teknologi Malaysia		
3.	Programme Name	Bachelor of Electrical Engineering with Honours		
4.	Final Award	Bachelor of Electrical Engineering with Honours		
5.	Programme Code	SKEE		
6.	Professional or Statutory Body of Accreditation	Board of Engineers Malaysia (BEM)		
7.	Language(s) of Instruction	English and Bahasa Melayu		
8.	Mode of Study (Conventional, distance learning, etc)	Conventional		
9.	Mode of operation (Franchise, self-govern, etc)	Self-governing		
10.	Study Scheme (Full Time/Part Time)	Full Time		
11.	Study Duration	Minimum: 4 yrs Maximum: 6 yrs		
Type of Semester	No. of Semesters		No. of Weeks/ Semester	
	Full Time	Part Time	Full Time	Part Time
Normal	8	-	18	-
Short	4	-	10	-

Course Classification

Bachelor of Electrical Engineering with Honours - SKEE

No.	Classification	Credit Hours	Percentage
i.	University General Courses	16	11.68 %
ii.	Mathematics	15	10.95 %
iii.	Programme Core	89	64.96 %
iv.	Programme Electives	12	8.76 %
v.	Free Electives	5	3.65 %
	Total	137	100 %
A			
	Engineering Courses		
	a) Lecture/Project/Laboratory	90	73.72 %
	b) Workshop/Field/Design Studio	-	
	c) Industrial Training	5	
	d) Final Year Project	6	
Total Credit Hours for Part A		101	
B			
	Related Courses		
	a) Applied Science/ Mathematic/ Computer	15	26.28 %
	b) Management/ Law/ Humanities/ Ethic/ Economy	8	
	c) Language	6	
	d) Co-Curriculum	2	
	e) Free Electives	5	
Total Credit Hours for Part B		36	100
Total Credit Hours for Part A and B		137	100
Total Credit Hours to Graduate		137	

Award Requirements

To graduate, students must:

- Attain a total of not less than 137 credit hours (SKEE) with a minimum CGPA of 2.0.
- Complete Professional Skills Certificates (PSC).

STUDY PLAN
Bachelor of Electrical Engineering with Honours – SKEE Cohort 2023/2024

Code	Course	Credit	Pre-requisite	Total Credit
YEAR 1: SEMESTER 1				
ULRS 1012	Value and Identity	2		16
SSCE 1693	Engineering Mathematics I	3		
SKEE 1012	Introduction to Electrical Engineering	2		
SKEE 1013	Electrical Circuit Analysis	3		
SKEE 1033	Scientific Programming	3		
SKEE 1233	Digital Electronic Systems	3		
YEAR 1: SEMESTER 2				
SSCE 1793	Differential Equations	3	SSCE 1693	17
SEMU 2113	Engineering Science	3		
SKEE 1103	C Programming for Engineers	3		
SKEE 1073	Electronic Devices and Circuits	3	SKEE 1013	
SKEE 2133	Electronic Instrumentation and Measurement	3		
ULRS 1182	Appreciation of Ethics and Civilizations (for Local Students)	2		
UHLM 1012	Malay Language for Communication 2 (for International Students)			
YEAR 2: SEMESTER 1				
SSCE 1993	Engineering Mathematics II	3	SSCE 1693	17
SSCE 2193	Engineering Statistics	3	SSCE 1993	
SKEE 2073	Signal and Systems	3		
SKEE 3223	Microprocessor	3	SKEE 1223	
SKEE 2433	Principles of Electrical Power Systems	3	SKEE 1013	
SKEE 2752	Electronic Design Laboratory	2		
YEAR 2: SEMESTER 2				
SSCE 2393	Numerical Methods	3		18
SKEE 2523	Electromagnetic Field Theory	3	SSCE 1993	
SKEE 3133	System Modelling and Analysis	3	SKEE 2073	
SKEE 3633	Electrical Machines	3	SKEE 2433	
UHLB 2122	Professional Communication Skills 1	2		
ULRF 2**2	Elective of Service Learning and Community Engagement	2		
ULRS 1022	Philosophy and Current Issues (for Local Students)	2		
ULRS 1022 OR ULRF 1182	Philosophy and Current Issues OR Appreciation of Ethics and Civilizations (for International Students)			

YEAR 3: SEMESTER 1				
UHL* 1112	Elective of Foreign Language for Communication	2		18
UHLB 3132	Professional Communication Skills 2	2		
SKEE 3143	Control System Design	3	SKEE 3133	
SKEE 3533	Communication Principles	3	SKEE 2073	
SKEE 3443	Power System Analysis	3	SKEE 2433	
SKEE 3732	Common Third Year Laboratory	2		
S*** **3	Free Elective 1	3		
YEAR 3: SEMESTER 2				
SKEE 3742	Specialized Third Year Laboratory	2		18
SKEE 3733	Integrated Design Project	3		
SKEE 3433	Power Electronic and Drives	3	SKEE 2433	
SKEE 4523	Power System Protection	3	SKEE 3443	
SKEE 3463	High Voltage Technology	3	SKEE 3443	
S*** **2	Free Elective 2	2		
ULRS 3032	Entrepreneurship & Innovation	2		
YEAR 3: SEMESTER 3				
SKEE 3925	Industrial Training	5		5
YEAR 4: SEMESTER 1				
SKEE 4542	Engineering Management Principles	2		17
SKEE 4533	Electrical Energy Utilization	3		
SKEE 4813	Methodology of Research and Development	3		
SKE* **3	Field Elective 1 / PRISMS Elective 1	3		
SKE* **3	Field Elective 2 / PRISMS Elective 2	3		
SKE* **3	Field Elective 3 / PRISMS Elective 3 / Faculty Free Elective	3		
YEAR 4: SEMESTER 2				
SKEE 4012	Professional Engineering Practice	2		11
SKEE 4826	Final Year Project	6	SKEE 4813	
SKE* **3	Field Elective 4 / PRISMS Elective 4	3		
CUMULATIVE CREDITS				137

Elective Fields (*Choose 4)

FIELD ELECTIVES			
Code	Course	Credit	Pre-requisite
Power Engineering			
SKEE 4453	Power System Control	3	SKEE 4523
SKEE 4613	High Voltage Testing and Calibration	3	SKEE 3463
SKEE 4643	Control and Design of Power Electronic System	3	SKEE 3433
SKEE 4563	Renewable Energy System and Technology	3	SKEE 3433
SKEE 4663	Electricity for Sustainable Energy	3	SKEE 4523
SKEE 4673	Electrical Energy Market	3	SKEE 3443
SKEE 4683	Power System Design and Operation	3	SKEE 3443
SKEE 4693	Smart Grid	3	
SKEE 4513	Special Topic in Electrical Engineering	3	
Control Engineering			
SKEE 4153	Digital Control System	3	SKEE 3143
SKEE 4173	Industrial Process Control	3	SKEE 3143
SKEM 4113	Modern Control Theory	3	SKEE 3143
SKEM 4183	Industrial Instrumentations and Applications	3	SKEE 2133
SKEM 4193	Advanced Transducers and Sensors	3	SKEM 4183
SKEM 4313	PLC and SCADA System Design	3	SKEE 3143
SKEM 4173	Artificial Intelligence	3	
SKEE 4513	Special Topic in Electrical Engineering	3	
Electronic Engineering			
SKEL 3613	Semiconductor Material Engineering	3	SKEE 1073
SKEL 3263	Electronic System	3	SKEE 1073
SKEL 3233	Digital Signal Processing	3	SKEE 2073
SKEL 3383	RTL Design	3	SKEE 1223
SKEL 4663	Embedded Processor System	3	SKEE 1073
SKEL 4743	Basic Digital VLSI Design	3	SKEE 3263
SKEL 4283	Analog CMOS IC Design	3	SKEE 1223
SKEL 4373	IC Testing Techniques		SKEE 1223 SKEL 4283
SKEE 4513	Special Topic in Electrical Engineering		
Communication Engineering			
SKET 3573	Microwave Engineering	3	SKEE 3533
SKET 3623	Data Communication and Networks	3	SKEE 3533
SKET 3583	Digital Communication Systems	3	SKEE 3533
SKET 4523	Optical Communication Systems	3	SKEE 3533
SKET 4533	Wireless Communication Systems	3	SKET 3573
SKET 4543	RF Microwave Circuit Design	3	SKET 3573
SKET 4593	Acoustic Engineering	3	SKEE 3533
SKET 4623	Network Programming	3	SKET 3623
SKEE 4513	Special Topic in Electrical Engineering	3	
PROGRAM INTEGRASI SARJANA MUDA-SARJANA (PRISMS)			
SKEE 5533	Power Electronics Systems	3	
SKEE 5583	High Voltage and Electrical Insulation	3	
SKEE 5603	Power System Analysis and Computational Method	3	
SKEE 5633	Power System Devices and Apparatus	3	
SKEL 5113	Advanced Nanoelectronics Devices	3	

SKEL 5123	Advanced Microprocessor System	3	
SKEL 5173	Advanced Digital System Design	3	
SKEL 5193	Advanced Analog CMOS IC Design	3	
SKET 5313	Communication and Computer Network	3	
SKET 5423	Advanced Wireless Communication System	3	
SKET 5513	Sustainable Design, Engineering and Management	3	
SKET 5523	Internet of Things Technologies	3	
SKEM 5753	Advanced Instrumentation and Measurement	3	
SKEM 5713	Artificial Intelligence and Applications	3	
SKEM 5703	Control System Engineering	3	

GRADUATION CHECKLIST

It is the responsibility of the students to ensure that all courses are taken and passed. In order to graduate, students must pass all courses in the following checklist. Students who do not complete any of the courses are not eligible to graduate.

NO	CODE	COURSE	CREDIT EARNED	CREDIT COUNTED	TICK (/) IF PASSED
ENGINEERING COURSES					
1	SKEE 1012	Introduction to Electrical Engineering	2	2	
2	SKEE 1013	Electrical Circuit Analysis	3	3	
3	SKEE 1033	Scientific Programming	3	3	
4	SKEE 1233	Digital Electronic Systems	3	3	
5	SEMU 2113	Engineering Science	3	3	
6	SKEE 1103	C Programming for Engineers	3	3	
7	SKEE 1073	Electronic Devices and Circuits	3	3	
8	SKEE 2133	Electronic Instrumentation and Measurement	3	3	
9	SKEE 2073	Signals and Systems	3	3	
10	SKEE 3223	Microprocessor	3	3	
11	SKEE 2433	Principles of Electrical Power Systems	3	3	
12	SKEE 2752	Electronic Design Laboratory	2	2	
13	SKEE 3133	System Modelling and Analysis	3	3	
14	SKEE 2523	Electromagnetic Field Theory	3	3	
15	SKEE 3633	Electrical Machines	3	3	
16	SKEE 3143	Control System Design	3	3	
17	SKEE 3533	Communication Principles	3	3	
18	SKEE 3443	Power System Analysis	3	3	
19	SKEE 3732	Common Third Year Laboratory	2	2	
20	SKEE 3742	Specialized Third Year Laboratory	2	2	
21	SKEE 3733	Integrated Design Project	3	3	
22	SKEE 3433	Power Electronic and Drives	3	3	
23	SKEE 4523	Power System Protection	3	3	
24	SKEE 3463	High Voltage Technology	3	3	
25	SKEE 3925	Industrial Training	5	HL	
26	SKEE 4542	Engineering Management Principles	2	2	
27	SKEE 4533	Electrical Energy Utilization	3	3	
28	SKEE 4813	Methodology of Research and Development	3	3	
29	SKEE 4826	Final Year Project	6	6	
30	SKEE 4012	Professional Engineering Practice	2	2	
31	SKE* ***3	Field Elective 1 / PRISMS Elective 1	3	3	
32	SKE* ***3	Field Elective 2 / PRISMS Elective 2	3	3	
33	SKE* ***3	Field Elective 3 / PRISMS Elective 3 / Faculty Free Elective	3	3	
34	SKE* ***3	Field Elective 4 / PRISMS Elective 4	3	3	
		Total Credit of Engineering Courses (A)	101	96	

MATHEMATICS COURSES					
1	SSCE 1693	Engineering Mathematics 1	3	3	
2	SSCE 1793	Differential Equations	3	3	
3	SSCE 1993	Engineering Mathematics 2	3	3	
4	SSCE 2193	Engineering Statistics	3	3	
5	SSCE 2393	Numerical Methods	3	3	
		Total Credit of Mathematics Courses (B)	15	15	
UNIVERSITY GENERAL COURSES					
Cluster 1: Malaysia Core Value					
1	UHMS 1182	Appreciation of Ethics and Civilizations (for Local Students)	2	2	
	UHIS 1022 OR UHMS 1182	Philosophy and Current Issues OR Appreciation of Ethics and Civilizations (for International Students)			
2	UHIS 1022	Philosophy and Current Issues (for Local Students)	2	2	
	UHLM 1012	Malay Language 2 (for International Students)			
Cluster 2: Value and Identity					
1	ULRS 1012	Value and Identity	2	2	
Cluster 3: Global Citizen					
1	UKQF 2**2	Service Learning & Community Engagement	2	2	
Cluster 4: Communication Skill					
1	UHLB 2122	Professional Communication Skills 1	2	2	
2	UHLB 3132	Professional Communication Skills 2	2	2	
3	UHL* 1112	Foreign Language for Communication	2	2	
Cluster 5: Enterprising Skill					
1	ULRS 3032	Entrepreneurship & Innovation	2	2	
		Total Credit of University General Courses (C)	16	16	
FREE ELECTIVE COURSES					
1	S*** **3	Free Elective 1	3	3	
2	S*** **2	Free Elective 2	2	2	
		Total Credit of Free Elective Courses (D)	5	5	
Total Credit to Graduate (A + B + C + D)			137	132	

OTHER COMPULSORY COURSES - PROFESSIONAL SKILLS CERTIFICATE (PSC)

Students are required to enroll and pass FIVE (5) PSC courses, in order to be eligible to graduate.

COMPULSORY PSC COURSES (Enroll all 3 courses)			
1	GLRB0010	Design Thinking for Entrepreneur	
2	GLRM0010	Talent and Competency Management	
3	GLRL0010	English Communication Skills for Graduating Students	
ELECTIVE PSC COURSE (Choose 2 only)			
1	GLRT0010	Data Analytics for Organization	
2	GLRM0020	Professional Ethics and Integrity	
3	GLRT0020	Construction Measurement (Mechanical & Electrical)	
4	GLRT0030	OSHE For Engineering Industry and Laboratory	
5	GLRT0050	Quality Management for Built Environment and Engineering Professionals	
6	GLRT0060	Safety and Health Officer Introductory Course	
7	GLRT0070	Industrial Machinery and Lubrication	

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B. Eng. (Electrical), M. Eng. (Electrical), Ph. D. (Electrical Engineering) (UTM), P. Eng, SMIEEEE, MIET.
Power Quality, Power System Measurement and Monitoring, Electrical Energy Management

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B. Eng. (Electrical), M. Eng. (Elec. Power), Ph. D. (Electrical Engineering) (UTM), P. Eng
Distributed Generation, Electric Vehicle, Meta-Heuristic Optimization Technique, Renewable Energy and Voltage Stability Index

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B. Eng. (Electrical), M. Eng. (Electrical Power) (UTM), Ph. D. (Electronics & Electrical Engineering) (Southampton, UK), P. Eng, C. Eng, MIET, SMIEEEE.
High Voltage Engineering, Dielectric Materials, Renewable Energy Systems

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Dip. Eng (Electrical Communication), B. Eng. (Electrical), M. Eng. (Electrical) (UTM), Ph. D. (Electronics and Electrical Engineering) (Loughborough, UK), P. Tech.
Alternative/Renewable Energy, RE Integration & Control, Energy Audit & Energy Management System

Assoc. Prof. Ir. Dr. Saifulnizam Abd. Khalid | saifulnizam@utm.my

B. Eng. (Electrical), M. Eng. (Electrical) (UTM), Ph. D. (Electrical Engineering) (UTM).
Power System Deregulation, Application of AI in power system and Power Tracing

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B. Eng. (Electrical) (UTM), DIC & Ph. D. (Electrical Engineering - Power Electronics) (Imperial College London, UK), P. Eng, C. Eng., P. Tech., MIET, SMIEEEE, MySET, Grad IEM.
Renewable Energy, Power Electronics for Renewable Energy Applications, Solar/PV System, Energy Management

SENIOR LECTURER

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B. Eng. (Electrical & Electronics), M. Eng. (Electrical - Power), Ph. D. (Electrical Engineering) (IIT Delhi), P.Eng, C.Eng, FIETE, SMIEEEE, LMISTE, MIE(I), MIET.
AI/Machine Learning, Data Analytics, Condition Monitoring, Fault Detection & Diagnosis, Energy Efficiency, Renewable Energy

Dr. Madihah Md. Rasid | madihahmdrasid@utm.my

B. Eng. (Electrical), M. Eng. (Electrical Power) (UTM), D. Eng (Electrical Engineering) (Kyushu University, Japan).
Distributed Generation, Meta-Heuristic Optimization, Renewable Energy

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B. Eng. (Electrical)(University of Southampton, U.K.), MSc. (Electric Power) (University of Newcastle upon Tyne, U.K.), P. Tech.
Power Quality in Renewable Energy Systems, Electric Motor Drives, Power Electronics Converter and Applications, Engineering Education

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Power System Analysis, Power System Protection

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B. Eng. (Electrical), M. Eng. (Electrical) (UTM), D. Eng. (Electrical) (Hiroshima, Japan), P. Tech, MIEEEE.
Power System Planning and Operation; Power System Protection; Demand and Supply Management; Smart Grid.

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B. Eng. (Electrical Power), Ph. D. (Electrical Engineering) (UTM), P. Eng, P. Tech, MIEEEE.
High Voltage Insulation, Partial Discharge Measurement and Detection, Nanodielectrics

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Power Electronics Converter, Converter Modelling

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B. Eng. (Electrical - Telecommunications), M. Eng. (Electrical - Electronics & Telecommunications) (UTM).
Ph. D. (Atmospheric Discharges) (Uppsala Universitet, Sweden), P. Tech, MIET.
Lightning Physics, EMC, DSP (Wavelet)

Nik Din Muhamad | nikd@utm.my

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Power Electronics Converter, converter Modelling and Control

Dr. Norjulia Mohamad Nordin | norjulia@utm.my

B. Eng. (Electrical) (UTM), M. Eng. Sc. (Energy System) (UNSW, Australia), Ph. D. (Electrical Engineering) (UTM).
AC Motor Drives, Power Electronics Converter and Applications

Dr. Norhafezaidi Mat Saman | norhafezaidi@utm.my

B.Eng.(Electrical Engineering), Ph. D. (Electrical Engineering) (UTM).
High Voltage System, Insulation Diagnostic, Development and Application of Plasma, Nanodielectrics.

Ts. Dr. Norazliani Md Sapari | norazliani.ms@utm.my

B. Eng. (Electrical- Power), M. Eng. (Electrical - Power), Ph.D. (Electrical Engineering) (UM), P. Tech.
Load Shedding, Distributed Generation, Voltage Stability Index, Islanding

Ts. Dr. Noor Azlinda Ahmad | noorazlinda@utm.my

B. Eng. (Electrical), M. Eng. (Electrical) (UTM), Ph. D. (Atmospheric Discharge) (Uppsala Univ., Sweden),
P. Tech, C. Eng, MIET, MIEEEE.
Lightning Characterization, Electromagnetic Field & Radio Frequency Emission

Dr. Noor Syazwani Mansor | noor.syazwani@utm.my

B. Eng. (Electrical), M. Eng. (Electrical Power) (USM), Ph. D. (Electrical Engineering) (USM)
High Voltage System, Polymer Insulating Material, Insulation Condition Monitoring (liquid and solid dielectric)

Dr. Nur Aqilah Mohamad | nuraqilah.m@utm.my

B. Eng. (Electrical & Electronic - Power) (UPNM), M. Eng. (Electrical Power), Ph. D. (Electrical Power) (UPM)
High Voltage System, Insulation Condition Monitoring (liquid and solid dielectric), Nanomaterials

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B. Eng. (Electrical, Electronic & System Engineering) (UKM), M. Sc. (Electrical Power) (Newcastle Upon Tyne, UK), Ph. D. (Electrical Engineering) (UTM), C. Eng, MIEEEE, MIET.
Deregulated Power System, Available Transfer Capability, FACTS Devices

Dr. Razman Ayop | razman.ayop@utm.my

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Power Electronics, Renewable Energy, Energy Management System.

Dr. Siti Maherah Hussin | sitimaherah@utm.my

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Generation Scheduling, MILP Optimization, Energy Management, Renewable Energy.

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B. Eng. (Electrical - Power), M. Eng. (Electrical - Power), Ph. D. (Electrical Engineering) (UTM), P. Eng, P. Tech.

Optimization, Power System Protection, Operation, Stability and Control; Distributed Generation and Smart Grids

Ts. Dr. Zulkarnain Ahmad Noorden | zulkarnain-an@utm.my

B. Eng. (Electrical), M. Eng. (Electrical Power) (UTM), Ph. D. (Electrical Engineering) (Shibaura Inst. Tech., Japan), P. Tech, MIEEE, MIET.

High Voltage Generation & Measurement, Power Equipment Diagnosis & Testing, Electrochemical Capacitor Technology

Dr. Zuraimy Adzis | zuraimy@utm.my

B. Eng. (Electrical), M. Eng. (Electrical), Ph. D. (Electrical Engineering) (UTM).

EMC & EMI in High Voltage Systems, Lightning, Electrical Safety and Forensics, Sustainability

Course Approval

More than 18 credits

Students are not allowed to take more than 21 credit hours

21 credits

Academic Advisor + Dean



PROF.DR. JAFRI BIN DIN
Dean jafri@utm.my

20 credits

Academic Advisor + Deputy Dean (AA)



PROF. IR. DR. MUHAMMAD NADZIR BIN MARSONO
Deputy Dean (Academic & Student Affairs) mnadzir@utm.my

19 credits

Academic Advisor + Director of Department



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Director of Control & Mechatronics
Engineering Department

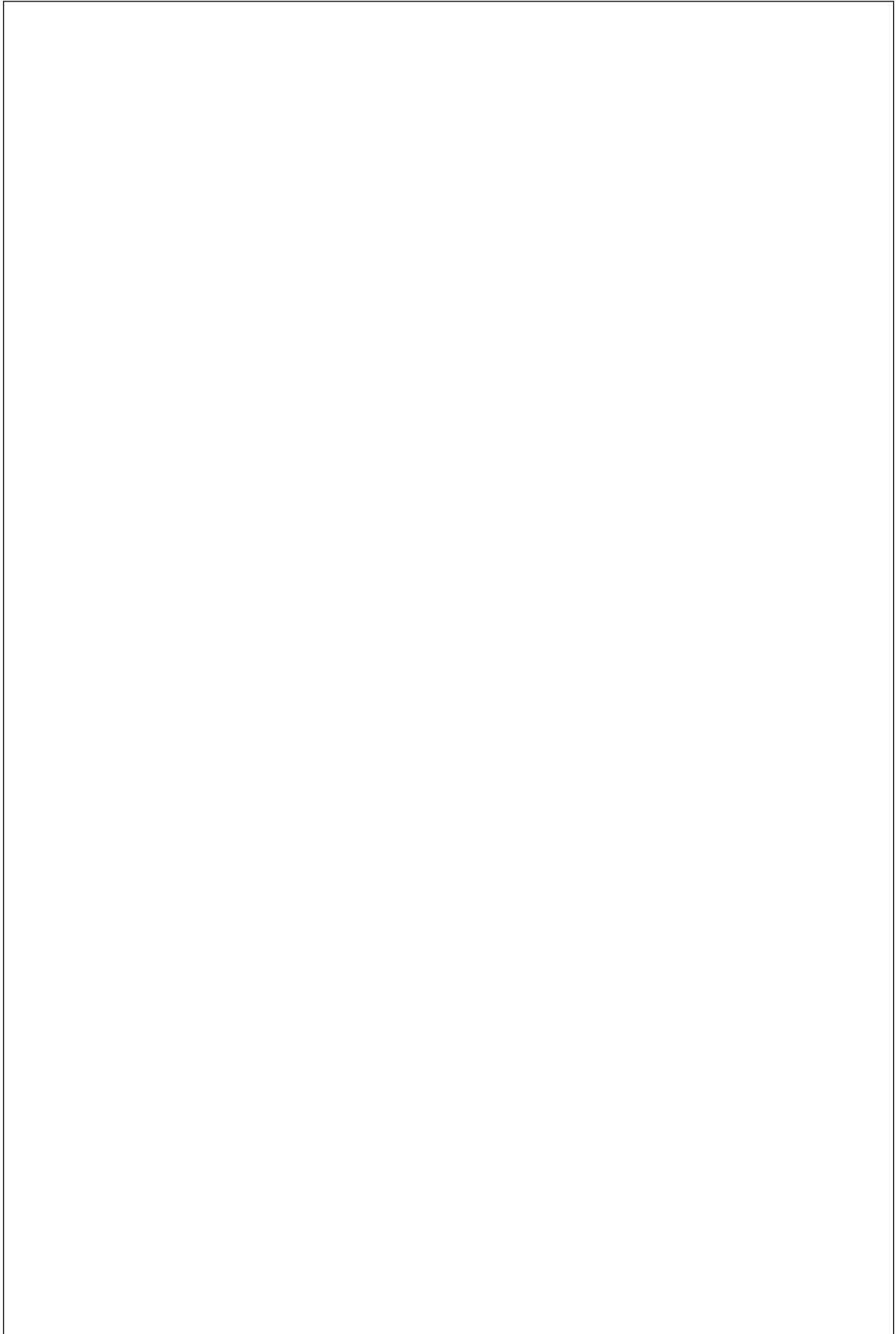
hazlina@utm.my

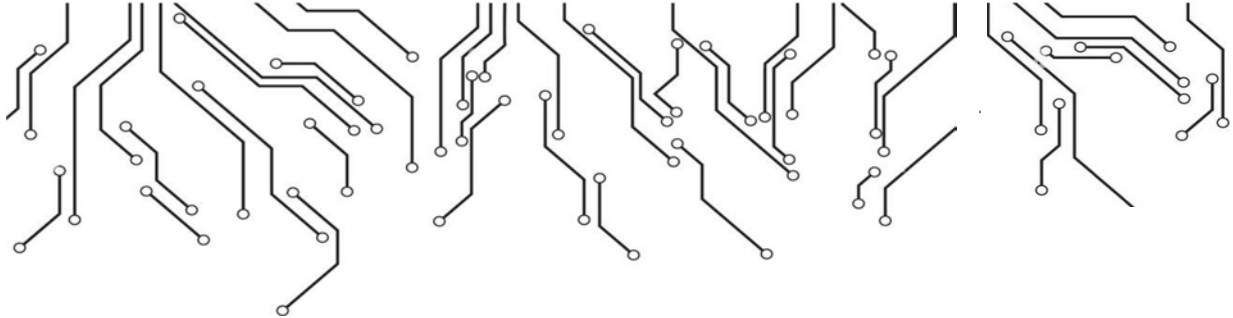


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Notes

A large, empty rectangular box with a thin black border, intended for students to take notes during a lecture or presentation.









For any enquiry or further information, you may contact:

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