UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Faculty of Electrical Engineering

UNDERGRADUATE BOOKLET

Bachelor of Engineering (Electrical-Mechatronics) - SEEM

Academic Session 2022/2023

innovative • entrepreneurial • global

PROGRAMME GUIDELINES

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

All the 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 Engineering (Electrical-Mechatronics) (SEEM) programme is 136 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% of the overall marks. Coursework may 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 fail 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. Subject to the Faculty and University's Academic Regulation, students may withdraw from a course. 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:

Code	Programme Learning Outcomes
PLO1	Ability to apply knowledge of mathematics, science and electrical engineering to the solution of complex engineering problems.
PLO2	Ability to perform research-based analysis, conduct experiments and interpret data for complex engineering problems.
PLO3	Ability to identify, formulate, conduct research literature to analyse complex engineering problems using engineering knowledge.
PLO4	Ability to apply engineering practice and use modern engineering, and IT tools for complex engineering problems with an understanding of the limitations of the technology.
PLO5	Ability to 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.
PLO6	Ability to articulate ideas, communicate effectively, in writing and verbally, on complex engineering activities with the engineering community and with society at large.
PLO7	Ability to function effectively as an individual, as a member or as a leader in diverse teams.
PLO8	Ability to 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.
PLO9	Ability to 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.
PLO10	Ability to comprehend and evaluate the sustainability and impact of professional engineering work in the solutions of complex engineering problems in societal and environmental contexts.
PLO11	Ability to grasp and execute responsibility professionally and ethically in professional engineering practices.
PLO12	Ability to demonstrate knowledge and understanding of engineering and management principles, and economic decision-making to manage projects in multidisciplinary environments.

PLO Mapping to EAC Standard Requirements

The PLOs are mapped using the guidelines set by the Engineering Council to those required by the Engineering Accreditation Council (EAC), Malaysia.

FKE PLO	EAC Programme Outcome (PO)												Keyword
	1	2	3	4	5	6	7	8	9	10	11	12	
1	✓												Knowledge
2				✓									Investigate
3		✓											Analysis
4					✓								Modern Tool
5			✓										Design
6										✓			Communication
7									✓				Individual and Team Work
8												✓	Life Long Learning
9						✓							Engineer & Society
10							✓						Environment & Sustainability
11								✓					Ethics
12											✓		Management & Finance

PROFESSIONAL SKILLS CERTIFICATE (PSC)

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

No.	PSC COURSE	CODE
Compulsory Courses (all THREE (3) courses)		
1	Design Thinking for Entrepreneur	GLRB 0010
2	Talent and Competency Management	GLRM 0010
3	English Communication Skills for Graduating Students	GLRL 0010
Elective Courses (any TWO (2) courses)		
1	Data Analytics For Organization	GLRT 0010
2	Professional Ethics and Integrity	GLRM 0020
3	Construction Measurement (Mechanical & Electrical)	GLRT 0020
4	OSHE For Engineering Industry and Laboratory	GLRT 0030
5	Quality Management For Built Environment and Engineering Professionals	GLRT 0050
6	Safety and Health Officer Introductory Course	GLRT 0060
7	Industrial Machinery and Lubrication	GLRT 0070

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 obtained 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 enrol. Maximum unit allowed for the credit transfer is twelve (12) credits.

BACHELOR OF ENGINEERING (ELECTRICAL - MECHATRONICS) - SEEM

Introduction

Mechatronic Engineering is a branch of engineering that combines electronics, electrical, mechanical, control, software, computer, and information technology. The curriculum for Mechatronic Engineering was created with a strong career focus in mind to prepare students for this fast-paced and ever-changing field. In view of that, this programme is offered to equip graduates with a vast knowledge of microcontroller, robotics, automation, control engineering, and artificial intelligence areas.

Mechatronic engineering utilises the use of computers and digital control systems to control processes within an industry. They combine electrical engineering, control, mechanical, robotics, and manufacturing to develop a wide variety of products. These include everyday household appliances, electric vehicles, as well as high-tech computer-controlled machines in manufacturing industries. Regardless of its discipline, an engineer will encounter the use of mechatronic systems at one stage of their working life. Those whose expertise revolves around these areas are extremely needed by the existing industries. Graduates who are highly skilled and capable of narrowing the gap between mechanical, electrical, and electronic engineering will have an immense advantage in employment.

Programme Specifications

The Bachelor of Engineering (Electrical-Mechatronics) is a program with honours that has been established and offered for more than two decades by UTM. The program is a four-year program completed with one-year final year project. The programme is offered only at the UTM Main Campus in Johor Bahru. The duration of study 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.

General Information

1.	Awarding Institution		Universiti Teknologi Malaysia	
2.	Teaching Institution		Universiti Teknologi Malaysia	
3.	Programme Name		Bachelor of Engineering (Electrical - Mechatronics)	
4.	Final Award		Bachelor of Engineering (Electrical - Mechatronics)	
5.	Programme Code		SEEM	
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	-

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

Award Requirements

To graduate, students must:

- Attain a total of not less than 136 credit hours (SEEM) with a minimum CGPA of 2.0
- Complete Professional Skills Certificates (PSC).

Course Classification

No.	Classification	Credit Hours	Percentage
i.	University General Courses	16	12 %
ii.	Mathematics	15	12 %
iii.	Programme Core	91	67 %
iv.	Programme Electives	9	7 %
v.	Free Electives	5	4 %
	Total	**136**	**100 %**
A	Engineering Courses a) Lecture/Project/Laboratory b) Workshop/Field/Design Studio c) Industrial Training d) Final Year Project	 88 - 6 6	74 %
Total Credit Hours for Part A		**100**	
B	Related Courses a) Applied Science/Mathematic/Computer b) Management/Law/Humanities/Ethics/Economy c) Language d) Co-Curriculum e) Free Electives	 15 8 6 2 5	27%
Total Credit Hours for Part B		**36**	
Total Credit Hours for Part A and B		**136**	100%
Total Credit Hours to Graduate		**136 credit hours**	

Study Plan for Bachelor of Engineering (Electrical - Mechatronics) - SEEM

Code	Course	Credit	Pre-requisite	Total Credit
YEAR 1: SEMESTER 1				
SSCE 1693	Engineering Mathematics I	3		**16**
SEEE 1012	Introduction to Electrical Engineering	2		
SEEE 1013	Electrical Circuit Analysis	3		
SECP 1103	C Programming Techniques	3		
SEEE 1223	Digital Electronics	3		
ULRS 1012	Value and Identity	2		
YEAR 1: SEMESTER 2				
SSCE 1793	Differential Equations	3		**16**
SEEE 1073	Electronic Devices and Circuits	3	SEEE 1013	
SEEE 2133	Electronic Instrumentation & Measurement	3		
SEEM 1113	Engineering Mechanics	3		
SEEM 1502	Computer Aided Engineering Drawing	2		
UHMS 1182	Appreciation of Ethics and Civilizations (Local Students)	2		
UHLM 1012	Malay Language for Communication 2 (International Students)			
YEAR 2: SEMESTER 1				
SSCE 1993	Engineering Mathematics II	3	SSCE 1693	**18**
SEEE 1022	Introduction to Scientific Programming	2		
SEEE 2073	Signals and Systems	3		
SEEE 2423	Fundamentals of Electrical Power Systems	3	SEEE1013	
SEEE 2742	2nd Year Electronic Design Laboratory	2		
SEEE 2263	Digital Systems	3	SEEE 1223	
UKQF 2**2	Service Learning and Community Engagement	2		
YEAR 2: SEMESTER 2				
SSCE 2193	Engineering Statistics	3		**16**
SEEE 2523	Electromagnetic Field Theory	3	SSCE 1993	
SEEE 3223	Microprocessor	3	SEEE 1223	
SEEM 3123	Hydraulic and Pneumatic Systems	3	SEEM 1113	
UHLB 2122	Professional Communication Skills 1	2		
UHIS 1022	Philosophy and Current Issues (Local and International Students)	2		
UHMS 1182	OR Appreciation of Ethics and Civilizations (International Students)			
YEAR 3: SEMESTER 1				
SSCE 2393	Numerical Methods	3		**18**
SEEE 3133	System Modeling & Analysis	3	SEEE 2073	
SEEE 3732	Common 3rd Year Laboratory	2		
SEEE 3533	Communication Principles	3	SEEE 2073	

S*** ***3	Free Elective I	3		
UHL* 1112	Foreign Language for Communication	2		
UHLB 3132	Professional Communication Skills 2	2		
YEAR 3: SEMESTER 2				
SEEE 3143	Control System Design	3	SEEE 3133	**18**
SEEE 3263	Electronic Systems	3	SEEE 1073	
SEEM 3133	Electrical Motors and Drives	3		
SEEM 4333	Mechatronics System Design	3		
SEEM 3742	Specialized 3rd Year Laboratory	2		
S*** ***2	Free Elective II	2		
ULRS 3032	Entrepreneurship & Innovation	2		
YEAR 3: SEMESTER 3				
SEEE 4926	Practical Training	6		**6**
YEAR 4: SEMESTER 1				
SEEM 4723	Capstone Project	3		**16**
SEEM 4812	Final Year Project Part I	2		
SEEM 4143	Robotics	3	SSCE 1993	
SEEL 4223	Digital Signal Processing I	3	SEEE 2073	
SEE* 4**3 / 5**3	Field Elective 1 / PRISMS Elective 1	3		
SHMS 4542	Engineering Management	2		
YEAR 4: SEMESTER 2				
SEEM 4824	Final Year Project Part II	4	SEEM 4812	**12**
SEEE 4012	Professional Engineering Practice	2		
SEE* 4**3 / 5**3	Field Elective 2 / PRISMS Elective 2	3		
SEE* 4**3 / 5**3	Field Elective 3 / PRISMS Elective 3	3		
CUMULATIVE CREDITS				**136**

Elective Courses

Code	Course	Credit	Pre-requisite
SEEE 4113	Modern Control System	3	SEEE 3143
SEEE 4153	Digital Control Systems	3	SEEE 3143
SEEE 4433	Power Electronic and Drives	3	SEEE 2423
SEEI 3133	Industrial Instrumentations and Applications	3	SEEE 2133
SEEI 4173	Advanced Transducers and Sensors	3	SEEI 3133
SEEI 4223	BioMEMS and Microanalytical Systems	3	SEEI 3133
SEEI 4233	Nanotechnology and Application	3	
SEEI 4313	PLC and SCADA System Design	3	SEEE 3143
SEEI 4323	Advanced Control Theory	3	SEEE 4113
SEEI 4343	System Identification and Estimation	3	SEEE 4113
SEEI 4363	Industrial Control Networks	3	SEEE 3143
SEEL 4213	Software Engineering	3	SECP 1103
SEEM 4133	Machine Vision Systems	3	
SEEM 4153	Robot Technology for Automation	3	SEEM 4143
SEEM 4173	Artificial Intelligence	3	
SEEM 4223	Embedded Systems	3	SEEE 3223
SEET 4633	Coding of Multimedia Signals	3	SEET 3583
SEEM 4163	Autonomous Robot	3	SEEM 4143
SEEM 4123	Industrial Engineering	3	

SEEM Elective Courses for PRISM			
Code	Course	Credit	Pre-requisite
SEEM 5753	Advanced Instrumentation and Measurement	3	
SEEM 5713	Artificial Intelligence and Applications	3	
SEEM 5703	Control Systems Engineering	3	

GRADUATION CHECKLIST

To graduate, students must pass all the stated courses in this checklist. It is the responsibility of the students to ensure that all courses are taken and passed. Students who do not complete any of the courses are not allowed to graduate.

Bachelor of Engineering (Electrical - Mechatronics) - SEEM

NO.	CODE	COURSE	CREDIT EARNED	CREDIT COUNTED	TICK (√) IF PASSED
BACHELOR OF ENGINEERING (ELECTRICAL – MECHATRONICS)					
1.	SEEE 1012	Introduction to Electrical Engineering	2	2	
2.	SEEE 1013	Electrical Circuit Analysis	3	3	
3.	SEEE 1022	Introduction to Scientific Programming	2	2	
4.	SEEE 1073	Electronic Devices and Circuits	3	3	
5.	SEEE 1223	Digital Electronics	3	3	
6.	SEEE 2073	Signals and Systems	3	3	
7.	SEEE 2133	Electronic Instrumentation & Measurement	3	3	
8.	SEEE 2263	Digital Systems	3	3	
9.	SEEE 2423	Fundamentals of Electrical Power Systems	3	3	
10.	SEEE 2523	Electromagnetic Field Theory	3	3	
11.	SEEE 2742	2nd Year Electronic Design Lab	2	2	
12.	SEEE 3133	System Modeling & Analysis	3	3	
13.	SEEE 3143	Control System Design	3	3	
14.	SEEE 3223	Microprocessor	3	3	
15.	SEEE 3263	Electronic Systems	3	3	
16.	SEEE 3533	Communication Principles	3	3	
17.	SEEE 3732	Common 3rd Year Laboratory	2	2	
18.	SEEE 4012	Professional Engineering Practice	2	2	
19.	SEEL 4223	Digital Signal Processing I	3	3	
20.	SEEM 1113	Engineering Mechanics	3	3	
21.	SEEM 1502	Computer Aided Engineering Drawing	2	2	
22.	SEEM 3123	Hydraulic and Pneumatic Systems	3	3	
23.	SEEM 3133	Electrical Motors and Drives	3	3	
24.	SEEM 3742	Specialized 3rd Year Laboratory	2	2	
25.	SEEM 4143	Robotics	3	3	
26.	SEEM 4333	Mechatronics System Design	3	3	
27.	SEEM 4723	Capstone Project	3	3	
28.	SEEM 4812	Final Year Project Part I	2	2	
29.	SEEM 4824	Final Year Project Part II	4	4	
30.	SEEM 4926	Practical Training	6	HL	
31.	SEE* 4**3 / SEE*5**3	Field Elective 1 / PRISMS Elective 1	3	3	
32.	SEE* 4**3 / SEE*5**3	Field Elective 2 / PRISMS Elective 2	3	3	
33.	SEE* 4**3 / SEE*5**3	Field Elective 3 / PRISMS Elective 3	3	3	
34.	SECP 1103	C Programming Techniques	3	3	
35.	SHMS 4542	Engineering Management	2	2	

		TOTAL CREDIT OF ENGINEERING COURSES(a)	**100**	**94**	
MATHEMATICS COURSES (Faculty of Science)					
1.	SSCE 1693	Engineering Mathematics I	3	3	
2.	SSCE 1793	Differential Equations	3	3	
3.	SSCE 1993	Engineering Mathematics II	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 (for International Students) 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 for Communication 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 Skills					
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 Skills					
1.	ULRS 3032	Entrepreneurship & Innovation	2	2	
Free Elective Courses					
1.	S*** ***3	Free Elective I	3	3	
2.	S*** ***2	Free Elective II	2	2	
		TOTAL CREDIT of UNIVERSITY GENERAL COURSES (c)	**21**	**21**	
		TOTAL CREDIT TO GRADUATE (a+b+c)	**136**	**130**	
OTHER COMPULSORY COURSES - PROFESSIONAL SKILLS CERTIFICATE (PSC). Students are required to enrol and pass FIVE (5) PSC courses, in order to be eligible to graduate.					
COMPULSORY PSC COURSES (all THREE (3) courses)					
1.	GLRB 0010	Design Thinking for Entrepreneur			
2.	GLRM 0010	Talent and Competency Management			
3.	GLRL 0010	English Communication Skills for Graduating Students			
ELECTIVE PSC COURSE (any TWO (2) courses)					
1.	GLRT 0010	Data Analytics for Organisation			
2.	GLRM 0020	Professional Ethics and Integrity			
3.	GLRT 0020	Construction Measurement (Mechanical & Electrical)			
4.	GLRT 0030	OSHE for Engineering Industry and Laboratory			

5.	GLRT 0050	Quality Management for Built Environment and Engineering Professionals	
6.	GLRT 0060	Safety and Health Officer Introductory Course	
7.	GLRT 0070	Industrial Machinery and Lubrication	

ACADEMIC STAFF

DIRECTOR

Assoc. Prof. Ts. Ir. Dr. Mohamed Sultan Mohamed Ali | sultanali@utm.my
B.Eng. (Electrical – Mechatronics), M.Eng. (Mechatronics & Auto. Control) (UTM), Ph.D. (Microelectromechanical Systems) (Univ. of British Columbia, Canada), P. Eng, C. Eng, P. Tech. SMIEEE, MIEM, MIET.
Microelectromechanical System (MEMS), Micro & Nanofabrication Technologies, Smart Materials, Energy Harvesting, Failure Analysis

PROFESSOR

Prof. Ts. Ir. Dr. Ahmad 'Athif Mohd Faudzi | athif@utm.my
B. Eng. (Computer), M. Eng. (Electrical -Mechatronics & Automatic Control) (UTM), Ph. D. (System Integration) (Okayama Univ., Japan), P. Eng.
System Integration, Actuators, Mechatronics and Control, Soft Actuator, Robotic, Pneumatic System

Prof. Ts. Ir. Dr. Herlina Abdul Rahim | herlina@utm.my
B. Eng. (Electrical – Control & Instrumentation), M. Eng. (Electrical), (UTM), Ph. D. (Control) (UiTM), P. Eng., C. Eng., SMIEEE.
Sensor Technologies, Medical Engineering, System Identification

Prof. Ts. Dr. Mohd. Fua'ad Rahmat | fuaad@utm.my
B. E. Eng. (UTM), M. Sc. (Control System) (Sheffield, UK), Ph. D. (Electronic Instrumentation) (Sheffield Hallam, UK), SMIEEE, SMICSM**.**
System Identification, Parameter Estimation, Process Tomography, Process Control Instrumentation, Hydraulic and Pneumatic Actuator System, Flow Measurement & Instrumentation

Prof. Ts. Dr. Ruzairi Abd. Rahim (seconded to UTHM) | ruzairi@utm.my
B. Eng. (Electronic System & Control Engineering) (Sheffield City Polytechnic, UK), Ph. D. (Instrumentation) (Sheffield Hallam, UK), MIEEE, SMICSM.
Flow Measurement & Instrumentation, Process Tomography, Advanced Sensor Application

Prof. Dr. Yahaya Md. Sam | yahaya@utm.my
B. E. Eng. (UTM), M. Sc. (Control Systems) (Sheffield, UK), Ph. D. (Electrical Engineering) (UTM), MIEEE.
Sliding Mode Control, Robust Control of Uncertain System, Automotive Control and Active Suspension System

Prof. Ts. Dr. Zaharuddin Mohamed | zahar@utm.my
B. Eng. (Electrical, Electronic & System Engineering) (UKM), M. Sc. (Control System), Ph. D. (Control Engineering) (Sheffield Univ., UK).
Control of Flexible Structures, Vibration Control, Command Shaping Control

ASSOCIATE PROFESSOR

Assoc. Prof. Dr. Abdul Rashid Husain | abrashid@utm.my
B. Eng. (Electrical) (The Ohio State Univ., USA), M. Sc. (Mechatronics) (Newcastle Upontyne, UK), Ph. D. (Electrical Engineering) (UTM).
Control Engineering, Linear Matrix Inequality (LMI) in Control, Mechatronics and Robotics, Motion and Drives Control

Assoc. Prof. Ts. Dr. Anita Ahmad | anita@utm.my
B. Eng. (Electrical - Control & Instrumentation), M. Eng. (Electrical) (UTM), Ph. D. (Bioengineering) (Univ. of Leicester, UK).
Electrophysiological Data Processing, Image Reconstruction, Control and Instrumentation

Assoc. Prof. Ir. Dr. Hazlina Selamat | hazlina@utm.my
B. Eng. (Electrical & Electronics) (Imperial College, UK), M. Eng. (Electrical), Ph. D. (Electrical Engineering) (UTM), P. Eng., MIEM.
Control Engineering, Adaptive Control, Railway Vehicle Suspension System, System Identification

Assoc. Prof. Ir. Dr. Kumeresan A. Danapalasingam | kumeresan@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Electrical - Mechatronics & Automatic Control) (UTM), Ph. D. (Unmanned Aerial Vehicle) (Aalborg University, Denmark), P. Eng.
Control Engineering, Robotics, Artificial Intelligence, Machine Learning

Assoc. Prof. Dr. Leow Pei Ling | leowpl@utm.my
B. Eng. (Electrical - Control & Instrumentation), M. Eng. (Electrical - Mechatronics & Automatic Control) (UTM), Ph. D. (Bioengineering) (Imperial College London, UK).
Instrumentation, Biosensors and Electrochemical Detections

Assoc. Prof. Dr. Mohamad Hafis Izran Ishak | hafis@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Electrical - Mechatronics & Automatic Control) (UTM), Ph. D. (Advanced Mechatronics) (Loughborough Univ., UK), MIEEE
Human Adaptive Mechatronics, Human Machine System, Advanced Mechatronics

Assoc. Prof. Dr. Mohamad Shukri Zainal Abidin | shukri@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Electrical) (UTM), Ph. D. (Precision Agriculture) (Tokyo Univ. of Agriculture and Technology, Japan).
Precision Agriculture, Smart Farming, Water-saving Cultivation, Agricultural Mechatronics and Automation, Intelligent System

Assoc. Prof. Ts. Ir. Dr. Mohd Ridzuan Ahmad | mdridzuan@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Electrical) (UTM), Ph. D. (Micro-Nano Systems Engineering) (Nagoya Univ., Japan), P. Eng, C. Eng, SMIEEE, MIEM, MIET.
Micro-Nano Systems Engineering, Micro-Nano Devices, Single Cell Analysis, Multi-Agent Robotics System

Assoc. Prof. Ir. Dr. Norhaliza Abdul Wahab | norhaliza@utm.my
B. Eng. (Electrical - Control & Instrumentation), M. Eng. (Electrical) (UTM), Ph. D. (Control) (Univ. of Strathclyde, UK). P.Eng.
Control Engineering, Neural Network Predictive Control, Soft Computing Optimization, Industrial Process Control, Water and Wastewater Systems

Assoc. Prof. Dr. Sallehuddin Ibrahim | sallehuddin@utm.my
B. Eng. (Electrical Engineering) (London, UK), M. Sc. (Instrumentation Design) (UMIST, UK), Ph. D. (Instrumentation & Process Tomography) (Sheffield Hallam, UK).
Flow Measurement, Process Tomography, Optical Sensors

Assoc. Prof. Dr. Salinda Buyamin | salinda@utm.my
B. Eng. (Electrical) (Univ. of Toledo, USA), M. Sc. (Automation & Control) (Univ. of Newcastle Upon Tyne, UK, Ph. D. (Control of Electrical Drives) (Univ. of Newcastle Upon Tyne, UK).
Control Engineering, Machines and Drives, Mechatronics, Optimization, Sensorless & Estimation, Smart Farming

Assoc. Prof. Dr. Yeong Che Fai | cfyeong@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Electrical) (UTM), Ph. D. (Bioengineering) (Imperial College London, UK).
Rehabilitation Robotics, Real-time Systems, Autonomous Robot and Motor Learning

SENIOR LECTURER

Ts. Ahmad Ridhwan Wahap | aridhwanwahap@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Electrical) (UTM).
Machine Vision and Image Processing

Dr. Fatimah Sham Ismail | fatimahs@utm.my
B. Sc. (Physics) (UKM), M. Sc. (Physics Instrumentation), Ph. D. (Electrical Engineering – AI Optimization) (UTM).
Optimization, Artificial Intelligence and Process Control

Dr. Fazilah Hassan | fazilah.hassan@utm.my
Diploma (Electrical Engineering - Electronic) UiTM, B.Eng (Electronic Engineering) University of Surrey, UK, Ph.D (Engineering -Control System) University of Lincoln, UK.
Control System, Optimization, High Speed Tilting Train

Ts. Dr. Herman Wahid | herman@utm.my
B. Eng. (Electrical - Control & Instrumentation), M. Eng. (Mechatronic & Automatic Control) (UTM), Ph. D. (Engineering – Computational Intelligence) (Univ. of Technology Sydney, Australia)
Artificial Intelligence, Metamodelling, Environmental Measurement and Instrumentation, Modelling and Controller Design, Energy Harvesting

Dr. Khairul Hamimah Abas | khairulhamimah@utm.my
B. E. Eng. (Electrical & Electronic), M. Eng. (Automation & Mechatronic Control) (UTM), Ph. D. (Electronic & Bioinformatic) (Meiji Univ., Japan).
Image Processing, Face Identification, Infrared Imagery Analysis

Dr. Lim Cheng Siong | lcsiong@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Electrical), Ph. D. (Electrical Engineering) (UTM).
Emergency Medical Services, Embedded System, Telerobotics and Multi-Agent Robotics System

Dr. Mohamad Amir Shamsudin | amirshamsudin@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Control), Ph. D. (Electrical Engineering) (UTM).
Autonomous Robotics, Surveillance Vehicle, Nonlinear System Modelling and Control, Soft Computing Optimization Technique

Mr. Mohamad Shukri Abdul Manaf | mshukri@utm.my
B. E. Eng. (UTM), M. Sc. (Instrumentation, UMIST, UK)
Measurement and Instrumentation, Applied control

Dr. Mohd. Amri Md. Yunus | amri@utm.my
B. Eng. (Electrical - Control & Instrumentation), M. Eng. (Electrical) (UTM), Ph. D. (Electrical Engineering) (Massey Univ., New Zealand), MIEEE.
Optical Tomography, Environmental Measurement and Instrumentation

Dr. Mohd Ariffanan Mohd Basri | ariffanan@utm.my
B. Eng. (Electrical - Mechatronics), M. Eng. (Mechatronics & Automatic Control) (UTM), Ph. D. (Electrical Engineering) (UTM).
Adaptive & Robust Control, Optimization, Artificial Intelligence, Machine Learning, Unmanned Vehicle, Mobile Robot, Mechatronics

Dr. Mohd Saiful Azimi Bin Mahmud | azimi@utm.my
B. Eng. (Electrical - Mechatronics), Ph. D. (Electrical Engineering) (UTM).
Autonomous Navigation, Multi-Objective Optimization, Cyber Physical System, Localization and Mapping, Image Processing

Ts. Nasarudin Ahmad | e-nasar@utm.my
B. Eng. (Electrical), M. Eng. (Electrical). (UTM)
Sensor Array and Instrumentation , Data Acquisition System, Control System.

Ts. Dr. Noorhazirah Binti Sunar | noorhazirah@utm.my
B. Eng. (Electric-Electronic), Ph.D (Electrical Engineering) (UTM),
Modelling and Controller Design, Pneumatic System

Dr. Nurul Adilla Mohd. Subha | nuruladilla@utm.my
B. Eng. (Electrical - Control & Instrumentation), M. Eng. (Electrical - Mechatronics & Automatic Control) (UTM), Ph. D. (Networked Control System) (University of South Wales, UK).
Network Control Systems / Multi-agents Systems

Dr. Nurulaqilla Khamis | nurulaqilla@utm.my
B.Eng. (Electrical & Electronics) (UNITEN), M. Phil, Ph.D (Artificial Intelligence) (UTM)
Artificial Intelligence, Optimization

Ir. Dr. Shafishuhaza Sahlan | shafis@utm.my
M. Eng. (Control System) (Sheffield, UK), Ph. D. (Control) (Univ. of Western Australia).
Control Systems Engineering Algorithm, Model Reduction Techniques

Dr. Shahdan Sudin | shahdan@utm.my
B. Eng. (Electrical Engineering) (Univ. of Wollongong, Australia), M. Eng. (Electrical) (UTM), Ph. D. (Convoy Dynamics & Control) (Univ. of Manchester, UK).
Cooperative Vehicle, Vehicle Convey Dynamic and Control

Dr. Sophan Wahyudi Nawawi | e-sophan@utm.my
B. Eng. (Electrical), M. Eng. (Electrical), Ph. D. (Electrical Engineering) (UTM).
Applied Control Engineering, Robot Control

Contact us:

ACADEMIC OFFICE
UNDERGRADUATE PROGRAM

P19a, Faculty of Electrical Engineering
Universiti Teknologi Malaysia
81310 UTM Johor Bahru
Johor, Malaysia

undergraduate-office@fke.utm.my
ElectricalCircleUTM
https://linktr.ee/ugskeutm

+607-5557029 (Rogayah/Shazwani)
+607-5557007 (Armanusa)
+607-5557238 (Siti Suhana/Amira)