UNDERGRADUATE

ACADEMIC HANDBOOK

SESSION 2025/2026

FAKULTI TEKNOLOGI DAN KEJURUTERAAN MEKANIKAL

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

Edition: 2025/2026

Attention

All information in this version of the handbook is true at the time of publishing.
The Faculty of Mechanical Technology and Engineering reserves the right to make amendments to the guide as needed without prior announcement. This Academic Handbook is a reference for students from the 2025/2026 Session intake and remains valid until the end of their study.

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DEAN'S FOREWORD

This academic handbook aims to be a reference for undergraduate students to understand and get to know the faculty and the programmes offered at Faculty of Mechanical Technology and Engineering (FTKM). In addition, student will find all the necessary information regarding academic route, such as courses to be taken, pointers calculations, staff contact information and many more.

For instance, FTKM reacted rapidly and made challenging decisions on reorganizing teaching and learning as well as research and student activities year by year. The education has been back to normal but follow restricted operation following the certain standard of procedure. To do so, FTKM staffs enhanced their teaching skills and tools, to identify new ways of engagement with students and communities.

As a higher education institution, FTKM have a crucial role. FTKM believe our faculty is well equipped with educators from various mechanical engineering backgrounds field and different pedagogical techniques to help undergraduate student shapes in 21st-century. FTKM are continuously working on ways to tackle any issues prudently to ensure that no undergraduate student is left behind throughout their studies.

Lastly, we wish all our upcoming and current students all the best to embark on your educational journey here at FTKM and UTeM!

"FTKM - GEARED FOR EXCELLENCE"

Associate Professor Dr. Nadlene binti Razali
Dean
Faculty of Mechanical Technology and Engineering

FACULTY OF MECHANICAL TECHNOLOGY AND ENGINEERING MANAGEMENT TEAM

BACKGROUND OF UNIVERSITI TEKNIKAL MALAYSIA MELAKA

On December 1st, 2000, the Ministry of Education of Malaysia has officially approved the establishment of a new public university in the name of Kolej Universiti Teknikal Kebangsaan Malaysia (KUTKM). The establishment of KUTKM is to fulfil the needs of prospective industries on professional manpower in technical areas that not only have sound academic ability, but also competent and highly technically skilled. As the 14th public higher learning institution established in Malaysia, KUTKM has experienced many challenges and impediments in order to be a renowned university. KUTKM supports application-oriented approach and practice in its Teaching and Learning (T&L) processes.

On February 1st, 2007, KUTKM has been renamed and presently known as the Universiti Teknikal Malaysia Melaka (UTeM). From the beginning of the establishment, UTeM has upheld and maintained technical education programmes which fulfil the needs of current industries and tech-based employers. The students of UTeM come from diverse backgrounds which include science, technical and vocational streams. At present, UTeM has eight faculties and one post graduate (PG) school that offers programmes at Diploma, Bachelor's degree or PG levels. The faculties are:

1. Faculty of Electronics and Computer Technology and Engineering
2. Faculty of Electrical Technology and Engineering
3. Faculty of Mechanical Technology and Engineering
4. Faculty of Industrial and Manufacturing Technology and Engineering
5. Faculty of Information and Communications Technology
6. Faculty of Technology Management and Technopreneurship
7. Faculty of Artificial Intelligence and Cyber Security
8. Centre For Language Learning
9. Institute of Technology Management and Entrepreneurship

Vision

To Be One of the World's Leading Innovative and Creative Technical Universities

Mission

UTeM is determined to lead and contribute to the wellbeing of the country and the world by:

a. Promoting knowledge through innovative teaching & learning, research and technical scholarship;
b. Developing professional leaders with impeccable moral values;
c. Generating sustainable development through smart partnership with the community and industry.

Motto

Excellence Through Competency

Educational Goals

a. To conduct academic and professional programmes based on relevant needs of the industries.

b. To produce graduates with relevant knowledge, technical competency, soft skills, social responsibility and accountability.

c. To cultivate scientific method, critical thinking, creative and innovative problem solving and autonomy in decision making amongst graduates.

d. To foster development and innovation activities in collaboration with industries for the prosperity of the Nation.

e. To equip graduates with leadership and teamwork skills as well as develop communication and life-long learning skills.

f. To develop technoprenuership and managerial skills amongst graduates.

g. To instill an appreciation of the arts and cultural values and awareness of healthy lifestyles amongst graduates.

BACKGROUND OF FACULTY OF MECHANICAL TECHNOLOGY AND ENGINEERING

The Ministry of Higher Education has given an approval to Faculty of Mechanical Engineering to officially start its programmes on 22nd June 2001. On 15th September 2022, the university has restructured all engineering and engineering technology faculties and as a result, the Faculty of Mechanical Engineering has rebranded and known as Faculty of Mechanical Technology and Engineering (FTKM). The faculty has operated in two campuses; Main Campus and Technology Campus. The faculty has developed many extensive facilities to facilitate the academic programmes, staff and student activities.

FTKM Vision

The vision of the faculty is to be a leader in mechanical engineering and technology, driving innovation and sustainability.

FTKM Mission

The mission of the faculty is to provide excellent education, advanced research and foster university-industry collaboration to develop competent mechanical engineers and technologists that contribute to societal development and national aspirations.

FTKM Objectives

Faculty of Mechanical Technology and Engineering have five objectives to realize the vision and mission as follows:

a. To offer high quality, application-oriented mechanical engineering and technology programs that meet current industrial demands and are recognized by professional bodies.
b. To produce graduates with critical thinking, innovation, problem-solving skills, and competencies fulfill the national and international workforce needs.
c. To enhance staff expertise and competency through ethical and well-organized human resource development programs.
d. To conduct advanced research and development, fostering postgraduate programs.
e. To promote smart partnerships and collaborations with universities, industries, and stakeholders for mutual growth and innovation.

UNDERGRADUATES PROGRAMMES AND ADMISSION REQUIREMENTS

UNDERGRADUTES PROGRAMMES OFFERED

The Faculty of Mechanical Technology and Engineering offers nine (9) full-time undergraduate programmes and two (2) part-time undergraduate programmes as of the 2025/2026 Academic Session. The programmes are:

No.	Programme Name	Program Code	Credits to Graduate
1	Diploma in Mechanical Engineering	DMK	91
2	Bachelor of Mechanical Engineering with Honours	BMKU	135
3	Bachelor of Automotive Engineering with Honours	BMKK	135
4	Bachelor of Mechanical Engineering with Honours (Part Time Mode)	BMKU-PT	135
5	Bachelor of Mechanical Engineering Technology	BMKV	142
6	Bachelor of Mechanical Engineering Technology (Maintenance Technology)	BMKM	143
7	Bachelor of Mechanical Engineering Technology (Refrigeration and Air-Conditioning Systems)	BMKH	142
8	Bachelor of Mechanical Engineering Technology (Automotive Technology)	BMKA	141
9	Bachelor of Mechanical Engineering Technology (Part Time Mode)	BMKV-PT	142
10	Bachelor of Technology in Air-Conditioning and Refrigeration	BMKF	120
11	Bachelor of Technology in Automotive	BMKS	120

GENERAL ENTRY REQUIREMENTS

The general entry requirements into Diploma programme is based on the candidate's qualifications in the 'Sijil Pelajaran Malaysia (SPM)' while the entry requirements into the Bachelor programmes are based on the candidate's qualification in the 'Sijil Tinggi Pelajaran Malaysia (STPM)', or 'Sijil Matrikulasi KPM', or Diploma, or the equivalent. The detailed admission requirements can be obtained from the UTEM's Prospectus or website (http://www.utem.edu.my/en/undergraduate.html). Candidates with a certified Diploma qualification may be considered for credit transfer.

DIPLOMA IN MECHANICAL ENGINEERING (DMK)

ACRREDATION: 2020-2025

Entry Requirement:

SPM HOLDERS

University's General Requirements:

☑ Pass SPM or equivalent with a minimum of 3 credits (Grade C) for the Courses inclusive of Bahasa Melayu.
☑ Pass in History (SPM 2013 and above)
☑ Malaysian

Program's Special Requirements:

☑ Fulfil the University's General Requirement with a minimum of 2 Credits (Grade C) for the Courses below:
- Mathematics **AND**

☑ TWO (2) of the following Courses:
- Additional Science
- Physics
- Science
- Chemistry
- Biology
- Mechanical Engineering/ Civil Engineering, Electrics & Electronics Engineering
- Engineering Drawing
- Arc Welding and Gas
- Graphic Technical Communication
- Computer Science
- Any recent subjects related to engineering and technology that have been amended by MOE

AND
☑ Pass English Language
AND
☑ Minimum of Grade E in Additional Mathematics
☑ Candidate does not have limited capability in performing the practical work

Programme Educational Objectives (PEO)

The programme educational objectives of the Diploma in Mechanical Engineering (DMK) are:

PEO 1	• Graduates who are competent and adaptable in multi- industries by practicing the knowledge in mechanical engineering that relevant to professional engineering practice.
PEO 2	• Graduates who will pursue bachelor degree studies or others professional certificate
PEO 3	• Graduates who will be leader at note-worthy level and provide solutions that benefited the respective organization, society and nation.

Programme Objectives (PO)

The POs are in line and consist of all the criteria (11 outcomes) as stated in the Engineering Technician Education Programme Accreditation Standard (ETAC) 2024. The POs are exhibited at many areas surrounding the faculty,

such as at waiting room, meeting room, entrance lobby and laboratory areas. The POs are also accessible from the faculty's website. The 11 PO's for diploma programme are:

PO	PO Statement
PO1- Engineering Knowledge	Apply knowledge of applied mathematics, applied science, computing and mechanical engineering fundamentals and specialisation to wide practical procedures and practices
PO2 – Problem Analysis	Identify and analyse well-defined mechanical engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity.
PO3 – 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
PO4 – Investigation	Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements.
PO5 – Tool Usage	Apply appropriate techniques, resources, and modern engineering computing and IT tools to well-defined mechanical engineering problems, with an awareness of the limitations.
PO6 – 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 mechanical engineering problems.
PO7 – Ethics	Understand and commit to professional ethics and responsibilities and norms of technician practice and including compliance with national and international laws while demonstrating an understanding of the importance of diversity and inclusion.
PO08 -Individual and Collaborative Team Work	Function effectively as an individual, and as a member in diverse and inclusive teams in multidisciplinary, face-to-face, remote and distributed settings.
PO09 – Communications	Communicate effectively and inclusively on well-defined mechanical 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;
PO10 – Project Management and Finance:	Demonstrate awareness of engineering management principles as a member or leader in a technical team and to manage projects in multidisciplinary environments;
PO11 – Life Long Learning:	Recognize the need for, and have the ability for an independent and life-long learning and critical thinking in the face of specialised technical knowledge.

CURRICULUM STRUCTURE FOR DMK PROGRAMME

Preliminary Special Semester (SKP)

CODE	COURSE	CATEGORY	CREDIT	PRE–REQUISITE
DLLW 2112	FOUNDATION ENGLISH	W	2	-
DLHW 2722	INTEGRITY AND ANTI-CORRUPTION	W	2	-
DIPW 2112	APPRECIATION OF ETHICS AND CIVILISATIONS	W	2	-
TOTAL			**6**	

Year 1 (Semester 1)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
DTMW 1012	FUNDAMENTALS OF ENTREPRENEURIAL ACCULTURATION	W	2	-
DXXX XXX1	CO-CURRICULUM I*	W	1	-
DMKC 1013	ENGINEERING MATHEMATICS	P	3	-
DMKC 1023	FUNDAMENTAL PHYSICS	P	3	-
DMKC 1033	CHEMISTRY	P	3	-
DMKU 1423	MATERIALS SCIENCE	P	3	-
DELG 2113	ELECTRICAL & ELECTRONIC PRINCIPLES	P	3	-
TOTAL			**18**	

Year 1 (Semester 2)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
DXXX XXX1	CO-CURRICULUM II*	W	1	-
DLLW 2122	ENGLISH FOR EFFECTIVE COMMUNICATION	P	2	-
DMKC 1043	DIFFERENTIAL EQUATIONS	P	3	-
DMKU 1413	MANUFACTURING PROCESS	P	3	-
DMKU 1113	STATICS	P	3	-
DMKU 1512	TECHNOLOGY AND ENGINEERING WORKSHOP PRACTICE I	P	2	-
DITG1113	COMPUTER PROGRAMMING	P	3	-
TOTAL			**17**	

***Refer to Co-Curriculum Courses offered by Institute of Technology Management and Entrepreneurship (IPTK).**

Year 1 (Short Semester)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
DMKU 1313	ENGINEERING GRAPHICS	W	3	-
DMKU 1522	TECHNOLOGY AND ENGINEERING WORKSHOP PRACTICE II	P	2	-
DMKU 1572	EXPERIMENTAL METHOD	P	2	-
TOTAL			**7**	

Year 2 (Semester 3)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
DMKC 2053	STATISTICS	P	3	-
DMKU 2243	MECHANICAL DESIGN	P	3	-
DMKU 2613	HYDRAULIC AND PNEUMATICS	P	3	-
DERS 2223	ELECTRONIC & MICROPROCESSOR FUNDAMENTAL	P	3	-
DMKU 2213	DYNAMICS	P	3	-
DMKC 2912	DIPLOMA PROJECT I	P	2	-
TOTAL			**17**	

Year 2 (Semester 4)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
DLLW 3132	ENGLISH FOR MARKETABILITY	W	2	-
DMKU 2713	THERMODYNAMICS	P	3	-
DMKU 2623	FLUID MECHANICS	P	3	-
DMKU 2223	MECHANICS OF MACHINES	P	3	-
DMKU 2123	SOLID MECHANICS	P	3	-
DMKC 2062	OCCUPATIONAL SAFETY AND HEALTH	P	2	-
DMKC 2992	DIPLOMA PROJECT II	P	2	DMKC 2912
TOTAL			**18**	

Year 3 (Semester 5)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
DMKC 3938	INDUSTRIAL TRAINING	P	8	-
TOTAL			**8**	
OVERALL TOTAL CREDIT			**91**	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	COMMON CORE COURSE

BACHELOR OF MECHANICAL ENGINEERING WITH HONOURS (BMKU)

ACCREDITATION: 2023-2028

Entry Requirement:

DIPLOMA HOLDERS / EQUIVALENT

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass Diploma / equivalent qualification recognized by the Government of Malaysia and approved by the University Senate; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass a Diploma in Engineering with at least a CGPA of 3.00 or Diploma in Engineering Technology with at least a CGPA of 3.00 recognized by the Government of Malaysia and approved by the University Senate **AND**
- ☑ Credit exemptions are subject to the faculty's approval **AND**
- ☑ Pass the Diploma program before the academic session begins.

MATRICULATION CERTIFICATE

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass KPM Matriculation / Asasi with at least a CGPA of 2.00; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics/ Engineering Mathematics, Physics/ Engineering Science and Chemistry/ Basic Engineering.

STPM HOLDERS

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass STPM with at least Grade C (CGPA 2.00) in
  - Mathematics (M)/Mathematics (T)
  - Physics
  - Chemistry

  OR
  - Mathematics (M)/Mathematics (T)
  - Chemistry
  - Biology and must get at least Honors (Grade C) in Physics subjects ranked in the Malaysian Certificate of Education (SPM)

  AND
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET). **AND**
- ☑ Candidate does not have limited capability in performing the practical work.

Programme Educational Objectives (PEO)

The graduates from this programme are expected to become:

PEO1
- Graduates who are competent and adaptable in multi-industries by practicing the knowledge in mechanical engineering that is relevant to professional engineering practice. **(Competency)**

PEO2
- Graduates who will pursue study in graduate works and others professional education. **(Lifelong Learning)**

PEO3
- Graduates who will be leader at note-worthy level and provide solutions that benefited the respective organization, society and nation. **(Leadership)**

Programme Objectives (PO)

The POs are in line and consist of all the criteria (11 outcomes) as stated in the Engineering Accreditation Standard (EAC) 2024. The POs are exhibited at many areas surrounding the faculty, such as at waiting room, meeting room, entrance lobby and laboratory areas. The POs are also accessible from the faculty's website. Theare 11 PO's for Bachelor of Mechanical Engineering programme are:

PO	PO Statement
PO1- Engineering Knowledge	Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and mechanical engineering specialization as specified in WK1 to WK4 respectively to develop solutions to complex engineering problems
PO2 – Problem Analysis	Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development in mechanical engineering (WK1 to WK4)
PO3 – Design/ Development of Solutions	Design creative solutions for complex mechanical engineering problems and design systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations as required (WK5)
PO4 – Investigation	Conduct investigation of complex mechanical engineering problems using research methods including research-based knowledge, including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions (WK8)
PO5 – Tool Usage	Create, select and apply, and recognize limitation of appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex mechanical engineering problems, (WK2 and WK6)
PO6 – The Engineer and the World	Analyze and evaluate sustainable development impacts to: society, the economy, sustainability, health and safety, legal frameworks, and the environment, in solving complex engineering problems (WK1, WK5, and WK7).
PO7 – Ethics	Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion (WK9)
PO08 -Individual and Collaborative Team Work	Function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multidisciplinary, face-to-face, remote and distributed settings (WK9);
PO09 – Communications	Communicate effectively and inclusively on complex mechanical engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, taking into account cultural, language, and learning differences

PO10 – Project Management and Finance:	Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects in multidisciplinary environments;
PO11 – Life Long Learning:	Recognise the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change (WK8).

CURRICULUM STRUCTURE FOR BMKU PROGRAMME

Year 1 (Semester 1)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLLW 1142	ENGLISH FOR ACADEMIC PURPOSES	W	2	-
BLHW 1762	PHILOSOPHY AND CURRENT ISSUES	W	2	-
BMIG 1313	ENGINEERING MATHEMATICS I	P	3	-
BITG 1233	COMPUTER PROGRAMMING	P	3	-
BMIG 1213	ENGINEERING MATERIALS	P	3	-
BERN 1123	PRINCIPLES OF ELECTRIC AND ELECTRONICS	P	3	-
BMKU 1412	MANUFACTURING PROCESS	K	2	-
TOTAL			**18**	

Year 1 (Semester 2)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BKKX XXX1	CO-CURRICULUM I*	W	1	-
BLHL 1XX2	LANGUAGE ELECTIVE***	W	2	-
BELG 1233	PRINCIPLES OF INSTRUMENTATION AND MEASUREMENT	P	3	-
BMKU 1313	ENGINEERING GRAPHICS AND CAD	P	3	-
BMKU 1113	STATICS	P	3	-
BMKU 1511	MECHANICAL ENGINEERING WORKSHOP	K	1	-
BMKC 1013	DIFFERENTIAL EQUATIONS	P	3	-
			16	

*Refer to Co-Curriculum Courses offered by Institute of Technology Management and Entrepreneurship (IPTK).
***Refer to language courses offered by Centre for Language Leaning (CeLL). International students whose native language is not Malay are required to take BLLW 1172 Bahasa Melayu Komunikasi 1. Also refer list of Other Elective Courses table and list of Other Elective Courses in page 20 and 21.

Year 2 (Semester 3)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLHW 2772/ BLHW 2752	APPRECIATION OF ETHICS AND CIVILISATIONS*/ MALAYSIAN CULTURE**	W	2	-
BELG 2443	ENGINEERING MATHEMATICS II	P	3	-
BMKU 2222	MICROPROCESSOR TECHNOLOGY	K	2	-
BMKU 2213	DYNAMICS	K	3	-
BMKU 2323	COMPUTER AIDED DESIGN & MANUFACTURING	K	3	-
BMKU 2713	THERMODYNAMICS I	K	3	-
BMKU 2511	MECHANICAL ENGINEERING LABORATORY I	K	1	-
TOTAL			**17**	

Year 2 (Semester 4)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLLW 2152	ACADEMIC WRITING	W	2	BLLW 1142
BKXX XXX1	CO-CURRICULUM II*	W	1	-
BERN 2143	ENGINEERING STATISTICS	P	3	
BELG 2433	ELECTRICAL SYSTEMS	P	3	-
BMKU 2613	FLUID MECHANICS I	K	3	-
BMKU 2123	SOLID MECHANICS I	K	3	-
BMKU 2723	THERMODYNAMICS II	K	3	BMKU 2713
TOTAL			**18**	

Year 3 (Semester 5)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLLW 3162	ENGLISH FOR PROFESSIONAL INTERACTION	W	2	BLLW 2152
BMKU 3531	MECHANICAL ENGINEERING LABORATORY II	K	1	-
BMIU 3213	ENGINEERING MANAGEMENT AND ECONOMY	P	3	-
BMKC 3042	SUSTAINABILITY AND ENVIRONMENT	K	2	-
BMKU 3623	FLUID MECHANICS II	K	3	BMKU 2613
BMKU 3133	SOLID MECHANICS II	K	3	BMKU 2123
BMKU 3243	CONTROL ENGINEERING	K	3	-
TOTAL			**17**	

Year 3 (Semester 6)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKU 3333	FINITE ELEMENT ANALYSIS	K	3	-
BMKU 3733	HEAT TRANSFER	K	3	-
BMKU 3343	ENGINEERING DESIGN	K	3	-
BMKU 3253	MECHANICAL VIBRATION	K	3	-
BMKU 3233	MECHANICAL DESIGN	K	3	-
BXXX XXX2	GENERAL / OPEN ELECTIVE*	W	2	-
TOTAL			**17**	

***** Refer to Other Elective Courses table

Year 3 (Short Semester)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKC 3915	INDUSTRIAL TRAINING	P	5	-
TOTAL			**5**	

Year 4 (Semester 7)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKC 4932	FINAL YEAR PROJECT I	P	2	-
BMKU 4743	RENEWABLE ENERGY	K	3	-
BMKC 4032	ENGINEER AND SOCIETY	P	2	-
BMKC 4041	ENGINEERING SEMINAR	P	1	-
BMKC 4913	INTEGRATED DESIGN PROJECT	P	3	BMKU 3343
BTMW 4012	TECHNOLOGY ENTREPRENEURS	W	2	-
BMKU 4541	MECHANICAL ENGINEERING LABORATORY III	K	1	-
TOTAL			**14**	

Year 4 (Semester 8)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKC 4944	FINAL YEAR PROJECT II	P	4	BMCU 4932
BMKU 4XX3	ELECTIVE I#	E	3	-
BMKU 4XX3	ELECTIVE II#	E	3	-
BMKU 4XX3	ELECTIVE III#	E	3	-
TOTAL			**15**	
TOTAL OVERALL CREDIT			**135**	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	COMMON CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE

List of Programme Elective Courses

FIELD	CODE	COURSE	CREDIT
THERMAL & FLUID	BMKU 4653	TURBOMACHINERY	3
	BMKU 4753	REFRIGERATION AND AIR CONDITIONING SYSTEM	3
	BMKU 4743	POWERPLANT SYSTEM	3
	BMKU 4633	COMPUTATIONAL FLUID DYNAMICS	3
	BMKU 4643	FLUID POWER SYSTEM	3
STRUCTURE & MATERIAL	BMKU 4153	ADVANCED SOLID MECHANICS	3
	BMKU 4143	FRACTURE MECHANICS	3
	BMKU 4443	NON-DESTRUCTIVE TESTING	3
	BMKU 4423	COMPOSITES AND ADVANCED MATERIALS	3
	BMKU 4433	METALLURGY	3
	BMKU 4453	CORROSION AND DEGRADATION OF ALLOY STEEL	3
DESIGN	BMKU 4363	MECHANISM DESIGN	3
	BMKU 4353	3D PRINTING TECHNOLOGY	3
	BMKU 4393	DESIGN QUALITY AND RELIABILITY	3
	BMKU 4383	DESIGN OPTIMIZATION	3
	BMKU 4373	ADVANCED COMPUTER AIDED DESIGN	3
MAINTENANCE	BMKU 4813	CONDITION BASED MAINTENANCE	3
	BMKU 4823	RELIABILITY, MAINTAINABILITY AND RISKS	3
	BMKU 4853	VIBRATION MONITORING OF ROTATING MACHINERY	3
	BMKU 4833	WEAR DEBRIS AND OIL ANALYSIS	3
	BMKU 4863	TRIBOLOGY	3
	BMKU 4843	STRUCTURAL HEALTH MONITORING	3

List of Other Electives Courses

NUMBER	CODE	COURSE
LANGUAGE ELECTIVE		
1	BLLW 1222	MANDARIN LANGUAGE 1
2	BLLW 1242	KOREAN LANGUAGE 1
3	BLLW 1212	ARABIC LANGUAGE 1
4	BLLW 1252	GERMAN LANGUAGE 1
5	BLLW 1232	JAPANESE LANGUAGE 1
6	BLLW 1172	COMMUNICATIVE MALAY LANGUAGE 1*
GENERAL ELECTIVE		
1	BLHC 4032	CRITICAL AND CREATIVE THINKING
2	BLHC 4022	NEGOTIATION SKILLS
3	BLHH 1032	INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
4	BLHC 4012	ORGANIZATIONAL COMMUNICATION
5	BLHW 1722	PHILOSOPHY OF SCIENCE AND TECHNOLOGY
OPEN ELECTIVE		
1	BMKK 4933	VEHICLE AUTONOMOUS SYSTEM

* For international students whose native language is not Malay.

BACHELOR OF AUTOMOTVE ENGINEERING WITH HONOURS (BMKK)

ACCREDITATION: 2023-2027

Entry Requirement:

DIPLOMA HOLDERS / EQUIVALENT

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass Diploma / equivalent qualification recognized by the Government of Malaysia and approved by the University Senate; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass a Diploma in Engineering with at least a CGPA of 3.00 or Diploma in Engineering Technology with at least a CGPA of 3.00 recognized by the Government of Malaysia and approved by the University Senate **AND**
- ☑ Credit exemptions are subject to the faculty's approval **AND**
- ☑ Pass the Diploma program before the academic session begins.

MATRICULATION CERTIFICATE

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass KPM Matriculation / Asasi with at least a CGPA of 2.00; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics/ Engineering Mathematics, Physics/ Engineering Science and Chemistry/ Basic Engineering.

STPM HOLDERS

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass STPM with at least Grade C (CGPA 2.00) in
  - Mathematics (M)/Mathematics (T)
  - Physics
  - Chemistry

  OR
  - Mathematics (M)/Mathematics (T)
  - Chemistry
  - Biology and must get at least Honors (Grade C) in Physics subjects ranked in the Malaysian Certificate of Education (SPM)

  AND
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET). **AND**
- ☑ Candidate does not have limited capability in performing the practical work.

Programme Educational Objectives (PEO)

The graduates from this programme are expected to become:

PEO1
- Graduates who are competent and adaptable in multi-industries by practicing the knowledge in mechanical-automotive engineering that is in accordance to the professional engineering practice. **(Competency)**

PEO2
- Graduates who will further study at postgraduate level or other professional courses. **(Lifelong Learning)**

PEO3
- Graduates who will be leader at note-worthy level and provide solutions that benefited the respective organization, society and nation. **(Leadership)**

Programme Objectives (PO)

The POs are in line and consist of all the criteria (11 outcomes) as stated in the Engineering Accreditation Standard (EAC) 2024. The POs are exhibited at many areas surrounding the faculty, such as at waiting room, meeting room, entrance lobby and laboratory areas. The POs are also accessible from the faculty's website. There are 11 PO's for Bachelor of Mechanical Engineering programme are:

PO	PO Statement
PO1- Engineering Knowledge	Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and mechanical-automotive as specified in WK1 to WK4 respectively to develop solutions to complex engineering problems
PO2 – Problem Analysis	Identify, formulate, research literature and analyze complex mechanical-automotive engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development in mechanical-automotive engineering (WK1 to WK4)
PO3 – Design/ Development of Solutions	Design creative solutions for complex mechanical-automotive engineering problems and design systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations as required (WK5)
PO4 – Investigation	Conduct investigation of complex mechanical-automotive engineering problems using research methods including research-based knowledge, including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions (WK8)
PO5 – Tool Usage	Create, select and apply, and recognize limitation of appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex mechanical-automotive engineering problems, (WK2 and WK6)
PO6 – The Engineer and the World	Analyze and evaluate sustainable development impacts to: society, the economy, sustainability, health and safety, legal frameworks, and the environment, in solving complex engineering problems (WK1, WK5, and WK7).
PO7 – Ethics	Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion (WK9)
PO08 -Individual and Collaborative Team Work	Function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multidisciplinary, face-to-face, remote and distributed settings (WK9);
PO09 – Communications	Communicate effectively and inclusively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, taking into account cultural, language, and learning differences

PO10 – Project Management and Finance:	Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects in multidisciplinary environments;
PO11 – Life Long Learning:	Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change (WK8).

CURRICULUM STRUCTURE FOR BMKK PROGRAMME

Year 1 (Semester 1)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLHL 1XX2	LANGUAGE ELECTIVE*	W	2	-
BLHW 1762	PHILOSOPHY AND CURRENT ISSUES	W	2	-
BMIG 1313	ENGINEERING MATHEMATICS I	P	3	-
BMKK 1323	COMPUTER AIDED DESIGN	K	3	-
BMIG 1213	ENGINEERING MATERIALS	P	3	-
BMKK 1113	ENGINEERING MECHANICS	K	3	-
TOTAL			**16**	

*Refer to language courses offered by Centre for Language Learning (CeLL). International students whose native language is not Malay are required to take BLHL 1012 Communicative Malay Language1.

Year 1 (Semester 2)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BKXX XXX1	CO-CURRICULUM I*	W	1	-
BLLW1142	ENGLISH FOR ACADEMIC PURPOSES	W	2	
BMKC 1013	DIFFERENTIAL EQUATIONS	P	3	-
BMKK 2713	THERMODYNAMICS	K	3	-
BELG 1123	PRINCIPLES OF ELECTRIC AND ELECTRONICS	P	3	-
BMKC 1052	MEASUREMENT AND INSTRUMENTATION	P	3	-
BMKU 1412	MANUFACTURING PROCESS	K	2	-
TOTAL			**16**	

*Refer to Co-Curriculum Courses offered by Institute of Technology Management and Entrepreneurship (IPTK).

Year 2 (Semester 3)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLHW 2772/ BLHW 2752	APPRECIATION OF ETHICS AND CIVILISATIONS*/MALAYSIAN CULTURE**	W	2	-
BKKX XXX1	CO-CURRICULUM II***	W	1	-
BELG 2443	ENGINEERING MATHEMATICS II	P	3	-
BMKK 2123	SOLID MECHANICS	K	3	-
BMKK 4343	AUTOMOTIVE MANUFACTURING SYSTEM	K	3	-
BMKK 2823	VEHICLE ELECTRIC & ELECTRONICS SYSTEM	K	3	-
BMKU 2222	MICROPROSESSOR TECHNOLOGY	K	2	-
TOTAL			**17**	

Year 2 (Semester 4)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLLW 2152	ACADEMIC WRITING	W	2	BLLW 1142
BMKU 3233	MECHANICAL DESIGN	K	3	-
BITG 1233	COMPUTER PROGRAMMING	P	3	-
BMKK 2613	FLUID MECHANICS	K	3	-
BMKK 2541	MECHANICAL ENGINEERING LABORATORY	K	1	-
BMKK 3511	AUTOMOTIVE LABORATORY I	K	1	-
BMKK 2813	AUTOMOTIVE TECHNOLOGY	K	3	-
TOTAL			16	

Year 3 (Semester 5)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKU 3243	CONTROL ENGINEERING	K	3	-
BMKU 3733	HEAT TRANSFER	K	3	-
BMKK 3213	VEHICLE DYNAMICS	K	3	-
BMKK 3522	AUTOMOTIVE LABORATORY II	K	1	-
BMKK 2723	INTERNAL COMBUSTION ENGINE	K	3	-
BMKU 3253	MECHANICAL VIBRATION	K	3	-
TOTAL			**17**	

Year 3 (Semester 6)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLLW 3162	ENGLISH FOR PROFESSIONAL INTERACTION	W	2	BLLW 2152
BERN 2143	ENGINEERING STATISTICS	P	3	-
BMKK 3913	INTEGRATED DESIGN PROJECT I	P	3	-
BIPW2152	INTEGRITY AND ANTI-CORRUPTION	W	2	-
BMKK 3313	VEHICLE SYSTEM MODELLING & SIMULATION	K	3	-
BMKK 4333	VEHICLE POWERTRAIN SYSTEMS	K	3	-
TOTAL			**16**	

* Refer to Other Elective Courses table

Year 3 (Short Semester)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKC 3915	INDUSTRIAL TRAINING	P	5	-
TOTAL			**5**	

Year 4 (Semester 7)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKK 4233	ELECTRICAL PROPULSION SYSTEM	K	3	-
BMKC 4932	FINAL YEAR PROJECT I	P	2	-
BMKC 4032	ENGINEER AND SOCIETY	P	2	-
BMKK 4913	INTEGRATED DESIGN PROJECT II	P	3	BMKK 3913
BMKK 4223	VEHICLE CONTROL SYSTEM	K	3	-
BMKK 4XX3	ELECTIVE I	E	3	-
TOTAL			**16**	

Year 4 (Semester 8)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BTMW 4012	TECHNOLOGY ENTREPRENEURS	W	2	-
BMKK 4941	AUTOMOTIVE SEMINAR	P	1	-
BMKC 4944	FINAL YEAR PROJECT II	P	4	BMCU 4972
BMIU 3213	ENGINEERING MANAGEMENT AND ECONOMY	P	3	-
BMKK 4233	VEHICLE AUTONOMOUS SYSTEM	K	3	-
BMKK 4XX3	ELECTIVE II	E	3	-
TOTAL			**16**	
TOTAL OVERALL CREDIT			**135**	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	COMMON CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE

List of Programme Elective Courses

FIELD	CODE	COURSE	CREDIT
ELECTIVE I	BMKK 4323	VEHICLE ERGONOMICS	3
	BMKK 3623	VEHICLE AERODYNAMICS	3
	BMKK 4353	LUBRICATION AND LUBRICANTS	3
ELECTIVE II	BMKK 4243	NOISE, VIBRATION AND HARSHNESS	3
	BMKK 4133	VEHICLE STRUCTURE	3
	BMKK 4363	AUTOMOTIVE SURFACE ENGINEERING	3

BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY WITH HONOURS (BMKV)

ACREDITATION: 2021-2026

Entry Requirement:

DIPLOMA HOLDERS / EQUIVALENT

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass Diploma / equivalent qualification recognized by the Government of Malaysia and approved by the University Senate; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass a Diploma in Engineering with at least a CGPA of 2.00 or Diploma in Engineering Technology with at least a CGPA of 2.30 or Malaysian Skills Diploma (DKM), Malaysian Advanced Skills Diploma (DLKM), with at least a CGPA 3.00/80% marks and above from Skills Development Department (JPK) recognized by the Government of Malaysia and approved by the University Senate **AND**
- ☑ Credit exemptions are subject to the faculty's approval **AND**
- ☑ Pass the Diploma program before the academic session begins.

MATRICULATION CERTIFICATE

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass KPM Matriculation / Asasi with at least a CGPA of 2.00; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics/ Engineering Mathematics, Physics/ Engineering Science and Chemistry/ Basic Engineering.
- ☑ Candidates with Biology must get at least Honors (Grade C) in Physics subjects ranked in the Malaysian Certificate of Education (SPM)

STPM HOLDERS

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass STPM with at least Grade C (CGPA 2.00) in the General Paper **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics, Physics, and Chemistry.

Programme Educational Objectives (PEO)

Programme Educational Objectives (PEO) is specific goals describing expected achievements of graduates in their career and professional life after graduation. To produce, after 3 to 5 years of graduation:

PEO1	• Graduates who are able to practice the knowledge in Mechanical Engineering Technology.
PEO2	• Graduates who are able to engage with continuous development and adapt to evolving technologies.
PEO3	• Graduates who are able to adapt professional ethics and leadership to meet the needs of the society.

Programme Objectives (PO)

Programme Outcomes (PO) are statements describing what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire through their programme of studies.

PO	PO Statement
PO1- Engineering Knowledge	Ability to apply knowledge of mathematics, natural science, computing and engineering fundamentals and engineering specialization principles to defined and applied engineering procedures, processes, systems or methodologies in the field of Mechanical Engineering Technology.
PO2 – Problem Analysis	Ability to identify, formulate, research literature and analyse broadly-defined engineering problems reaching substantiated conclusions using analytical tools with considerations for sustainable development appropriate to Mechanical Engineering Technology
PO3 – Design/ Development of Solutions	Ability to design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations.
PO4 – Investigation	Ability to conduct investigations of broadly-defined engineering problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.
PO5 – Tool Usage	Ability to select and apply, and recognize limitations of appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to broadly-defined engineering problems.
PO6 – The Engineering Technologist and the World	Ability to understand and commit to professional ethics and norms of engineering technology practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion. Ability to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
PO7 – Ethics	Ability to communicate effectively and inclusively on broadly-defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, considering cultural, language, and learning differences
PO08 -Individual and Collaborative Team Work	Ability to apply knowledge and understanding of engineering management principles and economic decision-making to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments.
PO09 – Communications	Ability to recognize the need for, and have the ability for independent and life-long learning and critical thinking in the face of new specialist technologies.
PO10 – Project Management and Finances	Ability to understand and commit to professional ethics and norms of engineering technology practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion.
PO11 – Life Long Learning	Ability to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.

Four (4) years programme with **142 credit hours**.

COMPONENTS		CREDIT HOURS	PERCENTAGE (%)
University Compulsory (W)		18	12.68
Co-Curriculum (W)		2	1.41
Faculty Core (P)		21	14.79
Programme Core (K)	Core Courses	69	48.59
	Industrial Training	12	8.45
	Final Year Project	8	5.63
	Professional Certificate	0	0.00
Elective (E)	Programme	12	8.45
Total		**142**	**100**

CURRICULUM STRUCTURE FOR BMKV PROGRAMME

Year 1

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 1	BELG 1013	*Matematik Teknikal* Technical Mathematics	P	3	
	BMKT 1123	*Fizik Teknikal* Technical Physics	P	3	
	BMKT 1413	*Grafik Kejuruteraan* Engineering Graphics	K	3	
	BMKT 1513	*Statik dan Dinamik* Statics and Dynamics	K	3	
	BMKT 1713	*Prinsip Elektrik dan Elektronik* Principles of Electric and Electronic	K	3	
	BMKT 1623	*Amalan Pembuatan* Manufacturing Practices	K	3	
	BKKX XXX1	*Kokurikulum I* Cocurriculum I	W	1	
TOTAL CREDITS THIS SEMESTER				19	
SEMESTER 2	BMIG 1023	*Kalkulus untuk Teknologi* Calculus for Technology	P	3	
	BMKT 1133	*Kimia Teknikal* Technical Chemistry	P	3	
	BMKT 1613	*Bahan Kejuruteraan* Engineering Materials	K	3	
	BMKT 2433	*Rekabentuk Kejuruteraan* Engineering Design	K	3	
	BMKT 2633	*Pengukuran dan Instrumentasi* Measurement and Instrumentation	K	3	
	BLHW 2772	*Penghayatan Etika Dan Peradaban* Appreciation of Ethics and Civilizations	W	2	
	BLLW 1142	*Bahasa Inggeris untuk Tujuan Akademik* English for Academic Purposes	W	2	
TOTAL CREDITS THIS SEMESTER				19	

Year 2

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BMKG 2033	*Kalkulus Gunaan untuk Teknologi* Applied Calculus for Technology	P	3	
	BMKT 2643	*Proses Pembuatan* Manufacturing Process	K	3	
	BMKT 2513	*Termodinamik* Thermodynamics	K	3	
	BMKT 2523	*Mekanik Bendalir* Fluid Mechanics	K	3	
	BMKT 2733	*IOT dan Aplikasi Pengawal Mikro* Applied Microcontroller and IOT	K	3	
	BLLW 2152	*Penulisan Akademik* Academic Writing	W	2	BLLW 1142
	BKKX XXX1	*Kokurikulum II* Cocurriculum II	W	1	
TOTAL CREDITS THIS SEMESTER				18	
SEMESTER 4	BERG 2043	*Kaedah Statistik* Statistical Methods	P	3	
	BMKT 2323	*Mekanik Pepejal* Solid Mechanics	K	3	BMKT 1513
	BMKT 2633	*Rekabentuk Elemen Mesin* Machine Element Design	K	3	
	BMKT 3543	*Teknologi Pneumatik dan Hidraulik* Pneumatic & Hydraulic Technology	K	3	
	BMKT 2423	*Permodelan dan Analisis Berkomputer* Modelling and Computer Analysis	K	3	BMKT 1413
	BMKT 3533	*Pemindahan Haba* Heat Transfer	K	3	
	BLHW 1762	*Falsafah dan Isu Semasa* Philosophy and Current Issues	W	2	
TOTAL CREDITS THIS SEMESTER				20	

Year 3

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 5	BMKH 2113	*Asas HVAC dan Penyejukan* Fundamental of HVAC and Refrigeration	K	3	
	BMKV 3113	*Pengurusan Projek* Project Management	K	3	
	BMKT 3343	*Getaran Mekanikal* Mechanical Vibration	K	3	
	BMKT 3743	*Kawalan dan Instrumentasi* Control and Instrumentation	K	3	
	BMKT 3443	*Projek Rekabentuk Bersepadu* Integrated Design Project	K	3	
	BLLW 3162	*Bahasa Inggeris untuk Interaksi Profesional* English for Professional Interaction	W	2	BLLW 2152
	BTMW 4012	*Keusahawanan Teknologi* Technology Enterpreneurship	W	2	
	#BMXX XXX0	*Kursus Persediaan Pensijilan Profesional* Professional Certificate Preparation Course	P	0	
TOTAL CREDITS THIS SEMESTER				19	
SEMESTER 6	BMKT 3453	*Simulasi Berkomputer* Computer Simulation	K	3	
	BMKV 3313	*Kelestarian dan Alam Sekitar* Environment and Sustainability	K	3	
	BMKT 3214	*Projek Sarjana Muda I* Bachelor Degree Project I	K	4	
	BLHW 2792	*Kursus Integriti dan Anti-Rasuah* Integrity and Anti-Corruption	W	2	
	*BMKV 4XX3	*Elektif I* Elective I	E	3	
	*BMKV 4XX3	*Elektif II* Elective II	E	3	
TOTAL CREDITS THIS SEMESTER				18	

Year 4

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 7	BMKT 4243	*Etika Kejuruteraan dan KKKP* Engineering Ethics and OSHE	P	3	
	BMKT 4224	*Projek Sarjana Muda II* Bachelor Degree Project II	K	4	BMKT 3214
	BLHC 4032	*Pemikiran Kritis dan Kreatif* Critical and Creative Thinking	W	2	
	BLLW 1XX2	*Bahasa Ketiga* Third Language	W	2	
	BMKV 4XX3	*Elektif III* Elective III	E	3	
	BMKV 4XX3	*Elektif IV* Elective IV	E	3	
TOTAL CREDITS THIS SEMESTER				17	
SEMESTER 8	BMKT 4256	*Latihan Industri I* Industrial Training I	K	6	
	BMKT 4266	*Latihan Industri II* Industrial Training II	K	6	
TOTAL CREDITS THIS SEMESTER				12	
TOTAL CREDITS				142	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	FACULTY CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE

*For Elective I, II, III & IV students may choose any FOUR (4) COURSES from the list below:

NO.	CODE	COURSE
1.	BMKV 4123	*Kelestarian dan Bangunan Hijau* Green Building and Sustainability
2.	BMKV 4133	*Utiliti Bangunan* Building Utilities
3.	BMKV 4143	*Kejuruteraan Perkhidmatan Bangunan* Building Services Engineering
4.	BMKV 4153	*Teknik Penyelenggaraan Bangunan* Building Maintenance Technique
5.	BMKV 4213	*Pengenalan Senibina dan Rekabentuk Kapal* Introduction to Ship Design and Architecture
6.	BMKV 4223	*Sistem Teknologi Marin* Marine Technology System
7.	BMKV 4233	*Teknologi Kapal Kecil* Small Craft Technology
8.	BMKV 4243	*Pemeriksaan dan Penyelenggaraan Marin* Marine Inspection and Maintenance
9.	BMKV 4323	*Teknologi Air dan Air Sisa* Water and Waste Water Technology
10.	BMKV 4333	*Teknologi Pengurusan Sisa Pepejal* Solid Waste Management Technology
11.	BMKV 4343	*Teknologi Kualiti Udara dan Kawalan Pencemaran* Air Quality and Pollution Control Technology
12.	BMKV 4353	*Pengurusan Sisa Industri dan Sisa Berjadual* Industrial and Hazardous Waste Management
13.	BMKV 4413	*Pengenalan kepada Rekabentuk & Senibina Pesawat* Introduction to Aircraft Design & Architecture
14.	BMKV 4423	*Bahan & Pembuatan Aeroangkasa* Aerospace Materials & Manufacturing
15.	BMKV 4433	*Aerodinamik Pesawat* Aircraft Aerodynamics
16.	BMKV 4443	*Avionik* Avionics

For Professional Certificate Preparation Course, students may choose any ONE (1) certificate from the list below:

CODE	CERTIFICATE NAME
BMMA 3100	Certified CATIA V6 – Part Design Associate
BMID 3100	Certified Solidworks Associate

BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (MAINTENANCE TECHNOLOGY) WITH HONOURS (BMKM)

ACREDITATION: 2021-2026

Entry Requirement:

DIPLOMA HOLDERS / EQUIVALENT

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass Diploma / equivalent qualification recognized by the Government of Malaysia and approved by the University Senate; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass a Diploma in Engineering with at least a CGPA of 2.00 or Diploma in Engineering Technology with at least a CGPA of 2.30 or Malaysian Skills Diploma (DKM), Malaysian Advanced Skills Diploma (DLKM), with at least a CGPA 3.00/80% marks and above from Skills Development Department (JPK) recognized by the Government of Malaysia and approved by the University Senate **AND**
- ☑ Credit exemptions are subject to the faculty's approval **AND**
- ☑ Pass the Diploma program before the academic session begins.

MATRICULATION CERTIFICATE

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass KPM Matriculation / Asasi with at least a CGPA of 2.00; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics/ Engineering Mathematics, Physics/ Engineering Science and Chemistry/ Basic Engineering.
- ☑ Candidates with Biology must get at least Honors (Grade C) in Physics subjects ranked in the Malaysian Certificate of Education (SPM)

STPM HOLDERS

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass STPM with at least Grade C (CGPA 2.00) in the General Paper **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics, Physics, and Chemistry.

Programme Educational Objectives (PEO)

Programme Educational Objectives (PEO) is specific goals describing expected achievements of graduates in their career and professional life after graduation. To produce, after 3 to 5 years of graduation:

PEO1	• Graduates who are able to practice the knowledge in Mechanical Engineering Technology (Maintenance Technology)
PEO2	• Graduates who are able to engage with continuous development and adapt to evolving technologies.
PEO3	• Graduates who are able to adapt professional ethics and leadership to meet the needs of the society.

Programme Objectives (PO)

Programme Outcomes (PO) are statements describing what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire through their programme of studies.

PO	PO Statement
PO1- Engineering Knowledge	Ability to apply knowledge of mathematics, natural science, computing and engineering fundamentals and engineering specialization principles to defined and applied engineering procedures, processes, systems or methodologies in the field of Mechanical Engineering Technology (Maintenance).
PO2 – Problem Analysis	Ability to identify, formulate, research literature and analyse broadly-defined engineering problems reaching substantiated conclusions using analytical tools with considerations for sustainable development appropriate to Mechanical Engineering Technology (Maintenance).
PO3 – Design/ Development of Solutions	Ability to design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations.
PO4 – Investigation	Ability to conduct investigations of broadly-defined engineering problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.
PO5 – Tool Usage	Ability to select and apply, and recognize limitations of appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to broadly-defined engineering problems.
PO6 – The Engineering Technologist and the World	Ability to understand and commit to professional ethics and norms of engineering technology practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion. Ability to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
PO7 – Ethics	Ability to communicate effectively and inclusively on broadly-defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, taking into account cultural, language, and learning differences
PO08 -Individual and Collaborative Team Work	Ability to apply knowledge and understanding of engineering management principles and economic decision-making to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments.
PO09 – Communications	Ability to recognize the need for, and have the ability for independent and life-long learning and critical thinking in the face of new specialist technologies.
PO10 – Project Management and Finances	Ability to understand and commit to professional ethics and norms of engineering technology practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion.
PO11 – Life Long Learning	Ability to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.

Four (4) years programme with **143 credit hours**.

COMPONENTS		CREDIT HOURS	PERCENTAGE (%)
University Compulsory		18	12.60
Co-Curriculum (W)		2	1.40
Faculty Core (P)		17	11.89
Programme Core (K)	Core Courses	77	53.85
	Industrial Training	12	8.39
	Final Year Project	8	5.59
	Professional Certificate	0	0.00
Elective (E)	Programme	9	6.30
Total		**143**	**100**

CURRICULUM STRUCTURE FOR BMKM PROGRAMME

Year 1

	CODE	COURSE	CATEGORY	CREDIT	PRE- REQUISITE
SEMESTER 1	BELG 1013	*Matematik Teknikal* Technical Mathematics	P	3	
	BMKT 1112	*Fizik* Physics	P	2	
	BMKT 1413	*Grafik Kejuruteraan* Engineering Graphics	K	3	
	BMKT 1613	*Bahan Kejuruteraan* Engineering Materials	K	3	
	BMKT 1623	*Amalan Pembuatan* Manufacturing Practices	K	3	
	BMKT 2633	*Pengukuran dan Instrumentasi* Measurement and Instrumentation	K	3	
	BLHW 1762	*Falsafah dan Isu Semasa* Philosophy and Current Issues	W	2	
	BKKX XXX1	*Kokurikulum I* Cocurriculum I	W	1	
TOTAL CREDITS THIS SEMESTER				20	
SEMESTER 2	BMIG 1023	*Kalkulus untuk Teknologi* Calculus for Technology	P	3	
	BMKT 1513	*Statik dan Dinamik* Statics and Dynamics	K	3	
	BMKT 1713	*Prinsip Elektrik dan Elektronik* Principles of Electric and Electronic	K	3	
	BMKT 2513	*Termodinamik* Thermodynamics	K	3	
	** BMKT 2423	*Permodelan dan Analisis Berkomputer* Modelling and Computer Analysis	K	3	BMKT 1413
	BLLW 1142	*Bahasa Inggeris untuk Tujuan Akademik* English for Academic Purposes	W	2	
	BKKX XXX1	*Kokurikulum II* Cocurriculum II	W	1	
TOTAL CREDITS THIS SEMESTER				18	

Year 2

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BERG 2043	*Kaedah Statistik* Statistical Methods	P	3	
	BMKT 2433	*Rekabentuk Kejuruteraan* Engineering Design	K	3	
	BMKT 2523	*Mekanik Bendalir* Fluid Mechanics	K	3	
	BMKT 2633	*Rekabentuk Mesin Elemen* Machine Element Design	K	3	
	BMKM 3123	*Teknologi Penyenggaraan dan Pengurusan Aset* Maintenance Technology and Asset Management	K	3	
	BMKT 3543	*Teknologi Pneumatik dan Hidraulik* Pneumatic and Hydraulic Technology	K	3	
	BLLW XXX2	*Bahasa Ketiga* Third Language	W	2	
TOTAL CREDITS THIS SEMESTER				20	
SEMESTER 4	BMKG 2033	*Kalkulus Gunaan untuk Teknologi* Applied Calculus for Technology	P	3	
	BMKT 3743	*Kawalan dan Instrumentasi* Control and Instrumentation	K	3	
	BMKT 2323	*Mekanik Pepejal* Solid Mechanics	K	3	BMKT 1513
	BMKM 2313	*Asas Tribologi* Basic Tribology	K	3	
	BMKM 2112	*Pengenalan kepada Penyelenggaraan* Introduction to Maintenance	K	2	
	BLLW 2152	*Penulisan Akademik* Academic Writing	W	2	BLLW 1142
	BLHW 2772	*Penghayatan Etika dan Peradaban* Appreciation of Ethics and Civilizations	W	2	
TOTAL CREDITS THIS SEMESTER				18	

Year 3

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 5	BMKM 2213	*Motor Industri* Industrial Motor	K	3	
	BMKT 3443	*Projek Rekabentuk Bersepadu* Integrated Design Project	K	3	
	BMKM 3323	*Teknologi Penghantaran* Transmission Technology	K	3	
	BMKM 3333	*Diagnostik dan Pengenalpastian Masalah Penyelenggaraan* Maintenance Diagnostic and Troubleshooting	K	3	
	BMKM 3343	*Penyelenggaraan Mesin Mekanikal* Mechanical Machine Maintenance	K	3	
	**BLLW 3162	*Bahasa Inggeris untuk Interaksi Profesional* English for Professional Interaction	W	2	BLLW 2152
	BLHW 2792	*Kursus Integriti dan Anti-Rasuah* Integrity and Anti-Corruption	W	2	
	#BMXX XXX0	*Kursus Persediaan Pensijilan Profesional* Professional Certificate Preparation Course	P	0	
TOTAL CREDITS THIS SEMESTER				19	
SEMESTER 6	BMKT 3214	*Projek Sarjana Muda I* Bachelor Degree Project I	K	4	
	BMKM 3133	*Analisis dan Pemantauan Getaran* Vibration Analysis and Monitoring	K	3	
	BLHC 4032	*Pemikiran Kritis dan Kreatif* Critical and Creative Thinking	W	2	
	*BMKM XXX3	*Elektif I* Elective I	E	3	
	*BMKM XXX3	*Elektif II* Elective II	E	3	
	*BMK XXX3	*Elektif III* Elective III	E	3	
TOTAL CREDITS THIS SEMESTER				18	

Year 4

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 7	BMIU 4053	*Etika Kejuruteraan dan KKPP* Engineering Ethics and OSHE	P	3	
	BMKM 3154	*Pemeriksaan dan Penyelenggaraan Bangunan* Building Inspection and Maintenance	K	4	
	BMKM 4143	*Kesedaran Penyelenggaraan dalam Reka Bentuk* Maintenance Awareness in Design	K	3	
	BMKM 4353	*Analisis Minyak dan Serpihan* Oil and Wear Debris Analysis	K	3	
	BMKT 4224	*Projek Sarjana Muda II* Bachelor Degree Project II	K	4	BMKT 3214
	BTMW 4012	*Keusahawanan Teknologi* Technology Entrepreneurship	W	2	
TOTAL CREDITS THIS SEMESTER				18	
SEMESTER 8	BMKT 4256	*Latihan Industri I* Industrial Training I	K	6	
	BMKT 4266	*Latihan Industri II* Industrial Training II	K	6	
TOTAL CREDITS THIS SEMESTER				12	
TOTAL CREDITS				143	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	FACULTY CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE

* For Elective I, II and III students may choose any THREE (3) COURSES from the list below:

NO.	CODE	COURSE
1	BMKH 4233	*Penyelenggaraan Sistem HVAC* Maintenance of HVAC System
2	BMKM 4173	*Penyelenggaraan Berasaskan Keadaan* Condition Based Maintenance
3	BMKM 4243	*Penentukuran Instrumen* Instrument Calibration
4	BMKM 3233	*Teknologi Kawalan Industri* Industrial Control Technology
5	BMKM 4163	*Keboleharapan, Kebolehsenggaraan dan Risiko* Reliability, Maintainability and Risk

 # For Professional Certificate Preparation Course, students may choose any ONE (1) certificate from the list below:

CODE	CERTIFICATE NAME
BMMA 3100	Certified CATIA V6 – Part Design Associate
BMID 3100	Certified Solidworks Associate

BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (REFRIGERATION AND AIR-CONDITIONING SYSTEM) WITH HONOURS (BMKH)

ACREDITATION: 2021-2026

Entry Requirement:

DIPLOMA HOLDERS / EQUIVALENT

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass Diploma / equivalent qualification recognized by the Government of Malaysia and approved by the University Senate; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass a Diploma in Engineering with at least a CGPA of 2.00 or Diploma in Engineering Technology with at least a CGPA of 2.30 or Malaysian Skills Diploma (DKM), Malaysian Advanced Skills Diploma (DLKM), with at least a CGPA 3.00/80% marks and above from Skills Developmen Department (JPK) recognized by the Government of Malaysia and approved by the University Senate **AND**
- ☑ Credit exemptions are subject to the faculty's approval **AND**
- ☑ Pass the Diploma program before the academic session begins.

MATRICULATION CERTIFICATE

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass KPM Matriculation / Asasi with at least a CGPA of 2.00; **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics/ Engineering Mathematics, Physics/ Engineering Science and Chemistry/ Basic Engineering.
- ☑ Candidates with Biology must get at least Honors (Grade C) in Physics subjects ranked in the Malaysian Certificate of Education (SPM)

STPM HOLDERS

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass STPM with at least Grade C (CGPA 2.00) in the General Paper **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics, Physics, and Chemistry.

Programme Educational Objectives (PEO)

Programme Educational Objectives (PEO) is specific goals describing expected achievements of graduates in their career and professional life after graduation. To produce, after 3 to 5 years of graduation:

PEO1	• Graduates who are able to practice the knowledge in Mechanical Engineering Technology (Refrigeration and Air-Conditioning Systems).
PEO2	• Graduates who are able to engage with continuous development and adapt to evolving technologies.
PEO3	• Graduates who are able to adapt professional ethics and leadership to meet the needs of the society.

Programme Objectives (PO)

Programme Outcomes (PO) are statements describing what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire through their programme of studies.

PO	PO Statement
PO1- Engineering Knowledge	Ability to apply knowledge of mathematics, natural science, computing and engineering fundamentals and engineering specialization principles to defined and applied engineering procedures, processes, systems or methodologies in the field of Mechanical Engineering Technology (Refrigeration and Air Conditioning System).
PO2 – Problem Analysis	Ability to identify, formulate, research literature and analyse broadly-defined engineering problems reaching substantiated conclusions using analytical tools with considerations for sustainable development appropriate to Mechanical Engineering Technology (Refrigeration and Air Conditioning System).
PO3 – Design/ Development of Solutions	Ability to design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations.
PO4 – Investigation	Ability to conduct investigations of broadly-defined engineering problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.
PO5 – Tool Usage	Ability to select and apply, and recognize limitations of appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to broadly-defined engineering problems.
PO6 – The Engineering Technologist and the World	Ability to understand and commit to professional ethics and norms of engineering technology practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion. Ability to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
PO7 – Ethics	Ability to communicate effectively and inclusively on broadly-defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, taking into account cultural, language, and learning differences
PO08 -Individual and Collaborative Team Work	Ability to apply knowledge and understanding of engineering management principles and economic decision-making to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments.
PO09 – Communications	Ability to recognize the need for, and have the ability for independent and life-long learning and critical thinking in the face of new specialist technologies.
PO10 – Project Management and Finances	Ability to understand and commit to professional ethics and norms of engineering technology practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion.
PO11 – Life Long Learning	Ability to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.

Four (4) years programme with **142 credit hours**.

COMPONENTS		CREDIT HOURS	PERCENTAGE (%)
University Compulsory (W)		18	13
Co-Curriculum (W)		2	1
Faculty Core (P)		17	12
Programme Core (K)	Core Courses	76	54
	Industrial Training	12	8
	Final Year Project	8	6
	Professional Certificate	0	0
Elective (E)	Programme	9	6
Total		**142**	**100**

CURRICULUM STRUCTURE FOR BMKH PROGRAMME

Year 1

	CODE	COURSE	CATEGORY	CREDIT	PRE- REQUISITE
SEMESTER 1	BELG 1013	*Matematik Teknikal* Technical Mathematics	P	3	
	BMKT 1112	*Fizik* Physics	P	2	
	BMKT 1413	*Grafik Kejuruteraan* Engineering Graphics	K	3	
	BMKT 1613	*Bahan Kejuruteraan* Engineering Materials	K	3	
	BMKT 1513	*Statik dan Dinamik* Statics and Dynamics	K	3	
	BMKT 2633	*Pengukuran dan Instrumentasi* Measurement and Instrumentation	K	3	
	BLHW 1762	*Falsafah dan Isu Semasa* Philosophy and Current Issues	W	2	
	BKKX XXX1	*Kokurikulum I* Cocurriculum I	W	1	
TOTAL CREDITS THIS SEMESTER				20	
SEMESTER 2	BMIG 1023	*Kalkulus untuk Teknologi* Calculus for Technology	P	3	
	BMKH 1413	*Asas Elektrik dan Elektronik HVAC* Fundamental of HVAC Electric and Electronic	K	3	
	BMKT 1623	*Amalan Pembuatan* Manufacturing Practices	K	3	
	BMKT 2433	*Reka Bentuk Kejuruteraan* Engineering Design	K	3	
	BMKT 2513	*Termodinamik* Thermodynamics	K	3	
	BLLW 1142	*Bahasa Inggeris untuk Tujuan Akademik* English for Academic Purposes	W	2	
	BKKX XXX1	*Kokurikulum II* Cocurriculum II	W	1	
TOTAL CREDITS THIS SEMESTER				18	

Year 2

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BERG 2043	*Kaedah Statistik* Statistical Methods	P	3	
	BMKT 2733	*IOT dan Aplikasi Pengawal Mikro* Applied Microcontroller and IOT	K	3	
	BMKT 2323	*Mekanik Pepejal* Solid Mechanics	K	3	BMKT 1513
	BMKT 2633	*Rekabentuk Elemen Mesin* Machine Element Design	K	3	
	BMKT 2423	*Permodelan dan Analisis Berkomputer* Modelling and Computer Analysis	K	3	BMKT 1413
	BLHW 2772	*Penghayatan Etika dan Peradaban* Appreciation of Ethics and Civilization	W	2	
	BTMW 4012	*Keusahawanan Teknologi* Technology Enterpreneurship	W	2	
TOTAL CREDITS THIS SEMESTER				19	
SEMESTER 4	BMKG 2033	*Kalkulus Gunaan untuk Teknologi* Applied Calculus for Technology	P	3	
	BMKT 2523	*Mekanik Bendalir* Fluid Mechanics	K	3	
	BMKT 3443	*Projek Rekabentuk Bersepadu* Integrated Design Project	K	3	
	BMKH 2113	*Asas HVAC dan Penyejukan* Fundamental of HVAC and Refrigeration	K	3	
	BMKT 3533	*Pemindahan Haba* Heat Transfer	K	3	
	BLLW 2152	*Penulisan Akademik* Academic Writing	W	2	BLLW 1142
	BLLW XXX2	*Bahasa Ketiga* Third Language	W	2	
TOTAL CREDITS THIS SEMESTER				19	

Year 3

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 5	BMKT 3743	*Kawalan dan Instrumentasi* Control and Instrumentation	K	3	
	BMKH 3153	*Beban Pemanasan dan Penyejukan* Heating and Cooling Load	K	3	
	BMKH 3133	*Rekabentuk Sistem Penyejukan* Refrigeration System Design	K	3	
	BMKH 3433	*Akustik dan Getaran Gunaan HVAC* HVAC Applied Acoustics & Vibration	K	3	
	BLLW 3162	*Bahasa Inggeris untuk Interaksi Profesional* English for Professional Interaction	W	2	BLLW 2152
	BLHC 4032	*Pemikiran Kritis dan Kreatif* Critical and Creative Thinking	W	2	
TOTAL CREDITS THIS SEMESTER				16	
SEMESTER 6	BMKH 3163	*Sistem Pengagihan Udara* Air Distribution System	K	3	
	BMKH 3224	*Penyaman Udara dan Penyejukan Kenderaan* Transportation Air Conditioning and Refrigeration	K	4	
	BMIU 4053	*Etika Kejuruteraan dan KKKP* Engineering Ethics and OSHE	P	3	
	BMKT 3214	*Projek Sarjana Muda I* Bachelor Degree Project I	K	4	
	BMKH 3423	*Sistem Elektrik dan Kawalan HVAC* HVAC Electrical and Control System	K	3	BMKH 1413
	BLHW 2792	*Kursus Integriti dan Anti-Rasuah* Integrity and Anti-Corruption	W	2	
	#BMXX XXX0	*Kursus Persediaan Pensijilan Profesional* Professional Certificate Preparation Course	P	0	
TOTAL CREDITS THIS SEMESTER				19	

Year 4

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 7	BMKH 3213	*Kualiti Udara Dalaman* Indoor Air Quality	K	3	
	BMKH 4143	*Klasifikasi Sistem Penyaman Udara* Classification of Air Conditioning System	K	3	
	**BMKT 4224	*Projek Sarjana Muda II* Bachelor Degree Project II	K	4	BMKT 3214
	*BMKH XXX3	*Elektif I* Elective I	E	3	
	*BMKH XXX3	*Elektif II* Elective II	E	3	
	*BMKH XXX3	*Elektif III* Elective III	E	3	
TOTAL CREDITS THIS SEMESTER				19	
SEMESTER 8	BMKT 4256	*Latihan Industri I* Industrial Training I	K	6	
	BMKT 4266	*Latihan Industri II* Industrial Training II	K	6	
TOTAL CREDITS THIS SEMESTER				12	
TOTAL CREDITS				142	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	FACULTY CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE

*For Elective I, II and III students may choose any THREE (3) COURSES from the list below:

NO.	CODE	COURSE
1.	BMKH 4233	*Penyelenggaraan Sistem HVAC* Maintenance of HVAC System
2.	BMKH 4173	*Permodelan dan Analisis HVAC* HVAC Modelling and Analysis
3.	BMKM 4243	*Penentukuran Instrumen* Instrument Calibration
4.	BMKH 4243	*Teknologi Hijau HVAC* HVAC Green Technology
5.	BMKH 4313	*Pengurusan Projek* Project Management
6.	BMKH 4323	*Pembuatan Kejat* Lean Manufacturing
7.	BMKH 4333	*Jig dan Lekapan* Jig and Fixtures
8.	BMKH 4343	*Pengamalan Industri Terkehadapan* Industrial Forward Practice
9.	BMKH 4353	*Kewangan, Kos dan Ekonomi Kejuruteraan* Engineering Financial, Costing and Economics
10.	BMKH 4363	*Pengurusan Pembuatan* Manufacturing Management

For Professional Certificate Preparation Course, students may choose any ONE (1) certificate from the list below:

CODE	CERTIFICATE NAME
BMMA 3100	Certified CATIA V6 – Part Design Associate
BMID 3100	Certified Solidworks Associate

BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (AUTOMOTIVE TECHNOLOGY) WITH HONOURS (BMKA)

ACREDITATION: 2021-2026

Entry Requirement:

DIPLOMA HOLDERS / EQUIVALENT

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass Diploma / equivalent qualification recognized by the Government of Malaysia and approved by the University Senate; **AND**
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Program's Special Requirements:

- ☑ Pass a Diploma in Engineering with at least a CGPA of 2.00 or Diploma in Engineering Technology with at least a CGPA of 2.30 or Malaysian Skills Diploma (DKM), Malaysian Advanced Skills Diploma (DLKM), with at least a CGPA 3.00/80% marks and above from Skills Developmen Department (JPK) recognized by the Government of Malaysia and approved by the University Senate **AND**
- ☑ Credit exemptions are subject to the faculty's approval **AND**
- ☑ Pass the Diploma program before the academic session begins.

MATRICULATION CERTIFICATE

General Requirements:

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- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics/ Engineering Mathematics, Physics/ Engineering Science and Chemistry/ Basic Engineering.
- ☑ Candidates with Biology must get at least Honors (Grade C) in Physics subjects ranked in the Malaysian Certificate of Education (SPM)

STPM HOLDERS

General Requirements:

- ☑ Pass SPM / equivalent with credit in Bahasa Melayu/ Bahasa Malaysia or credit in Bahasa Melayu/Bahasa Malaysia July Examination; **AND**
- ☑ Pass STPM with at least Grade C (CGPA 2.00) in the General Paper **AND**
- ☑ A minimum of Band 2 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass with at least Grade C (2.00) in Mathematics, Physics, and Chemistry.

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Programme Educational Objectives (PEO) is specific goals describing expected achievements of graduates in their career and professional life after graduation. To produce, after 3 to 5 years of graduation:

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Programme Objectives (PO)

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PO2 – Problem Analysis	Ability to identify, formulate, research literature and analyse broadly-defined engineering problems reaching substantiated conclusions using analytical tools with considerations for sustainable development appropriate to Mechanical Engineering Technology (Refrigeration and Air Conditioning System).
PO3 – Design/ Development of Solutions	Ability to design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations.
PO4 – Investigation	Ability to conduct investigations of broadly-defined engineering problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.
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PO7 – Ethics	Ability to communicate effectively and inclusively on broadly-defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, taking into account cultural, language, and learning differences
PO08 -Individual and Collaborative Team Work	Ability to apply knowledge and understanding of engineering management principles and economic decision-making to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments.
PO09 – Communications	Ability to recognize the need for, and have the ability for independent and life-long learning and critical thinking in the face of new specialist technologies.
PO10 – Project Management and Finances	Ability to understand and commit to professional ethics and norms of engineering technology practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion.
PO11 – Life Long Learning	Ability to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.

Four (4) years programme with **141 credit hours**.

COMPONENTS		CREDIT HOURS	PERCENTAGE (%)
University Compulsory (W)		18	12.76
Co-Curriculum (W)		2	1.42
Faculty Core (P)		17	12.06
Programme Core (K)	Core Courses	75	53.19
	Industrial Training	12	8.51
	Final Year Project	8	5.67
	Professional Certificate	0	0.00
Elective (E)	Programme	9	6.38
Total		**141**	**100**

CURRICULUM STRUCTURE FOR BMKA PROGRAMME

Year 1

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 1	BELG 1013	*Matematik Teknikal* Technical Mathematics	P	3	
	BMKT 1112	*Fizik* *Physics*	P	2	
	BMKT 1413	*Grafik Kejuruteraan* Engineering Graphics	K	3	
	BMKT 1613	*Bahan Kejuruteraan* Engineering Materials	K	3	
	BMKT 1713	*Prinsip Elektrik dan Elektronik* Principles of Electric and Electronics	K	3	
	BLHW 1762	*Falsafah dan Isu Semasa* Philosophy and Current Issues	W	2	
	BLLW 1142	*Bahasa Inggeris untuk Tujuan Akademik* English for Academic Purposes	W	2	
	BKKX XXX1	*Kokurikulum I* Cocurriculum I	W	1	
TOTAL CREDITS THIS SEMESTER				19	
SEMESTER 2	BMIG 1023	*Kalkulus untuk Teknologi* Calculus For Technology	P	3	
	**BMKT 2423	*Permodelan dan Analisis Berkomputer* Modelling and Computer Analysis	K	3	BMKT 1413
	BMKT 1513	*Statik dan Dynamics* Statics and Dynamics	K	3	
	BMKT 1623	*Amalan Pembuatan* Manufacuring Practices	K	3	
	BMKT 2633	*Pengukuran dan Instrumentasi* Measurement and Instrumentation	K	3	
	BLHW 2772	*Penghayatan Etika dan Peradaban* Appreciation of Ethics and Civilizations	W	2	
	BKKX XXX1	*Kokurikulum II* Cocurriculum II	W	1	
TOTAL CREDITS THIS SEMESTER				18	

Year 2

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BERG 2043	*Kaedah Statistik* Statistical Methods	P	3	
	BMKT 2733	*IOT dan Aplikasi Pengawal Mikro* Applied Microcontroller and IOT	K	3	
	BMKT 2513	*Termodinamik* Thermodynamics	K	3	
	BMKV 3113	*Pengurusan Projek* Project Management	K	3	
	BMKT 2633	*Rekabentuk Elemen Mesin* Machine Element Design	K	3	
	**BLLW 2152	*Penulisan Akademik* Academic Writing	W	2	BLLW 1142
TOTAL CREDITS THIS SEMESTER				17	
SEMESTER 4	BMKG 2033	*Kalkulus Gunaan untuk Teknologi* Applied Calculus for Technology	P	3	
	BMKT 3443	*Projek Rekabentuk Bersepadu* Integrated Design Project	K	3	
	**BMKT 2323	*Mekanik Pepejal* Solid Mechanics	K	3	BMKT 1513
	BMKT 2523	*Mekanik Bendalir* Fluid Mechanics	K	3	
	BMKT 2433	*Rekabentuk Kejuruteraan* Engineering Design	K	3	
	BLHC 4032	*Pemikiran Kritis dan Kreatif* Critical and Creative Thinking	W	2	
	BLLW XXX2	*Bahasa Ketiga* Third Language	W	2	
TOTAL CREDITS THIS SEMESTER				19	

Year 3

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 5	BMKT 3743	*Kawalan dan Instrumentasi* Control and Instrumentation	K	3	
	BMKA 3313	*Sistem Brek Kenderaan* Vehicle Brake System	K	3	
	BMKA 3113	*Enjin Pembakaran Dalaman* Internal Combustion Engine	K	3	
	BMKA 3123	*Sistem Pengurusan Kuasa Kenderaan* Vehicle Powertrain Management System	K	3	
	BMKA 3223	*Dinamik Kenderaan* Vehicle Dynamics	K	3	
	BMKA 3323	*HVAC untuk Automotif* HVAC for Automotive	K	3	
	#BMXX XXX0	*Kursus Persediaan Pensijilan Profesional* Professional Certificate Preparation Course	P	0	
TOTAL CREDITS THIS SEMESTER				18	
SEMESTER 6	BMIU 4053	*Etika Kejuruteraan dan KKKP* Engineering Ethics and OSHE	P	3	
	**BMKT 3214	*Projek Sarjana Muda I* Bachelor Degree Project I	K	4	
	**BLLW 3162	*Bahasa Inggeris untuk Interaksi Profesional* English for Professional Interaction	W	2	BLLW 2152
	*BMKX XXX3	*Elektif I* Elective I	E	3	
	*BMKX XXX3	*Elektif II* Elective II	E	3	
	*BMKX XXX3	*Elektif III* Elective III	E	3	
	BLHW 2792	*Kursus Integriti dan Anti-Rasuah* Integrity and Anti-Corruption	W	2	
TOTAL CREDITS THIS SEMESTER				20	

Year 4

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER	BMKA 4233	*Sistem Penggantungan Kenderaan* Vehicle Suspension System	K	3	
	BMKA 4143	*Sistem Transmisi Kenderaan* Vehicle Transmission System	K	3	
	BMKA 4133	*Prestasi Enjin* Engine Performance	K	3	
	BMKA 4243	*Sistem Pengeluaran Kejat* Lean Production System	K	3	
	**BMKT 4224	*Projek Sarjana Muda II* Bachelor Degree Project II	K	4	BMKT 3214
	BTMW 4012	*Keusahawanan Teknologi* Technology Entrepreneurship	W	2	
TOTAL CREDITS THIS SEMESTER				18	
SEMESTER 8	BMKT 4256	*Latihan Industri I* Industrial Training I	K	6	
	BMKT 4266	*Latihan Industri II* Industrial Training II	K	6	
TOTAL CREDITS THIS SEMESTER				12	
TOTAL CREDITS				141	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	FACULTY CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE

* For Elective I, II and III students may choose any THREE (3) COURSES from the list below:

NO.	CODE	COURSE
1	BMKA 4343	*Sistem Elektrik dan Elektronik Automotif* Automotive Electric and Electronic System
2	BMKA 4253	*Reka Bentuk dan Simulasi Kenderaan* Vehicle Design and Simulation
3	BMKA 4333	*Sistem Keselamatan dan Keselesaan Automatif* Automotive Safety and Comfort System
4	BMKM 4353	*Analisis Minyak dan Serpihan* Oil and Wear Debris Analysis
5	BMKA 4353	*Teknologi Pneumatik dan Hidraulik* Pneumatic and Hydraulic Technology
6	BMKA 4463	*Kenderaan Hibrid dan Elektrik* Hybrid and ElectricVehicle
7	BMKA 4473	*Rekabentuk Permukaan Kenderaanm Kejuruteraan Balikan dan Prototaip* Vehicle Surface Design, Reverse Engineering, and Prototype

 # For Professional Certificate Preparation Course, students may choose any ONE (1) certificate from the list below:

CODE	CERTIFICATE NAME
BMMA 3100	Certified CATIA V6 – Part Design Associate
BMID 3100	Certified Solidworks Associate

BACHELOR OF TECHNOLOGY IN AUTOMOTIVE WITH HONOURS (BMKF)

ACRREDATION: 2024-2029

Entry Requirement:

DIPLOMA HOLDERS/ EQUIVALENT

General Requirements:

- ☑ Acquire a Malaysian Skills Diploma (DKM), Malaysian Advanced Skills Diploma (DLKM), or Malaysian Vocational Diploma (DVM) designated equivalent by the Malaysian Government and approved by the University Senate.; **AND**
- ☑ A minimum of Band 1 in Malaysian University English Test (MUET).

Program's Special Requirements:

- ☑ Pass a Diploma in Technology from Vocational College under the Malaysian Ministry of Education, with at least a CGPA of 2.00 in a recognized related field and received approval of the University Senate is necessary; **OR**
- ☑ Pass a Malaysian Skills Diploma (DKM)/ Malaysian Advanced Skills Diploma (DLKM) from Skills Developmen Department (JPK) under the Ministry of Human Resources by obtaining at least a CGPA 2.00 in a recognized related filed and obtaining the approval of University Senate. **AND**
- ☑ Have passes/ completed studies at the Diploma level before the application closing date; **AND**
- ☑ A minimum of Band 1 in Malaysian University English Test (MUET). AND
- ☑ Candidates do NOT have physical disabilities / limbs that make practical work difficult. AND
- ☑ Admission is for Year 1 only without credit exemption.

Programme Educational Objectives (PEO)

Program Educational Objectives (PEO) is specific goals describing expected achievements of graduates in their career and professional life after graduation. Below are the PEO for the Bachelor of Technology in Automotive with Honours

PEO1	• To produce automotive technologist that perform automotive related work including diagnostic specialist and retrofit specialist.
PEO2	• To produce technopreneurs in automotive related technology.
PEO3	• To produce relevant, respected and referred professionals in automotive technology.

Programme Objectives (PO)

Programme Learning Outcomes (PLO) are statements describing what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviour that students acquire through their program of studies.

PO	PO Statement
PO1	Apply knowledge of technology fundamentals to broadly-defined procedures processes, systems and methodologies in automotive.
PO2	Able to suggest and apply latest tools and techniques to solve broadly-defined problems.
PO3	Demonstrate strong analytical and critical thinking skills to solve broadly-defined problems in automotive.
PO4	Able to communicate and articulate effectively in both verbal and written among technologist communities and society at large.
PO5	Demonstrate understanding of the societal related issues and the consequent responsibilities relevant to broadly-defined technology practices.
PO6	Recognize the needs for professional development and to engage independent lifelong learning in specialist technologists.
PO7	Demonstrate an awareness of management and technoprenuership practices in real perspective.
PO8	Demonstrate professionalism and social and ethical consideration.
PO9	Demonstrate leadership quality, mentoring and work effectively in diverse teams.

3.5 years programme with **120 credit hours**.

COMPONENTS		CREDIT HOURS	PERCENTAGE
Compulsory University Course (W)		14	11.66%
Co-Curriculum (W)		2	1.67%
Core Course (P)	Programme	50	41.67%
	Industrial Training	12	10.00%
	Final Year Project	10	4.44%
Faculty Core Course (P)		8	8.33%
Elective (E)	Programme	24	20.00%
Total		**120**	**100%**

CURRICULUM STRUCTURE FOR BMKF PROGRAMME

Year 1 (Semester 1)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BKKX XXX1	CO-CURRICULUM I	W	1	-
BLLW 1222	THIRD LANGUAGE	W	2	-
BLLW 1142	ENGLISH FOR ACADEMIC PURPOSE	W	2	-
BMKF 1014	AUTOMOTIVE INDUSTRY & TECHNOLOGY	K	4	-
BMKF 1023	AUTOMOTIVE DRAFTING	K	3	-
BMKF 1034	AUTOMOTIVE WORKSHOP PRACTICE	K	4	-
BKKX XXX1	CO-CURRICULUM I	W	1	-
TOTAL			**16**	

*Refer to Co-Curriculum Courses offered by Institute of Technology Management and Entrepreneurship (IPTK).
*Refer to language courses offered by Centre for Language Learning (CeLL).

Year 1 (Semester 2)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BKKX XXX1	CO-CURRICULUM II	W	1	
BTMW 1112	BASIC TECHNOPRENEUR	W	2	
BLHW 1762	PHILOSOPHY AND CURRENT ISSUES	W	2	
**BLLW 2152	ACADEMIC WRITING	W	2	BLLW 1142
BMKF 1043	SHOPFLOOR SUPERVISION	K	3	
BMKF 1054	AUTOMOTIVE COMPONENT FABRICATION	K	4	
BMKF 1064	AUTOMOTIVE COMPONENT DESIGN & ASSEMBLY	K	4	
TOTAL			**18**	

*Refer to Co-Curriculum Courses offered by Institute of Technology Management and Entrepreneurship (IPTK).

Year 2 (Semester 3)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
**BLLW 3162	ENGLISH FOR PROFESSIONAL INTERACTION	W	2	-
BMKF 2073	PROJECT MANAGEMENT	K	3	-
BMKF 2084	AUTOTRONIC SYSTEM SERVICE	K	4	-
*BMKF 2XX4	ELECTIVE I	E	4	-
*BMKF 2XX4	ELECTIVE II	E	4	-
TOTAL			**17**	

* Refer to other Elective Courses table

Year 2 (Semester 4)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLHW 2772	APPRECIATION OF ETHICS AND CIVILIZATIONS	W	2	-
BLHW 2792	INTEGRITY AND ANTI CORRUPTION	W	2	-
BTMW 2124	CAPSTONE TECHNOPRENEURSHIP 1	P	4	-
BMKF 2134	POWERTRAIN SYSTEM SERVICE	K	4	-
*BMKF 2XX4	ELECTIVE III	E	4	-
*BMKF 2XX4	ELECTIVE IV	E	4	-
TOTAL			**20**	

* Refer to other Elective Courses table

Year 3 (Semester 5)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMXX XXX0	PROFESSIONAL CERTIFICATE PREPARATION COURSE	P	0	-
BTMW 3134	CAPSTONE TECHNOPRENEURSHIP 2	P	4	-
BMKF 3183	AUTOMOTIVE LEGISLATION	K	3	-
BMKF 3192	VEHICLE MARKETING	K	2	-
*BMKF 3XX4	ELECTIVE V	E	4	-
*BMKF 3XX4	ELECTIVE VI	E	4	-
TOTAL			**17**	

* Refer to other Elective Courses table

Year 3 (Semester 6)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKU 3134	FINAL YEAR PROJECT 1	K	4	-
BMKF 3243	ASSET AND INVENTORY MANAGEMENT	K	3	-
BMKF 3256	QUALITY MANAGEMENT	K	4	-
BMKF 3263	RISK ASSESSMENT	K	3	-
TOTAL			**14**	

***** Refer to other Elective Courses table

Year 3 (Short Semester)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
**BMKU 3186	FINAL YEAR PROJECT 2	K	6	BMKU 3134
TOTAL			**6**	

Year 4 (Semester 7)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKU 4212	INDUSTRIAL TRAINING	K	12	
TOTAL			**12**	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	COMMON CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE

List of Programme Elective Courses

***For Elective I, Students are required to select ONE (1) course from the following list:**

ELECTIVE	CODE	COURSE NAME
1	BMKF 2094	Commercial Vehicle Servicing and Maintenance
2	BMKF 2104	Surface Design

***For Elective II, Students are required to select ONE (1) course from the following list:**

ELECTIVE	CODE	COURSE NAME
1	BMKF 2114	Drivetrain Maintenance
2	BMKF 2124	Automotive Modelling

***For Elective III, Students are required to select ONE (1) course from the following list:**

ELECTIVE	CODE	COURSE NAME
1	BMKF 2144	Engine Performance Analysis
2	BMKF 2154	Exterior Design

***For Elective IV, Students are required to select ONE (1) course from the following list:**

ELECTIVE	CODE	COURSE NAME
1	BMKF 2164	Vehicle Fault Diagnosis
2	BMKF 2174	Component Remanufacturing

***For Elective V, Students are required to select ONE (1) course from the following list:**

ELECTIVE	CODE	COURSE NAME
1	BMKF 3204	Hybrid Servicing
2	BMKF 3214	Interior Design

***For Elective VI, Students are required to select ONE (1) course from the following list:**

ELECTIVE	CODE	COURSE NAME
1	BMKF 3224	Electric Vehicle Servicing
2	BMKF 3234	Painting

BACHELOR OF TECHNOLOGY IN AIR CONDITIONING AND REFRIGERATION WITH HONOURS (BMKS)

ACRREDATION: 2024-2029

Entry Requirement:

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General Requirements:

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Faculty Core Course (P)		8	8.33%
Elective (E)	Programme	24	20.00%
Total		**120**	**100%**

CURRICULUM STRUCTURE FOR BMKS PROGRAMME

Year 1 (Semester 1)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BKKX XXX1	CO-CURRICULUM I *	W	1	-
BLLW 1222	THIRD LANGUAGE **	W	2	-
BLLW 1142	ENGLISH FOR ACADEMIC PURPOSE	W	2	-
BMKS 1013	INDUSTRIAL REVOLUTIONS	K	3	-
BMKS 1026	ADVANCE CAD IN HVAC	K	6	-
BMKS 1034	SAFETY IN HVAC ENVIRONMENT	K	4	-
TOTAL			**18**	

*Refer to Co-Curriculum Courses offered by Institute of Technology Management and Entrepreneurship (IPTK).
**Refer to language courses offered by Centre for Language Learning (CeLL).

Year 1 (Semester 2)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BKKX XXX1	CO-CURRICULUM II *	W	1	
BTMW 1112	BASIC TECHNOPRENEUR	W	2	
BLHW 1762	PHILOSOPHY AND CURRENT ISSUES	W	2	
BLLW 2152	ACADEMIC WRITING	W	2	BLLW 1142
BMKS 1044	APPLICATION OF HVAC STANDARD FOR COMMERCIAL	K	4	
BMKS 1054	BUSINESS IN HVAC	K	4	
TOTAL			**15**	

*Refer to Co-Curriculum Courses offered by Institute of Technology Management and Entrepreneurship (IPTK).

Year 2 (Semester 3)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLHW 2772	APPRECIATION OF ETHICS AND CIVILIZATIONS	W	2	-
BMKS 2063	INDUSTRIAL PSYCHOLOGY	K	3	-
BMKS 2076	APPLIED OF INDUSTRIAL REFRIGERATION	K	6	-
BMKS 2086	HVAC COMMERICAL BUILDING PROJECT MANAGEMENT	K	6	-
TOTAL			**17**	

Year 2 (Semester 4)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BLHW 2792	INTEGRITY AND ANTI CORRUPTION	W	2	-
BTMW 2124	CAPSTONE TECHNOPRENEURSHIP 1	P	4	-
BMMS 2096	HVAC WATER TREATMENT MANAGEMENT	K	6	-
BMMS 2106	CHILLER PLANT MONITORING	K	6	-
TOTAL			**18**	

Year 3 (Semester 5)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
**BLLW 3162	ENGLISH FOR PROFESSIONAL INTERACTION	W	2	
BMXX XXX0	PROFESSIONAL CERTIFICATE PREPARATION COURSE	P	0	-
BTMW 3134	CAPSTONE TECHNOPRENEURSHIP 2	P	4	-
BMMS 3116	INDOOR AIR QUALITY CONTROL	K	6	
BMMS 3126	HVAC INSPECTION	K	6	
TOTAL			**18**	

Year 3 (Semester 6)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKU 3134	FINAL YEAR PROJECT 1	K	4	-
BMMS 3146	HVAC PROJECT PLANNING AND DEVELOPMENT	K	6	-
BMMS 3156	TESTING & COMMISSIONING COMMERCIAL HVAC	K	6	-
TOTAL			**16**	

Year 3 (Short Semester)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
**BMKU 3186	FINAL YEAR PROJECT 2	K	6	BMKU 3134
TOTAL			**6**	

Year 4 (Semester 7)

CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
BMKU 4212	INDUSTRIAL TRAINING	K	12	
TOTAL			**12**	

Note:

CATEGORY	DESCRIPTION
W	UNIVERSITY COMPULSORY COURSE
P	COMMON CORE COURSE
K	PROGRAMME CORE COURSE
E	ELECTIVE COURSE