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UNIVERSITI MALAYSIA PAHANG
AL-SULTAN ABDULLAH

Faculty of Mechanical and Automotive Engineering Technology

Fakulti Teknologi Kejuruteraan Mekanikal dan Automotif

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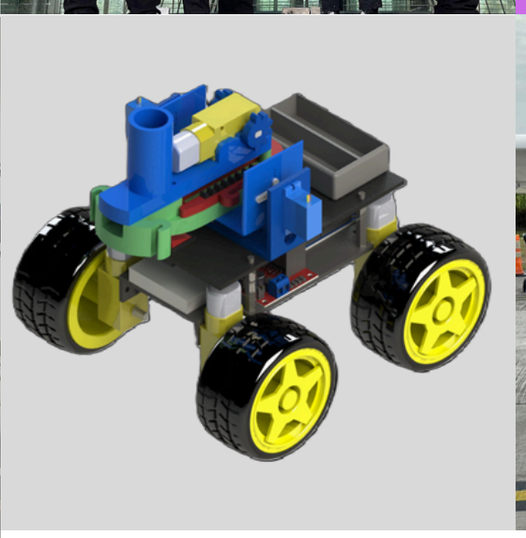


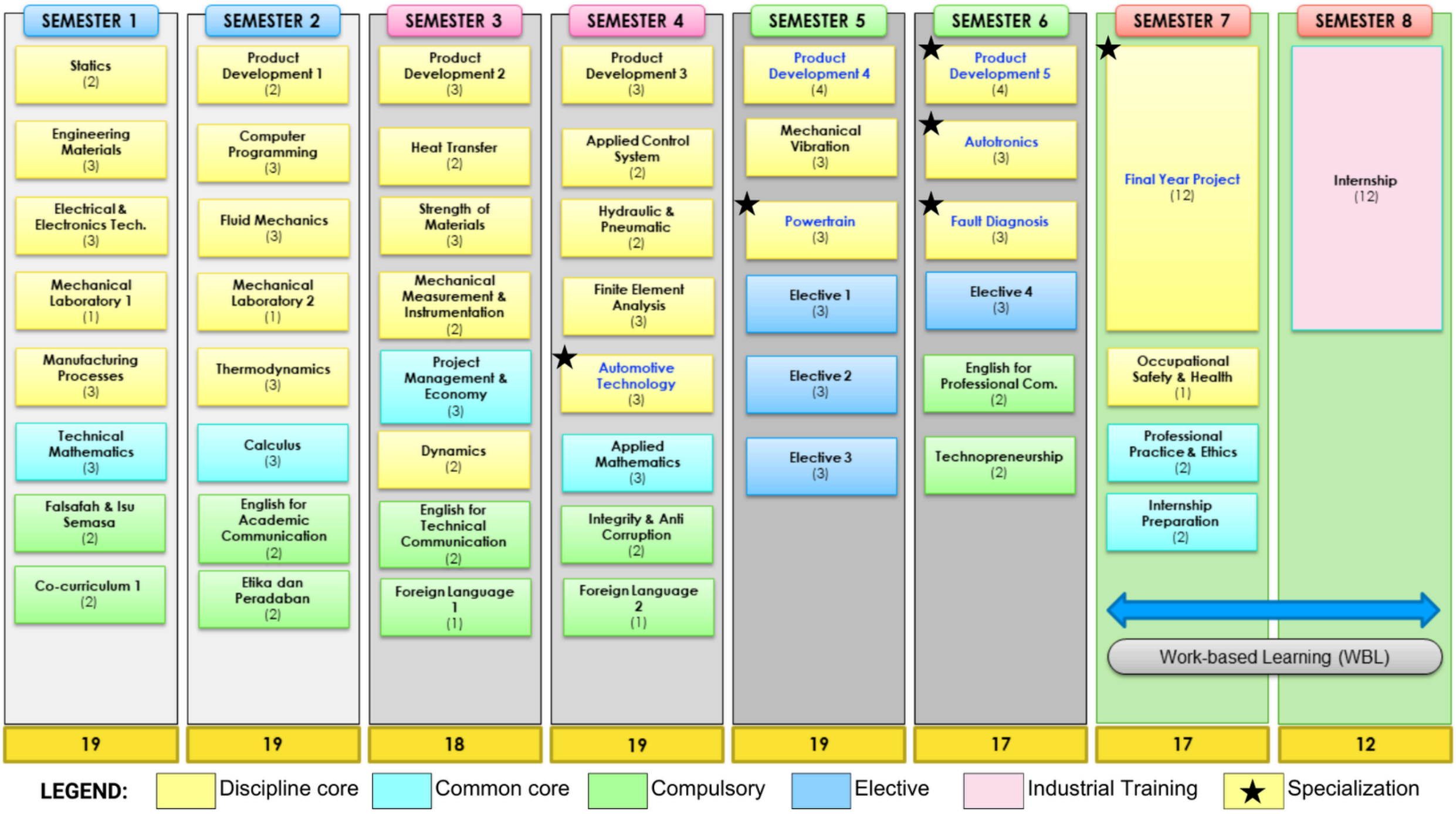
TEACHING & LEARNING GUIDELINES

Bachelor of Mechanical Engineering Technology (Automotive) with Honours

2025

COURSE STRUCTURE

Curriculum Structure for Bachelor of Mechanical Engineering Technology (Automotive) (BTA)



SPECIALIZATION COURSES

1. BTA2663 Automotive Technology
2. BTA3133 Powertrain
3. BTD3233 Autotronics
4. BTD3243 Fault Diagnosis

ELECTIVE COURSES

1. BTA3313 Automotive Product Development
2. BTA3323 Automotive Advanced Technology
3. BTA3333 Energy Efficient Vehicle
4. BTA3343 Motorsport Engineering
5. BTA3353 Technology in ICE
6. BTA3363 Electric and Hybrid Vehicle Technology
7. BTD3323 Production Planning and Control
8. BTD3333 Mechanics of Composite Materials
9. BTD3343 Fatigue Design and Analysis
10. BTD3353 Data Analysis and Visualization for Engineers
11. BTG3553 Asset Reliability Practitioner
12. BTG3543 Tank Design
13. BTG3563 Boiler and Steam Engineers
14. BTG3533 Elements of Mechanical Design
15. BTG3573 Non-Destructive Testing Technology

ABOUT PROGRAMME

PECAHAN KURSUS BERDASARKAN MODUL/BIDANG DAN CARA PENGIRAAN PERATUS PENGKHUSUSAN PROGRAM ENG. TECH.

MODUL WAJIB (COMPULSORY MODULE)	18
MODUL ELEKTIF (ELECTIVES MODULES)	12
MODUL TERAS UMUM (COMMON CORE)	16
MODUL TERAS DISIPLIN (DISCIPLINE CORE)	82
LATIHAN INDUSTRI (INDUSTRIAL TRAINING)	12
TOTAL	**140**

GENERAL COMPONENT (COMPULSORY + ELECTIVES)	**30**
TECHNOLOGY COMPONENT (COMMON CORE + DISCIPLINE CORE + INDUSTRIAL TRAINING)	**110**

PENGKHUSUSAN (SPECIALIZATION) *Sebahagian daripada Teras Displin (Discipline Core)		
PRODUCT DEVELOPMENT 4	BTD3114	4
PRODUCT DEVELOPMENT 5	BTD3214	4
SPECIALIZATION 1	BT*2***	3
SPECIALIZATION 2	BT*3***	3
SPECIALIZATION 3	BT*3***	3
SPECIALIZATION 4	BT*3***	3
FINAL YEAR PROJECT	BT*4112	12
	TOTAL	**32**

Peratusan **Pengkhususan** berbanding **Bidang Teras Program/Komponen Teknologi** (Modul Teras Umum + Modul Teras Disiplin + Latihan Industri)	$\frac{32}{110}$	**29%**

MODUL TERAS UMUM (COMMON CORE)		
TECHNICAL MATHEMATICS	BUM1113	3
CALCULUS	BUM1223	3
APPLIED MATHEMATICS	BUM2113	3
PROJECT MANAGEMENT AND ECONOMY	BTD2273	3
PROFESSIONAL PRACTICE & ETHICS	BTD4122	2
INTERNSHIP PREPARATION	BTD3222	2
	TOTAL	**16**

MODUL TERAS DISIPLIN (DISCIPLINE CORE)		
STATICS	BTD1112	2
ENGINEERING MATERIALS	BTD1123	3
ELECTRICAL & ELECTRONICS TECHNOLOGY	BTD1133	3
MANUFACTURING PROCESSES	BTD1143	3
MECHANICAL LABORATORY 1	BTD1151	1
PRODUCT DEVELOPMENT 1	BTD1212	2
THERMODYNAMICS	BTD1233	3
COMPUTER PROGRAMMING	BTD1243	3
FLUID MECHANICS	BTD2123	3
MECHANICAL LABORATORY 2	BTD1251	1
PRODUCT DEVELOPMENT 2	BTD2113	3
DYNAMICS	BTD1222	2
STRENGTH OF MATERIALS	BTD2133	3
MECHANICAL MEASUREMENT & INSTRUMENTATI(	BTD2142	2
HEAT TRANSFER	BTD2242	2
PRODUCT DEVELOPMENT 3	BTD2213	3
FINITE ELEMENT ANALYSIS	BTD3123	3
APPLIED CONTROL SYSTEM	BTD2232	2
HYDRAULIC & PNEUMATIC	BTD2252	2
MECHANICAL VIBRATION	BTD2223	3
OCCUPATIONAL SAFETY & HEALTH	BTD4131	1
PRODUCT DEVELOPMENT 4	BTD3114	4
PRODUCT DEVELOPMENT 5	BTD3214	4
SPECIALIZATION 1	BT*2***	3
SPECIALIZATION 2	BT*3***	3
SPECIALIZATION 3	BT*3***	3
SPECIALIZATION 4	BT*3***	3
FINAL YEAR PROJECT	BT*4112	12
	TOTAL	**82**

LATIHAN INDUSTRI (INDUSTRIAL TRAINING)		
INDUSTRIAL TRAINING	BT*4212	12
	TOTAL	**12**

MODUL WAJIB (COMPULSORY MODULE)		
CO-CURRICULUM	UQB***2	2
FALSAFAH DAN ISU SEMASA	UHC1012	2
ENGLISH FOR ACADEMIC COMMUNICATION	UHL2412	2
PENGHAYATAN ETIKA DAN PERADABAN	UHC2022	2
ENGLISH FOR TECHNICAL COMMUNICATION	UHL2422	2
FOREIGN LANGUAGE 1	UHF11*1	1
SOFT SKILLS	UHS***2	2
FOREIGN LANGUAGE 2	UHF2**1	1
TECHNOPRENEURSHIP	UGE2002	2
ENGLISH FOR PROFESSIONAL COMMUNICATION	UHL2432	2
	TOTAL	**18**

MODUL ELEKTIF (ELECTIVES MODULES)		
ELECTIVE 1	BT*3***	3
ELECTIVE 2	BT*3***	3
ELECTIVE 3	BT*3***	3
ELECTIVE 4	BT*3***	3
	TOTAL	**12**

Rujukan: TTAC Standard (Second Edition)

Table 4.0 Minimum requirement of a programme structure of Technologist or Technician with respect to the MQF levels

Items	Bachelor Degree (MQF Level 6)	Advanced Diploma (MQF Level 5)	Diploma (MQF Level 4)	Certificate (MQF Level 3)
Student Learning Time, SLT-based Credit Hours++	Minimum 120	Minimum 40	Minimum 90	Minimum 60
Studies Duration	Minimum 3 years	Minimum 1 year	Minimum 2 years	Minimum 1 ¼ years
Technology Component Consists of Common Core, Discipline Core, Final Year Project, Industrial Training related to the field of study	Minimum 80 credit	Minimum 25 credit	Minimum 60 credit	Minimum 30 credit
General Component Consists of MPU courses, EP Compulsory courses, and others.	The remaining credit	The remaining credit	The remaining credit	The remaining credit
Theory/Knowledge-based • Technology Component only • SLT / Credits	Minimum 40%	Minimum 30%	Minimum 20%	Minimum 20%
Practical/Modern Tool Usage-based • Technology Component only • SLT / Credits	Minimum 40%	Minimum 60%	Minimum 60%	Minimum 60%

Rujukan: STANDARD PROGRAM:KEJURUTERAAN DAN TEKNOLOGI KEJURUTERAAN

JADUAL 4:

IJAZAH SARJANA MUDA Teknologi Kejuruteraan

Kredit Bergraduat Minimum – 140

	Badan Pengetahuan	Kredit*
MODUL WAJIB		
I. Keperluan Nasional	Bahasa Melayu, Pengajian Malaysia, Pengajian Islam / Pendidikan Moral.	17 – 20
II. Keperluan PPT	Sains Sosial / Opsyen Kemanusiaan, Ko-Kurikulum.	
III. Pembangunan Peribadi	Bahasa, Kemahiran Komunikasi – Penyampaian.	
MODUL TERAS		
I. Teras Umum	i. Matematik ii. Sains iii. Modul Pembangunan Profesional yang merangkumi topik seperti Etika Kerja, Isu Kelestarian dan Keusahawanan.	15 – 21
II. Teras Disiplin	Ditetapkan oleh PPT mengikut keperluan program.	80 – 84 (50% melibatkan jam kerja praktikal)
LATIHAN INDUSTRI		
	Penempatan di tempat kerja yang bersesuaian.	8 – 12
MODUL ELEKTIF		
	-	8 – 14

*Kredit dikira berdasarkan Kredit Bergraduat Minimum yang dinyatakan di atas.

Rujukan: GARIS PANDUAN PEMBANGUNAN PROGRAM AKADEMIK UNIVERSITI AWAM (Edisi Kedua)

Jadual 1.6: Kaedah Penamaan Program Berdasarkan Struktur Program

Bil.	Struktur Program	Huraian
1.	**Major**	Program yang mempunyai **sekurang-kurangnya 70%*** komponen dalam sesuatu bidang utama program. Contohnya Sarjana Muda Sains Aktuari/*Bachelor in Actuarial Science*
2.	**Major dengan Pengkhususan (*Major with Specialisation*)**	Program yang mempunyai bidang pengkhususan tertentu yang meliputi **25-30%*** pengetahuan dalam sesuatu bidang utama program**. Bidang pengkhususan ini dinyatakan dalam kurungan. Contohnya Sarjana Muda Sains Komputer (Pengaturcaraan)/*Bachelor of Computer Science (Programming)*. Bagi program tahap **Sijil** dan **Diploma**, struktur program dengan pengkhususan tidak dibenarkan, maka penamaan sedemikian tidak boleh diterima pakai.

** Bidang utama merujuk kepada bidang teras program (Kursus teras disiplin yang wajib diikuti oleh pelajar, selain daripada Kursus Umum dan Kursus Elektif)