

**Department :**FACULTY OF MECHANICAL AND MANUFACTURING  
ENGINEERING**PROGRAMME SPECIFICATIONS**

<b>Programme Name</b>	<b>Bachelor of Aeronautical Engineering Technology (Professional Piloting) with Honours</b>	
<b>Degree to be Awarded</b>	<b>Bachelor of Aeronautical Engineering Technology (Professional Piloting) with Honours</b>	
<b>Programme Duration</b>	<b>Min: 4 years / 12 semesters (including 4 short semesters) and Max: 6 years / 18 semesters (including 4 short semesters)</b>	
	UTHM	Industry
	<b>7 semesters (including 2 short semesters)</b>	<b>5 semesters (including 2 short semesters)</b>

**Entry Requirements**

In order to be accepted in this programme, candidates must satisfy either of the following general university requirements:

## a) Sijil Tinggi Persekolahan Malaysia (STPM) Candidates

General University Requirements:

- i) Passed in SPM or its equivalent with a credit in Bahasa Melayu or Bahasa Malaysia;
- ii) Passed in MUET with a minimum band score of 2 or its equivalent; and
- iii) Passed in STPM or its equivalent with at least a grade C in 3 subjects including General Paper, Applied Mathematics/ Mathematics C/Mathematics, Physics, and Chemistry.

## b) Ministry of Education Matriculation Candidates

General University Requirements :

- i) Passed in SPM or its equivalent with a credit in Bahasa Melayu or Bahasa Malaysia;
- ii) Passed in MUET with a minimum band score of 2 or its

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- equivalent; and
- iii) A minimum CPA of 2.0 in matriculation examination with at least a grade C in Mathematics, Physics and Chemistry.

c) Diploma Candidates or its equivalent

General University Requirements :

- i) Passed in SPM or its equivalent with a credit in Bahasa Melayu or Bahasa Malaysia;
- ii) Passed in MUET with a minimum band score of 2 or its equivalent; and
- iii) Have diploma or its equivalent qualification in a related field from a recognized institution with either a minimum CPA of 2.70 or a CPA of 2.50 with two (2) years of relevant working experience.

Specific requirements:

- i) Passed in medical examination Class 2 from a medical panel approved by the Department of Civil Aviation Malaysia (DCAM);
- ii) Passed in aptitude and attitude tests;
- iii) Not colour blind; and
- iv) Not less than 163cm height

Requirement to be qualified for flight training at flying academy:

- i) Passed in medical examination Class 2 before undergo training at the flying academy.
- ii) Have completed all university compulsory subjects, faculty supported subjects, and core engineering subjects at UTHM. .

**Programme Educational Objectives (PEO)**

The following are the programme educational objectives, which aimed at producing aeronautical technologists in professional piloting with:

- a) the competency to practice knowledge and skills to be succesful in their profession. .
- b) the competency to apply technical skills as well as appropriate soft skills to exceed in the global market.
- c) the ability to be professionals with high awareness to their responsibilities to

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- the community and environment..
- d) the ability to either conducting research at postgraduate level or solving specific problems in their organization.
  - e) the strong commitment towards self-learning and continuous professional development.

**Programme Learning Outcome (PLO)**

Upon the completion of this programme, graduates should be able to:

- a) attain and apply adequate knowledge in science, mathematics, engineering and technology in the professional piloting area.
- b) communicate effectively with the professional and the non-professional using appropriate mediums and strategies.
- c) acquire profound technical skills in professional piloting..
- d) identify problems and generate solutions to solve problems in piloting.
- e) apply systematic approaches in designing and evaluating operation performance.
- f) perform effectively individually as well as in groups with the capability to be an efficient team leader and a group member.
- g) understand recognize ethics and responsibilities of a technologist in terms of social, cultural, and global aspects towards sustainable development.
- h) recognize the need to engage in life-long learning.
- i) design, conduct experiments, and perform analyses and data interpretations as well as applying appropriate techniques, skills, and the use engineering apparatus as technologist/engineer.
- j) acquire knowledge in contemporary issues and basic entrepreneurship in related discipline.

**PROGRAMME STRUCTURE**

**BACHELOR OF AERONAUTICAL ENGINEERING TECHNOLOGY (PROFESSIONAL PILOTING) WITH HONOURS**

SUBJECT COMPONENT	SUBJECT CODE	SUBJECT TITLE	TEACHING HOURS			CREDIT	TTH	TOTAL	GRAND TOTAL	%
			L	T	P					
University Compulsory Subjects	UMB 10*02	Foreign Language	2	1	0	2	3	20	38	26.0%
	UWA 10302	Islam and Asia Civilization	2	0	0	2	2			
	UWA 10102/	Islamic Studies	2	0	0	2	2			
	UWA 10202	Moral Studies				0	0			
	UWS 10202	Ethnics Relations	2	0	0	2	2			
	UWB 20302	Technical Writing	2	1	0	2	3			
	UWB 10202	Effective Communication	1	0	3	2	4			
	UWB 20402	Creativity and Innovation	2	1	0	2	3			
	UWS 10103	Nationhood & Current Development	3	0	0	3	3			
	UQ* 1***1	Co-Curriculum I	0	0	3	1	3			
	UQ* 1***1	Co-Curriculum II	0	0	3	1	3			
	UWB 10101	English for Academic Purpose	1	1	0	1	2			
Science & Mathematics Subjects	BWM 11803	Engineering Technology Mathematics I	3	1	0	3	4	9		
	BWM 11903	Engineering Technology Mathematics II	3	1	0	3	4			
	BWM 22003	Engineering Technology Mathematics III	3	1	0	3	4			
Faculty Support Subjects	BDU 10103	Computer Programming	2	0	3	3	5	9		
	BDU 20503	Management and Professional Ethics	3	0	0	3	3			
	BPK 20802	Entrepreneurship	2	0	3	3	5			
Core Subjects	BDU 10202	Introduction to Aircraft	2	1	0	2	3	60	108	74.0%
	BDU 10303	Engineering Drawing	2	0	3	3	5			
	BDU 18001	Aeronautical Engineering Technology Practice I	0	0	3	1	3			
	BDU 10703	Aircraft Aerodynamics (Theory)	3	1	0	3	4			
	BDU 10503	Engineering Mechanics	3	1	0	3	4			

	BDU 10603	Engineering Technology Materials	3	1	0	3	4		
	BDU 17001	Engineering Technology Laboratory I	0	0	3	1	3		
	BDU 17101	Engineering Technology Laboratory II	0	0	3	1	3		
	BDU 10403	Thermofluids	3	1	0	3	4		
	BDU 10803	Electrical and Electronics Technology	3	1	0	3	4		
	BDU 20103	Aircraft Structure	3	1	0	3	4		
	BDU 20203	Aircraft Propulsion (Theory)	3	1	0	3	4		
	BDU 20303	Electromechanical and Control Systems	3	1	0	3	4		
	BDU 20403	Aircraft Systems (Theory)	3	1	0	3	4		
	BDU 28001	Aeronautical Engineering Technology Practice II	0	0	3	1	3		
	BDU 20603	Flight Mechanics (Theory)	3	1	0	3	4		
	BDU 20703	Aircraft Design	3	1	0	3	4		
	BDU 29002	Bachelor Degree Project I	0	0	6	2	6		
	BDU 28106	Industrial Training	0	0	0	6	0		
	BDU 39004	Bachelor Degree Project II	0	0	12	4	12		
	BDU 30103	Airport Management	3	1	0	3	4		
	BDU 30203	Aviation Economy and Management	3	1	0	3	4		
Specialization Subjects	BDT 30102	PPL Ground School	2	1	0	2	3	48	
	BDT 30202	Air Law	2	1	0	2	3		
	BDT 30302	Human Performance & Limitations	2	1	0	2	3		
	BDT 30402	Flight Mechanics (Practical)	1	0	3	2	4		
	BDT 30501	Aircraft Electrical Systems	1	1	0	1	2		
	BDT 30602	Aircraft Systems (Practical)	1	0	3	2	4		

BDT 30702	Aircraft Propulsion Systems (Practical)	1	0	3	2	4			
BDT 30803	PPL Flying (45 hours)	0	0	9	3	9			
BDT 30903	CPL Flying I ( Single Engine 45 hours)	0	0	9	3	9			
BDT 40102	CPL Flying II (35 hrs)	0	0	6	2	6			
BDT 40202	Radio Aids	2	1	0	2	3			
BDT 40302	Flight Planning	2	1	0	2	3			
BDT 40402	Advanced Meteorology (Theory)	2	1	0	2	3			
BDT 40502	Advanced Meteorology (Practical)	0	0	6	2	6			
BDT 40602	Instruments	2	1	0	2	3			
BDT 40703	Advanced Navigation	3	1	0	3	4			
BDT 40803	CPL Flying III (Single Engine 20 hours + 20hours simulator)	0	0	9	3	9			
BDT 40903	Aircraft Performance Application	3	1	0	3	4			
BDT 41003	Mass & Balance	3	1	0	3	4			
BDT 40103	Aviation English	3	1	0	3	4			
BDT 41102	ATPL Flying (Twin Engine 25 hours + simulator 10 hours)	0	0	6	2	6			
<b>TOTAL</b>		<b>106</b>	<b>33</b>	<b>102</b>	<b>146</b>	<b>241</b>	<b>146</b>	<b>146</b>	<b>100.0%</b>

## Matrix and Mapping of Programme - Subject Learning Outcomes

**FACULTY NAME: FACULTY OF MECHANICAL AND MANUFACTURING ENGINEERING**

**PROGRAMME NAME: BACHELOR OF AERONAUTICAL ENGINEERING TECHNOLOGY (PROFESSIONAL PILOTING) WITH HONOURS**

No.	Code	Subject	Programme Learning Outcomes																			
			LO-1		LO-2		LO-3		LO-4		LO-5		LO-6		LO-7		LO-8		LO-9		LO-10	
			1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1	UMB 10*02	Foreign Language			x							x			x		x					
2	UWA 10302	Islam and Asia Civilization			x							x			x		x					
3	UWA 10102/	Islamic Studies			x							x			x		x					
4	UWA 10202	Moral Studies			x							x			x		x					
5	UWS 10202	Ethnics Relations			x							x			x		x					
6	UWB 20302	Technical Writing			x						x	x			x		x					
7	UWB 10202	Effective Communication			x							x			x		x					
8	UWB 20402	Creativity and Innovation		x	x			x				x	x		x		x		x		x	x
9	UWS 10103	Nationhood & Current Development			x								x		x		x					
10	UQ* 1**1	Co-Curriculum I										x			x		x					x
11	UQ* 1***1	Co-Curriculum II										x			x		x					x
12	UWB 10101	English for Academic Purpose			x							x	x		x		x					
13	BWM 11803	Engineering Technology Mathematics I	x			x			x					x			x					
14	BWM 11903	Engineering Technology Mathematics II	x			x			x					x			x					
15	BWM 22003	Engineering Technology Mathematics III	x			x			x					x			x					
16	BDU 10103	Computer Programming	x					x	x					x		x	x					

17	BDU 20503	Management and Professional Ethics				x				x			x		x				
18	BPK 20802	Entrepreneurship			x					x				x		x			x
19	BDU 10202	Introduction to Aircraft		x															
20	BDU 10303	Engineering Drawing		x			x			x						x		x	
21	BDU 18001	Aeronautical Engineering Technology Practice I		x			x			x			x		x			x	
22	BDU 10703	Aircraft Aerodynamics (Theory)	x							x									
23	BDU 10503	Engineering Mechanics	x							x									
24	BDU 10603	Engineering Technology Materials Bahan Teknologi Kejuruteraan	x							x									
25	BDU 17001	Engineering Technology Laboratory I	x							x				x					x
26	BDU 17101	Engineering Technology Laboratory II	x							x				x					x
27	BDU 10403	Thermofluids	x							x									
28	BDU 10803	Electrical and Electronics Technology	x							x									
29	BDU 20103	Aircraft Structure	x							x	x			x					
30	BDU 20203	Aircraft Propulsion (Theory)	x							x									
31	BDU 20303	Electromechanical and Control Systems	x							x									
32	BDU 20403	Aircraft Systems (Theory)	x							x									
33	BDU 28001	Aeronautical Engineering Technology Practice II		x			x			x			x		x				x
34	BDU 20603	Flight Mechanics (Theory)	x							x									
35	BDU 20703	Aircraft Design	x							x	x			x					
36	BDU 29002	Bachelor Degree Project I	x		x					x	x					x		x	
37	BDU 28106	Industrial Training				x		x		x		x		x		x		x	x
38	BDU 39004	Bachelor Degree Project II	x		x					x	x					x		x	
39	BDU 30103	Airport Management		x	x			x		x	x			x		x		x	
40	BDU 30203	Aviation Economy and Management		x		x				x		x		x		x		x	
41	BDT 30102	PPL Ground School		x	x		x									x			
42	BDT 30202	Air Law				x										x		x	
43	BDT 30302	Human Performance & Limitations																x	
44	BDT 30402	Flight Mechanics (Practical)		x			x												





## Matrix and Mapping of Programme - Subject Learning Outcomes

### BACHELOR OF AERONAUTICAL ENGINEERING TECHNOLOGY (PROFESSIONAL PILOTING) WITH HONOURS

No.	Code	Subject	Communication Skills			Critical Thinking and Problem Solving			Team Work			Lifelong Learning		Entrepreneurship Skill	Professional Ethics & Moral		Leadership Skill	
			CS 1	CS 2	CS 3	CT 1	CT 2	CT 3	TS 1	TS 2	TS 3	LL 1	LL 2	KK 1	EM 1	EM 2	LS 1	LS 2
1	UMB 10*02	Foreign Language	/	/	/				/	/	/				/	/	/	/
2	UWA 10302	Islam and Asia Civilization	/	/	/				/	/	/				/	/	/	/
3	UWA 10102/	Islamic Studies	/	/	/				/	/	/				/	/	/	/
4	UWA 10202	Moral Studies	/	/	/				/	/	/				/	/	/	/
5	UWS 10202	Ethnics Relations	/	/	/				/	/	/				/	/	/	/
6	UWB 20302	Technical Writing	/	/	/				/	/	/				/	/	/	/
7	UWB 10202	Effective Communication	/	/	/				/	/	/				/	/	/	/
8	UWB 20402	Creativity and Innovation	/	/	/				/	/	/				/	/	/	/
9	UWS 10103	Nationhood & Current Development	/	/	/				/	/	/				/	/	/	/
10	UQ* 1**1	Co-Curriculum I							/	/	/				/	/	/	/
11	UQ* 1***1	Co-Curriculum II							/	/	/				/	/	/	/
12	UWB 10101	English for Academic Purpose	/	/	/				/	/	/				/	/	/	/
13	BWM 11803	Engineering Technology Mathematics I				/	/	/	/	/	/	/	/				/	/
14	BWM 11903	Engineering Technology Mathematics II				/	/	/	/	/	/	/	/				/	/
15	BWM 22003	Engineering Technology Mathematics III				/	/	/	/	/	/	/	/				/	/
16	BDU 10103	Computer Programming				/	/	/				/	/				/	/
17	BDU 20503	Management and Professional Ethics	/	/	/	/	/	/	/	/	/	/	/		/	/	/	/
18	BPK 20802	Entrepreneurship	/	/	/	/	/	/				/	/	/	/	/		
19	BDU 10202	Introduction to Aircraft				/	/	/										

20	BDU 10303	Engineering Drawing				/	/	/				/	/					
21	BDU 18001	Aeronautical Engineering Technology Practice I				/	/	/	/	/	/	/	/			/	/	
22	BDU 10703	Aircraft Aerodynamics (Theory)				/	/	/										
23	BDU 10503	Engineering Mechanics				/	/	/										
24	BDU 10603	Engineering Technology Materials				/	/	/										
25	BDU 17001	Engineering Technology Laboratory I				/	/	/	/	/	/							
26	BDU 17101	Engineering Technology Laboratory II				/	/	/	/	/	/							
27	BDU 10403	Thermofluids				/	/	/										
28	BDU 10803	Electrical and Electronics Technology				/	/	/										
29	BDU 20103	Aircraft Structure				/	/	/	/	/	/							
30	BDU 20203	Aircraft Propulsion (Theory)				/	/	/										
31	BDU 20303	Electromechanical and Control Systems				/	/	/										
32	BDU 20403	Aircraft Systems (Theory)				/	/	/										
33	BDU 28001	Aeronautical Engineering Technology Practice II				/	/	/	/	/	/	/	/			/	/	
34	BDU 20603	Flight Mechanics (Theory)				/	/	/										
35	BDU 20703	Aircraft Design				/	/	/	/	/	/							
36	BDU 29002	Bachelor Degree Project I	/	/	/	/	/	/				/	/					
37	BDU 28106	Industrial Training	/	/	/	/	/	/	/	/	/	/	/			/	/	
38	BDU 39004	Bachelor Degree Project II	/	/	/	/	/	/				/	/					
39	BDU 30103	Airport Management	/	/	/	/	/	/	/	/	/	/	/	/		/	/	
40	BDU 30203	Aviation Economy and Management	/	/	/	/	/	/	/	/	/	/	/	/		/	/	
41	BDT 30102	PPL Ground School				/	/	/										
42	BDT 30202	Air Law	/	/	/							/	/			/	/	
43	BDT 30302	Human Performance & Limitations										/	/					
44	BDT 30402	Flight Mechanics (Practical)				/	/	/										
45	BDT 30501	Aircraft Electrical Systems				/	/	/										
46	BDT 30602	Aircraft Systems (Practical)				/	/	/										
47	BDT 30702	Aircraft Propulsion Systems (Practical)				/	/	/										
48	BDT 30803	PPL Flying (45 hours)	/	/	/	/	/	/	/	/	/	/	/	/		/	/	
49	BDT 30903	CPL Flying I ( Single Engine 45 hours)	/	/	/	/	/	/	/	/	/	/	/	/		/	/	
50	BDT 40102	CPL Flying II (35 hrs)	/	/	/	/	/	/	/	/	/	/	/	/		/	/	
51	BDT 40202	Radio Aids				/	/	/										

52	BDT 40302	Flight Planning				/	/	/										
53	BDT 40402	Advanced Meteorology (Theory)				/	/	/										
54	BDT 40502	Advanced Meteorology (Practical)				/	/	/										
55	BDT 40602	Instruments				/	/	/										
56	BDT 40703	Advanced Navigation				/	/	/	/	/	/							
57	BDT 40803	CPL Flying III (Single Engine 20 hours + 20hours simulator)	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
58	BDT 40903	Aircraft Performance Application				/	/	/				/	/			/	/	
59	BDT 41003	Mass & Balance				/	/	/										
60	BDT 40103	Aviation English				/	/	/				/	/			/	/	
61	BDT 41102	ATPL Flying (Twin Engine 25 hours + simulator 10 hours)	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
			16	16	16	47	47	47	24	24	24	23	23	3	19	19	10	10

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**PROGRAM SPECIFICATION**



**Delivery**

This programme will be delivered through multiple effective and innovative methods to satisfy the desired subject learning outcomes as well as to provide more opportunities for student centered learning. The delivery methods are as follows:

- Lectures
- Practical and application sessions : laboratory works, workshop, studio, site visit, demonstration, and simulation.
- Flight training through collaboration with industry.
- Industrial seminar and industrial visit.
- Project Oriented Problem-based Learning (POPBL)
- Projects E-learning

**Assessment**

Formative and summative assessment may include:

- Written examinations
- Tests / Quizzes
- Assignments
- Presentations
- Practical tests
- Laboratory reports
- Oral examinations
- Dynamic group observation
- Flight training log book and industrial training log book
- Portfolio
- Industrial assessment and DCAM assessment

**Graduation Requirement**

- Completed all the credits for this program.
- Obtained at least a minimum CPA of 2.0.
- Completed industrial training.
- Completed flight training with the flying school appointed by the University.
- Passed ATPL examination by DCAM.

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**PROGRAM SPECIFICATION**



**Career Opportunities**

Graduates will have various career opportunities at leading local and global aeronautical industry as aeronautical engineers or professional pilots. The training is geared and crafted in accordance with the specifications given by the Malaysian Department of Civil Aviation (DCA) and has worldwide recognition. Meanwhile, with the awarded degree, the graduates could also be employed as operation engineers or operation supervisors in local and international airline companies. Besides, there are other opportunities to work in research institutions, government agencies, regulatory bodies as well as academic positions in universities, training centers and flying schools..

**Related Information**

(Lecturer / Facilitator / Project / Target Group / Fees / Etc.)

- Academic Staff:
  - a. All University compulsory subjects, faculty support subjects, core engineering subjects and specialization subjects will be covered by academic staff from the Faculty of Mechanical and Manufacturing Engineering.
  - b. Flight training and Ground School subjects will be covered by collaboration with the University appointed flying academy and taught by instructors who has obtained pilot license. This flying academy must be a DCA approved flight training organization.

Prepared by:

Verified by:

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Ketua Jabatan  
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*Note: All information is correct at the time of print and is subject to amendment ..*