

## AU Required for Graduation

### DOUBLE DEGREES PROGRAMME

#### Degree in Bachelor of Engineering (AEROSPACE ENGINEERING) and Bachelor of Arts (ECONOMICS) ProgramAE (FULL-Time)

For students admitted to FULL-TIAE  
Double Degree in B.ENG (AERO) and B.Arts (Econs) in AY2016/2017 - YEAR 1  
(Professional Internship)

Year of Study	Number of Academic Units (AUs)										Total
	AE CORE	ECONS CORE	AE MAJOR PE	ECONS ELECTIVES	General Education Requirement (GER)					UE	
					Core	Prescribed Electives (PE)					
LA	STS	BM	ANY								
1	22	12	-	-	4	-	-	-	-	-	38
2	29	9	-	-	1	-	-	-	-	-	39
3	25	-	-	3	2	-	-	-	-	-	30
4	9	4	3	18	5	-	-	-	-	-	39
5	11	-	3	18	-	-	-	-	-	-	32
<u>Total</u>	96	25	6	39	12	0				0	178

For students admitted to FULL-TIAE  
Double Degree in B.ENG (AERO) and B.Arts (Econs) in AY2016/2017 - YEAR 1 (Optional PA)

Year of Study	Number of Academic Units (AUs)										Total
	AE CORE	ECONS CORE	AE MAJOR PE	ECONS ELECTIVES	General Education Requirement (GER)					UE	
					Core	Prescribed Electives (PE)					
LA	STS	BM	ANY								
1	22	12	-	-	4	-	-	-	-	-	38
2	34	6	-	-	2	-	-	-	-	-	42
3	15	3	-	9	4	-	-	-	-	3	34
4	9	4	3	15	2	-	-	-	-	-	33
5	11	-	3	15	-	-	-	-	-	2	31
<u>Total</u>	91	25	6	39	12	0				5	178

## Curriculum Structure (5-Year Programme)

**Double Degree in Bachelor of Engineering (AEROSPACE ENGINEERING)  
and Bachelor of Arts (ECONOMICS) Programme (FULL-Time) (Professional Internship)**

For students admitted to FULL-TIME B.ENG in AY2016/2017

Course Code and Title	Type	No of Hours Per Week				AU	Pre-requisite/ Remarks
		Lec	Tut	Lab	Total		
<b>YEAR 1 SEMESTER 1</b>							
MH1810 Mathematics I	C	2	1	-	3	3	
FE1008 Computing	C	2	1	1	4	3	
PH1011 Physics	C	2	1	-	3	3	PH1011: 'A' level Physics
OR PH1012 Physics A		3	1	-	4	4	
MA1701 Introduction to Aerospace Engineering	C	3	-	-	-	3	
HE1001 Microeconomics Principles	EC	3	-	-	-	3	
HE1002 Macroeconomics Principles	EC	3	-	-	-	3	
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GC	-	1	-	1	1	Online, Sem 1 only
<b>Total</b>						<b>19</b>	
<b>YEAR 1 SEMESTER 2</b>							
MH1811 Mathematics II	C	3	-	-	3	3	
MA1001 Dynamics	C	2	1	-	3	3	Having read (PH1011/PH1012/CY1305)&(MH1810/MH2812/CY1201)
MA1700 Aerospace Discovery Course	C	0	-	3	3	1	
MA2001 Mechanics of Materials	C	2	1	-	3	3	
HE1005 Introduction to Probability and Statistical Inference	EC	3	-	-	-	3	
HE2001 Intermediate Microeconomics	EC	3	-	-	-	3	
HW0188 Engineering Communication I	GC	-	2	-	2	2	HW0001 (co-requisite)
ML0001 Absolute Basics in Career	GC	-	1	-	1	1	Online, Sem 2 only
<b>Total</b>						<b>19</b>	
<b>YEAR 2 SEMESTER 1</b>							
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 1 for AE students
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA2072 Laboratory Experiments (AE)	C	-	-	3	3	1	
MA2701 Flight Performance	C	2	-	-	2	2	MA1001 & MA1700
MA3700 Aircraft Structures I	C	3	-	-	3	3	MA2001
HE2005 Principles of Econometrics	EC	3	-	-	-	3	HE1005
HY0001 Ethics and Moral Reasoning	GC	-	1	-	1	1	Online, Sem 1 Only
<b>Total</b>						<b>19</b>	

YEAR 2 SEMESTER 2							
MA2007 Thermodynamics	C	2	1	-	3	3	MA2003
MA2700 Aerospace Materials & Manufacturing Process	C	3	-	-	3	3	
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 + Special Term I
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3705 Aerospace Control Theory	C	3	-	-	3	3	Having Read MA2006
HE2002 Intermediate Macroeconomics	EC	3	-	-	-	3	HE1002/AB9091/HE9091
HE3021 Intermediate Econometrics	EC	2	1	-	3	3	HE2005
<b>Total</b>						<b>20</b>	
YEAR 3 SEMESTER 1							
MA3003 Heat Transfer	C	2	1	-	3	3	MA2007
MA3072 Mechanical Experiments	C	-	-	3	3	1	
MA3701 Aerodynamics	C	2	1	-	3	3	
MA3702 Aircraft Propulsion	C	2	1	-	3	3	MA2007
MA3703 Flight Dynamics	C	2	-	-	2	2	MA2701 & MA3705
MA3704 Aircraft Electrical Devices	C	2	1	-	3	3	
Economics Elective 1	EPE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
<b>Total</b>						<b>19</b>	
YEAR 3 SEMESTER 2							
MA3080 Professional Internship	C	-	-	-	-	10	
ML0002 Career Power Up!	GC	-	1	-	1	1	ML0001, online
<b>Total</b>						<b>11</b>	
YEAR 4 SEMESTER 1							
MA4701 Aircraft Design	C	2	-	3	5	3	MA3701,MA3702 & MA3703
MA4702 Aircraft Structures II	C	3	-	-	3	3	MA2001,MA3700 & MA3701
MA4705 Aircraft Navigation and Flight Computers	C	3	-	-	3	3	MH1811
HE4010 Singapore Economy in a Globalized World	EC	2	2	-	4	4	HE2001 & HE2002
Economics Elective 2	EPE	3	-	-	3	3	
Economics Elective 3	EPE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
<b>Total</b>						<b>21</b>	
YEAR 4 SEMESTER 2							
MA0101 Engineers and Society	GC	2	1	-	3	3	
MA48XX Major-PE 1	PE	3	-	-	3	3	
Economics Elective 4	EPE	3	-	-	3	3	
Economics Elective 5	EPE	3	-	-	3	3	
Economics Elective 6	EPE	3	-	-	3	3	
Economics Elective 7	EPE	3	-	-	3	3	

<b>Total</b>						<b>18</b>	
<b>YEAR 5 SEMESTER 1</b>							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA4704 Aeroelasticity	C	3	-	-	3	3	MA3700 & MA3701
Economics Elective 8	EPE	3	-	-	3	3	
Economics Elective 9	EPE	4	-	-	4	4	
Economics Elective 10	EPE	4	-	-	4	4	
<b>Total</b>						<b>18</b>	
<b>YEAR 5 SEMESTER 2</b>							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 2	PE	3	-	-	3	3	
Economics Elective 11	EPE	4	-	-	4	4	
Economics Elective 12	EPE	3	-	-	3	3	
<b>Total</b>						<b>14</b>	
<b>GRAND TOTAL (Year 1 to 5)</b>						<b>178</b>	

<b>Description of Abbreviations</b>
AU – Academic Units
C - Core
GP – General Education Requirements - Prescribe Electives (GER-PE)
GC – General Education Requirements - Core (GER-Core)
PE – Prescribed Electives
UE – Unrestricted Electives

## Curriculum Structure (5-Year Programme)

**Double Degree in Bachelor of Engineering (AEROSPACE ENGINEERING)  
and Bachelor of Arts (ECONOMICS) Programme (FULL-Time)**

For students admitted to FULL-TIME B.ENG in AY2016/2017 - (Optional PA)

Course Code and Title	Type	No of Hours Per Week				AU	Pre-requisite/ Remarks
		Lec	Tut	Lab	Total		
<b>YEAR 1 SEMESTER 1</b>							
MH1810 Mathematics I	C	2	1	-	3	3	
FE1008 Computing	C	2	1	1	4	3	
PH1011 Physics	C	2	1	-	3	3	PH1011: 'A' level Physics
OR PH1012 Physics A		3	1	-	4	4	
MA1701 Introduction to Aerospace Engineering	C	3	-	-	-	3	
HE1001 Microeconomics Principles	EC	3	-	-	-	3	
HE1002 Macroeconomics Principles	EC	3	-	-	-	3	
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GC	-	1	-	1	1	Online, Sem 1 only
<b>Total</b>						<b>19</b>	
<b>YEAR 1 SEMESTER 2</b>							
MH1811 Mathematics II	C	3	-	-	3	3	
MA1001 Dynamics	C	2	1	-	3	3	Having read (PH1011/PH1012/CY1305)&(MH1810/MH2812/CY1201)
MA1700 Aerospace Discovery Course	C	0	-	3	3	1	
MA2001 Mechanics of Materials	C	2	1	-	3	3	
HE1005 Introduction to Probability and Statistical Inference	EC	3	-	-	-	3	
HE2001 Intermediate Microeconomics	EC	3	-	-	-	3	
HW0188 Engineering Communication I	GC	-	2	-	2	2	HW0001 (co-requisite)
ML0001 Absolute Basics in Career	GC	-	1	-	1	1	Online, Sem 2 only
<b>Total</b>						<b>19</b>	
<b>YEAR 2 SEMESTER 1</b>							
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 1 for AE students
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA2072 Laboratory Experiments (AE)	C	-	-	3	3	1	
MA2701 Flight Performance	C	2	-	-	2	2	MA1001 & MA1700
MA3700 Aircraft Structures I	C	3	-	-	3	3	MA2001
HE2005 Principles of Econometrics	EC	3	-	-	-	3	HE1005
HY0001 Ethics and Moral Reasoning	GC	-	1	-	1	1	Online, Sem 1 Only
<b>Total</b>						<b>19</b>	
<b>YEAR 2 SEMESTER 2</b>							

MA2007 Thermodynamics	C	2	1	-	3	3	MA2003
MA2700 Aerospace Materials & Manufacturing Process	C	3	-	-	3	3	
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 + Special Term I
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3705 Aerospace Control Theory	C	3	-	-	3	3	Having Read MA2006
HE2002 Intermediate Macroeconomics	EC	3	-	-	-	3	HE1002/AB9091/HE9091
<b>Total</b>						<b>17</b>	
<b>YEAR 2 SPECIAL SEMESTER</b>							
MA3075 Professional Attachment	C	-	-	-	-	5	5AU from core to UE
ML0002 Career Power Up!	GC	-	1	-	1	1	ML0001, online
<b>Total</b>						<b>6</b>	
<b>YEAR 3 SEMESTER 1</b>							
MA3072 Mechanical Experiments	C	-	-	3	3	1	
MA3701 Aerodynamics	C	2	1	-	3	3	
MA3702 Aircraft Propulsion	C	2	1	-	3	3	MA2007
MA3703 Flight Dynamics	C	2	-	-	2	2	MA2701 & MA3075
MA3704 Aircraft Electrical Devices	C	2	1	-	3	3	
Economics Elective 1	EPE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
<b>Total</b>						<b>16</b>	
<b>YEAR 3 SEMESTER 2</b>							
MA3003 Heat Transfer	C	2	1	-	3	3	MA2007
MA0101 Engineers and Society	GC	2	1	-	3	3	
HE3021 Intermediate Econometrics	EC	2	1	-	3	3	HE2005
Economics Elective 2	EPE	3	-	-	3	3	
Economics Elective 3	EPE	3	-	-	3	3	
Unrestricted Elective (UE) 1	UE	3	-	-	3	3	
<b>Total</b>						<b>18</b>	
<b>YEAR 4 SEMESTER 1</b>							
MA4701 Aircraft Design	C	2	-	3	5	3	MA3701, MA3702 & MA3703
MA4702 Aircraft Structures II	C	3	-	-	3	3	MA2001, MA3700 & MA3701
MA4705 Aircraft Navigation and Flight Computers	C	3	-	-	3	3	MH1811
HE4010 Singapore Economy in a Globalized World	EC	2	2	-	4	4	HE2001 & HE2002
Economics Elective 4	EPE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
<b>Total</b>						<b>18</b>	
<b>YEAR 4 SEMESTER 2</b>							
MA48XX Major-PE 1	PE	3	-	-	3	3	

Economics Elective 5	EPE	3	-	-	3	3	
Economics Elective 6	EPE	3	-	-	3	3	
Economics Elective 7	EPE	3	-	-	3	3	
Economics Elective 8	EPE	3	-	-	3	3	
<b>Total</b>						<b>15</b>	
<b>YEAR 5 SEMESTER 1</b>							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA4704 Aeroelasticity	C	3	-	-	3	3	MA3700 & MA3701
Economics Elective 9	EPE	4	-	-	4	4	
Economics Elective 10	EPE	4	-	-	4	4	
Unrestricted Elective (UE) 2	UE	2	-	-	2	2	
<b>Total</b>						<b>17</b>	
<b>YEAR 5 SEMESTER 2</b>							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 2	PE	3	-	-	3	3	
Economics Elective 11	EPE	4	-	-	4	4	
Economics Elective 12	EPE	3	-	-	3	3	
<b>Total</b>						<b>14</b>	
<b>GRAND TOTAL (Year 1 to 5)</b>						<b>178</b>	

### **Description of Abbreviations**

AU – Academic Units

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GC – General Education Requirements - Core (GER-Core)

PE – Prescribed Electives

UE – Unrestricted Electives