

AU Required for Graduation

DOUBLE DEGREE PROGRAMME

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

For students admitted to FULL-TIME
Double Degree in B.ENG (AERO) and B.Arts (Econs) in AY2018/2019 - 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	-	-	3	-	-	-	-	-	37
2	29	9	-	-	5	-	-	-	-	-	43
3	25	-	-	3	1	-	-	-	-	-	29
4	9	4	3	18	5	-	-	-	-	-	39
5	11	-	3	18	-	-	-	-	-	-	32
<u>Total</u>	96	25	6	39	14	0				0	180

For students admitted to FULL-TIME
Double Degree in B.ENG (AERO) and B.Arts (Econs) in AY2018/2019 - 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	-	-	3	-	-	-	-	-	37
2	34	6	-	-	5	-	-	-	-	-	45
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	14	0				5	180

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 AY2018/2019

Course Code and Title	Type	No of Hours Per Week				AU	Pre-requisite/ Remarks
		Lec	Tut	Lab	Total		
YEAR 1 SEMESTER 1							
MH1810 Mathematics I	C	2	1	-	3	3	
MA1008 Introduction to Computational Thinking	C	TBA	TBA	TBA	TBA	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
Total						19	
YEAR 1 SEMESTER 2							
MH1811 Mathematics II	C	3	-	-	3	3	
MA1001 Dynamics	C	2	1	-	3	3	Having read PH1011/PH1012/CY1305 and 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)
Total						18	
YEAR 2 SEMESTER 1							
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
ML0003 Career Course	GC	TBA	TBA	TBA	TBA	1	Online
Total						20	

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
Data Science and Artificial Intelligence	GC	TBA	TBA	TBA	TBA	3	
Total						23	
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
Total						19	
YEAR 3 SEMESTER 2							
MA3080 Professional Internship	C	-	-	-	-	10	
Total						10	
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
Total						21	
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	
Total						18	

YEAR 5 SEMESTER 1							
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	
Total						18	
YEAR 5 SEMESTER 2							
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	
Total						14	
GRAND TOTAL (Year 1 to 5)						180	

Description of Abbreviations

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 AY2018/2019 - (Optional PA)

Course Code and Title	Type	No of Hours Per Week				AU	Pre-requisite/ Remarks
		Lec	Tut	Lab	Total		
YEAR 1 SEMESTER 1							
MH1810 Mathematics I	C	2	1	-	3	3	
MA1008 Introduction to Computational Thinking	C	TBA	TBA	TBA	TBA	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
Total						19	
YEAR 1 SEMESTER 2							
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)
Total						18	
YEAR 2 SEMESTER 1							
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
ML0003 Career Course	GC	TBA	TBA	TBA	TBA	1	Online
Total						20	

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
Data Science and Artificial Intelligence	GC	TBA	TBA	TBA	TBA	3	
Total						20	
YEAR 2 SPECIAL SEMESTER							
MA3075 Professional Attachment	C	-	-	-	-	5	5AU from core to UE
Total						5	
YEAR 3 SEMESTER 1							
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
Total						16	
YEAR 3 SEMESTER 2							
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	
Total						18	
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 4	EPE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
Total						18	

YEAR 4 SEMESTER 2							
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	
Total						15	
YEAR 5 SEMESTER 1							
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	
Total						17	
YEAR 5 SEMESTER 2							
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	
Total						14	
GRAND TOTAL (Year 1 to 5)						180	

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GP – General Education Requirements - Prescribe Electives (GER-PE)

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

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