

AU Required for Graduation

DOUBLE DEGREE PROGRAMME

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

For students admitted to FULL-TIME
Double Degree in B.ENG (ME) and B.Arts (Econs) in AY2018/2019 - YEAR 1
(Mainstream) (Professional Internship)

Year of Study	Number of Academic Units (AUs)										Total
	ME CORE	ECONS CORE	ME MAJOR PE	ECONS ELECTIVES	Core	General Education Requirement (GER)				UE	
						LA	STS	BM	ANY		
1	19	12	-	-	3	-	-	-	-	-	34
2	30	9	-	-	5	-	-	-	-	-	44
3	23	-	-	3	4	-	-	-	-	-	30
4	10	4	6	18	2	-	-	-	-	-	40
5	8	-	6	18	-	-	-	-	-	-	32
Total	90	25	12	39	14	0				0	180

For students admitted to FULL-TIME
Double Degree in B.ENG (ME) and B.Arts (Econs) in AY2018/2019 - YEAR 1
(Mainstream) (Optional PA)

Year of Study	Number of Academic Units (AUs)										Total
	ME CORE	ECONS CORE	ME MAJOR PE	ECONS ELECTIVES	Core	General Education Requirement (GER)				UE	
						LA	STS	BM	ANY		
1	19	12	-	-	3	-	-	-	-	-	34
2	35	9	-	-	5	-	-	-	-	-	49
3	16	-	-	9	4	-	-	-	-	5	34
4	7	4	6	15	2	-	-	-	-	-	34
5	8	-	6	15	-	-	-	-	-	-	29
Total	85	25	12	39	14	0				5	180

**For students admitted to FULL-TIME
Double Degree in B.ENG (ME) and B.Arts (Econs) in AY2018/2019 - YEAR 1
(Design Stream) (Professional Internship)**

Year of Study	Number of Academic Units (AUs)										Total
	ME CORE	ECONS CORE	ME MAJOR PE	ECONS ELECTIVES	General Education Requirement (GER)					UE	
					Core	Prescribed Electives (PE)					
						LA	STS	BM	ANY		
1	19	12	-	-	3	-	-	-	-	-	34
2	33	9	-	-	5	-	-	-	-	-	47
3	23	-	-	3	4	-	-	-	-	-	30
4	7	4	6	18	2	-	-	-	-	-	37
5	8	-	6	18	-	-	-	-	-	-	32
<u>Total</u>	90	25	12	39	14	0				0	180

**For students admitted to FULL-TIME
Double Degree in B.ENG (ME) and B.Arts (Econs) in AY2018/2019 - YEAR 1
(Design Stream) (Optional PA)**

Year of Study	Number of Academic Units (AUs)										Total
	ME CORE	ECONS CORE	ME MAJOR PE	ECONS ELECTIVES	General Education Requirement (GER)					UE	
					Core	Prescribed Electives (PE)					
						LA	STS	BM	ANY		
1	19	12	-	-	3	-	-	-	-	-	34
2	38	9	-	-	5	-	-	-	-	-	52
3	13	-	-	3	4	-	-	-	-	3	23
4	7	4	6	18	2	-	-	-	-	2	39
5	8	-	6	18	-	-	-	-	-	-	32
<u>Total</u>	85	25	12	39	14	0				5	180

**For students admitted to FULL-TIME
Double Degree in B.ENG (ME) and B.Arts (Econs) in AY2018/2019 - YEAR 1
(Robotics and Mechatronics Stream) (Professional Internship)**

Year of Study	Number of Academic Units (AUs)										Total
	ME CORE	ECONS CORE	ME MAJOR PE	ECONS ELECTIVES	General Education Requirement (GER)					UE	
					Core	Prescribed Electives (PE)					
LA	STS	BM	ANY								
1	19	12	-	-	3	-	-	-	-	-	34
2	33	9	-	-	5	-	-	-	-	-	47
3	23	-	-	3	4	-	-	-	-	-	30
4	7	4	6	18	2	-	-	-	-	-	37
5	8	-	6	18	-	-	-	-	-	-	32
<u>Total</u>	90	25	12	39	14	0				0	180

**For students admitted to FULL-TIME
Double Degree in B.ENG (ME) and B.Arts (Econs) in AY2018/2019 - YEAR 1
(Robotics and Mechatronics Stream) (Optional PA)**

Year of Study	Number of Academic Units (AUs)										Total
	ME CORE	ECONS CORE	ME MAJOR PE	ECONS ELECTIVES	General Education Requirement (GER)					UE	
					Core	Prescribed Electives (PE)					
LA	STS	BM	ANY								
1	19	12	-	-	3	-	-	-	-	-	34
2	38	9	-	-	5	-	-	-	-	-	52
3	13	-	-	3	4	-	-	-	-	3	23
4	7	4	6	18	2	-	-	-	-	2	39
5	8	-	6	18	-	-	-	-	-	-	32
<u>Total</u>	85	25	12	39	14	0				5	180

Curriculum Structure (5-Year Programme)

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

For students admitted to FULL-TIME B.ENG in AY2018/2019 (Mainstream)

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	
FE1073 Introduction to Engineering & Practices	C	-	-	-	1	1	
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						17	
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
MA1002 Fundamental Engineering 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						17	
YEAR 2 SEMESTER 1							
MA2001 Mechanics of Materials	C	2	1	-	3	3	
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2004 Manufacturing Processes	C	2	1	-	3	3	
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA2009 Introduction to Electrical Circuits & Electronic Devices	C	2	1	-	3	3	
MA2071 Laboratory Experiments (ME)	C	-	-	3	3	1	
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						21	

YEAR 2 SEMESTER 2							
MA2002 Theory of Mechanism	C	2	1	-	3	3	MA1001
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 2 for ME students
MA2007 Thermodynamics	C	2	1	-	3	3	MA2003
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 with 1 week in Special Term
MA3002 Solid Mechanics and Vibration	C	2	1	-	3	3	MA2001
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							
MA0101 Engineers and Society	GC	2	1	-	3	3	
MA3001 Machine Element Design	C	2	-	3	5	3	Having read MA2001 and MA2002
MA3003 Heat Transfer	C	2	1	-	3	3	MA2007
MA3004 Mathematical Methods in Engineering	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3071 Engineering Experiments (ME)	C	-	-	3	3	1	
Economics Elective 1	EPE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
Total						20	
YEAR 3 SEMESTER 2							
MA3080 Professional Internship	C	-	-	-	-	10	
Total						10	
YEAR 4 SEMESTER 1							
MA4001 Engineering Design	C	3	-	3	6	4	Having read MA3001
MA4002 Fluid Dynamics	C	3	-	-	3	3	MA3006
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						19	
YEAR 4 SEMESTER 2							
MA3005 Control Theory	C	2	1	-	3	3	Having read MA2006
MA48XX Major-PE 1	PE	3	-	-	3	3	
MA48XX Major-PE 2	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						21	

YEAR 5 SEMESTER 1							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 3	PE	3	-	-	3	3	
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 4	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

EC - ECONS Core

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

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

PE – Prescribed Electives

EPE – ECONS Prescribed Electives

UE – Unrestricted Electives

Curriculum Structure (5-Year Programme)

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

For students admitted to FULL-TIME B.ENG in AY2018/2019 (Mainstream)

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	
FE1073 Introduction to Engineering & Practices	C	-	-	-	1	1	
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						17	
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
MA1002 Fundamental Engineering 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						17	
YEAR 2 SEMESTER 1							
MA2001 Mechanics of Materials	C	2	1	-	3	3	
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2004 Manufacturing Processes	C	2	1	-	3	3	
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA2009 Introduction to Electrical Circuits & Electronic Devices	C	2	1	-	3	3	
MA2071 Laboratory Experiments (ME)	C	-	-	3	3	1	
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						21	

YEAR 2 SEMESTER 2							
MA2002 Theory of Mechanism	C	2	1	-	3	3	MA1001
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 2 for ME students
MA2007 Thermodynamics	C	2	1	-	3	3	MA2003
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 with 1 week in Special Term
MA3002 Solid Mechanics and Vibration	C	2	1	-	3	3	MA2001
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 2 SPECIAL SEMESTER							
MA3075 Professional Attachment	C	-	-	-	-	5	
Total						5	
YEAR 3 SEMESTER 1							
MA0101 Engineers and Society	GC	2	1	-	3	3	
MA3001 Machine Element Design	C	2	-	3	5	3	Having read MA2001 and MA2002
MA3003 Heat Transfer	C	2	1	-	3	3	MA2007
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3071 Engineering Experiments (ME)	C	-	-	3	3	1	
Economics Elective 1	EPE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
Total						17	
YEAR 3 SEMESTER 2							
MA3004 Mathematical Methods in Engineering	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA3005 Control Theory	C	2	1	-	3	3	Having read MA2006
Economics Elective 2	EPE	3	-	-	3	3	
Economics Elective 3	EPE	3	-	-	3	3	
Unrestricted Elective (UE) 1	UE	3	-	-	3	3	
Unrestricted Elective (UE) 2	UE	2	-	-	2	2	
Total						17	
YEAR 4 SEMESTER 1							
MA4001 Engineering Design	C	3	-	3	6	4	Having read MA3001
MA4002 Fluid Dynamics	C	3	-	-	3	3	MA3006
HE4010 Singapore Economy in a Globalized World	EC	2	2	-	4	4	HE2001 & HE2002
Economics Elective 4	EPE	3	-	-	3	3	
Economics Elective 5	EPE	3	-	-	3	3	
Total						17	

YEAR 4 SEMESTER 2							
MA48XX Major-PE 1	PE	3	-	-	3	3	
MA48XX Major-PE 2	PE	3	-	-	3	3	
Economics Elective 6	EPE	3	-	-	3	3	
Economics Elective 7	EPE	3	-	-	3	3	
Economics Elective 8	EPE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
Total						17	
YEAR 5 SEMESTER 1							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 3	PE	3	-	-	3	3	
Economics Elective 9	EPE	4	-	-	4	4	
Economics Elective 10	EPE	4	-	-	4	4	
Total						15	
YEAR 5 SEMESTER 2							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 4	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

EC - ECONS Core

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

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

PE – Prescribed Electives

EPE – ECONS Prescribed Electives

UE – Unrestricted Electives

Curriculum Structure (5-Year Programme)

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

For students admitted to FULL-TIME B.ENG in AY2018/2019 (Design Stream)

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	
FE1073 Introduction to Engineering & Practices	C	-	-	-	1	1	
HE1001 Microeconomics Principles	C	3	-	-	-	3	
HE1002 Macroeconomics Principles	C	3	-	-	-	3	
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GC	-	1	-	1	1	Online, Sem 1 only
Total						17	
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
MA1002 Fundamental Engineering Materials	C	2	1	-	3	3	
HE1005 Introduction to Probability and Statistical Inference	C	3	-	-	-	3	
HE2001 Intermediate Microeconomics	C	3	-	-	-	3	
HW0188 Engineering Communication I	GC	-	2	-	2	2	HW0001 (co-requisite)
Total						17	
YEAR 2 SEMESTER 1							
MA2001 Mechanics of Materials	C	2	1	-	3	3	
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2004 Manufacturing Processes	C	2	1	-	3	3	
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA2009 Introduction to Electrical Circuits & Electronic Devices	C	2	1	-	3	3	
MA2014 Product Presentation	C	2	-	2	4	3	
HE2005 Principles of Econometrics	C	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						23	

YEAR 2 SEMESTER 2							
MA2002 Theory of Mechanism	C	2	1	-	3	3	MA1001
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 2 for ME students
MA2013 Creative Thinking and Design	C	2	-	2	4	3	
MA2071 Laboratory Experiments (ME)	C	-	-	3	3	1	
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 with 1 week in Special Term
MA3002 Solid Mechanics and Vibration	C	2	1	-	3	3	MA2001
HE2002 Intermediate Macroeconomics	C	3	-	-	-	3	HE1002/AB9091/HE9091
HE3021 Intermediate Econometrics	C	2	1	-	3	3	HE2005
Data Science and Artificial Intelligence	GC	TBA	TBA	TBA	TBA	3	
Total						24	
YEAR 3 SEMESTER 1							
MA0101 Engineers and Society	GC	2	1	-	3	3	
MA3001 Machine Element Design	C	2	-	3	5	3	Having read MA2001 and MA2002
MA3004 Mathematical Methods in Engineering	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3010 Thermodynamics & Heat Transfer	C	2	1	-	3	3	MA2003
MA3071 Engineering Experiments (ME)	C	-	-	3	3	1	
Economics Elective 1	PE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
Total						20	
YEAR 3 SEMESTER 2							
MA3080 Professional Internship	C	-	-	-	-	10	
Total						10	
YEAR 4 SEMESTER 1							
MA4011 Engineering Product Design	C	3	-	3	6	4	Having read MA3001
MA48XX Major-PE 1	PE	3	-	-	3	3	
HE4010 Singapore Economy in a Globalized World	C	2	2	-	4	4	HE2001 & HE2002
Economics Elective 2	PE	3	-	-	3	3	
Economics Elective 3	PE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
Total						19	
YEAR 4 SEMESTER 2							
MA3005 Control Theory	C	2	1	-	3	3	Having read MA2006
MA48XX Major-PE 2	PE	3	-	-	3	3	
Economics Elective 4	PE	3	-	-	3	3	
Economics Elective 5	PE	3	-	-	3	3	
Economics Elective 6	PE	3	-	-	3	3	
Economics Elective 7	PE	3	-	-	3	3	
Total						18	

YEAR 5 SEMESTER 1							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 3	PE	3	-	-	3	3	
Economics Elective 8	PE	3	-	-	3	3	
Economics Elective 9	PE	4	-	-	4	4	
Economics Elective 10	PE	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 4	PE	3	-	-	3	3	
Economics Elective 11	PE	4	-	-	4	4	
Economics Elective 12	PE	3	-	-	3	3	
Total						14	
GRAND TOTAL (Year 1 to 5)						180	

Description of Abbreviations

AU – Academic Units

C - Core

EC - ECONS Core

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

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

PE – Prescribed Electives

EPE – ECONS Prescribed Electives

UE – Unrestricted Electives

Curriculum Structure (5-Year Programme)

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

For students admitted to FULL-TIME B.ENG in AY2018/2019 (Design Stream)

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	
FE1073 Introduction to Engineering & Practices	C	-	-	-	1	1	
HE1001 Microeconomics Principles	C	3	-	-	-	3	
HE1002 Macroeconomics Principles	C	3	-	-	-	3	
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GC	-	1	-	1	1	Online, Sem 1 only
Total						17	
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
MA1002 Fundamental Engineering Materials	C	2	1	-	3	3	
HE1005 Introduction to Probability and Statistical Inference	C	3	-	-	-	3	
HE2001 Intermediate Microeconomics	C	3	-	-	-	3	
HW0188 Engineering Communication I	GC	-	2	-	2	2	HW0001 (co-requisite)
Total						17	
YEAR 2 SEMESTER 1							
MA2001 Mechanics of Materials	C	2	1	-	3	3	
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2004 Manufacturing Processes	C	2	1	-	3	3	
MA2009 Introduction to Electrical Circuits & Electronic Devices	C	2	1	-	3	3	
MA2011 Mechatronics Systems Interfacing	C	2	1	-	3	3	
HE2005 Principles of Econometrics	C	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							
MA2002 Theory of Mechanism	C	2	1	-	3	3	MA1001
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 2 for ME students
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/ MH2812/CY1203
MA2012 Introduction to Mechatronics Systems Design	C	1	1	3	5	3	
MA2071 Laboratory Experiments (ME)	C	-	-	3	3	1	
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 with 1 week in Special Term
HE2002 Intermediate Macroeconomics	C	3	-	-	-	3	HE1002/AB9091/HE9091
Data Science and Artificial Intelligence	GC	TBA	TBA	TBA	TBA	3	
Total						21	
YEAR 2 SPECIAL SEMESTER							
MA3075 Professional Attachment	C	-	-	-	-	5	
Total						5	
YEAR 3 SEMESTER 1							
MA0101 Engineers and Society	GC	2	1	-	3	3	
MA3001 Machine Element Design	C	2	-	3	5	3	Having read MA2001 and MA2002
MA3002 Solid Mechanics and Vibration	C	2	1	-	3	3	MA2001
MA3004 Mathematical Methods in Engineering	C	2	1	-	3	3	(MH1810 & MH1811)/ MH2812/CY1203
MA3010 Thermodynamics & Heat Transfer	C	2	1	-	3	3	MA2003
Economics Elective 1	PE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
Total						19	
YEAR 3 SEMESTER 2							
MA3005 Control Theory	C	2	1	-	3	3	Having read MA2006
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3071 Engineering Experiments (ME)	C	-	-	3	3	1	
HE3021 Intermediate Econometrics	C	2	1	-	3	3	HE2005
Economics Elective 2	PE	3	-	-	3	3	
Unrestricted Elective (UE) 1	UE	3	-	-	3	3	
Total						16	
YEAR 4 SEMESTER 1							
HE4010 Singapore Economy in a Globalized World	C	2	2	-	4	4	HE2001 & HE2002
Economics Elective 3	PE	3	-	-	3	3	
Economics Elective 4	PE	3	-	-	3	3	
Economics Elective 5	PE	3	-	-	3	3	
MA48XX Major-PE 1	PE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
Total						18	

YEAR 4 SEMESTER 2							
MA4012 Mechatronics Engineering Design	C	3	-	3	6	4	Having read MA3001
MA48XX Major-PE 2	PE	3	-	-	3	3	
Economics Elective 6	PE	3	-	-	3	3	
Economics Elective 7	PE	3	-	-	3	3	
Economics Elective 8	PE	3	-	-	3	3	
Unrestricted Elective (UE) 2	UE	2	-	-	2	2	
Total						18	
YEAR 5 SEMESTER 1							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 3	PE	3	-	-	3	3	
Economics Elective 9	PE	4	-	-	4	4	
Economics Elective 10	PE	4	-	-	4	4	
Total						15	
YEAR 5 SEMESTER 2							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 4	PE	3	-	-	3	3	
Economics Elective 11	PE	4	-	-	4	4	
Economics Elective 12	PE	3	-	-	3	3	
Total						14	
GRAND TOTAL (Year 1 to 5)						180	

Description of Abbreviations

AU – Academic Units

C - Core

EC - ECONS Core

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

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

PE – Prescribed Electives

EPE – ECONS Prescribed Electives

UE – Unrestricted Electives

Curriculum Structure (5-Year Programme)

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

For students admitted to FULL-TIME B.ENG in AY2018/2019 (Robotics and Mechatronics Stream)

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	
FE1073 Introduction to Engineering & Practices	C	-	-	-	1	1	9 hrs of lectures plus 6 labs
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						17	
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
MA1002 Fundamental Engineering 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						17	
YEAR 2 SEMESTER 1							
MA2001 Mechanics of Materials	C	2	1	-	3	3	
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2004 Manufacturing Processes	C	2	1	-	3	3	
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA2009 Introduction to Electrical Circuits & Electronic Devices	C	2	1	-	3	3	
MA2011 Mechatronics Systems Interfacing	C	2	1	-	3	3	
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						23	

YEAR 2 SEMESTER 2							
MA2002 Theory of Mechanism	C	2	1	-	3	3	MA1001
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 2 for ME students
MA2012 Introduction to Mechatronics Systems Design	C	1	1	3	5	3	
MA2071 Laboratory Experiments (ME)	C	-	-	3	3	1	
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 with 1 week in Special Term
MA3002 Solid Mechanics and Vibration	C	2	1	-	3	3	MA2001
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						24	
YEAR 3 SEMESTER 1							
MA0101 Engineers and Society	GC	2	1	-	3	3	
MA3001 Machine Element Design	C	2	-	3	5	3	Having read MA2001 and MA2002
MA3004 Mathematical Methods in Engineering	C	2	1	-	3	3	(MH1810 & MH1811)/MH2812/CY1203
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3010 Thermodynamics & Heat Transfer	C	2	1	-	3	3	MA2003
MA3071 Engineering Experiments (ME)	C	-	-	3	3	1	
Economics Elective 1	EPE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
Total						20	
YEAR 3 SEMESTER 2							
MA3080 Professional Internship	C	-	-	-	-	10	
Total						10	
YEAR 4 SEMESTER 1							
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	
Economics Elective 4	EPE	3	-	-	3	3	
MA48XX Major-PE 1	PE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
Total						18	
YEAR 4 SEMESTER 2							
MA3005 Control Theory	C	2	1	-	3	3	Having read MA2006
MA4012 Mechatronics Engineering Design	C	3	-	3	6	4	Having read MA3001
MA48XX Major-PE 2	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	
Total						19	

YEAR 5 SEMESTER 1							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 3	PE	3	-	-	3	3	
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 4	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
 EC - ECONS Core
 GP – General Education Requirements - Prescribe Electives (GER-PE)
 GC – General Education Requirements - Core (GER-Core)
 PE – Prescribed Electives
 EPE – ECONS Prescribed Electives
 UE – Unrestricted Electives

Curriculum Structure (5-Year Programme)

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

For students admitted to FULL-TIME B.ENG in AY2018/2019 (Robotics and Mechatronics Stream)

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	
FE1073 Introduction to Engineering & Practices	C	-	-	-	1	1	
HE1001 Microeconomics Principles	C	3	-	-	-	3	
HE1002 Macroeconomics Principles	C	3	-	-	-	3	
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GC	-	1	-	1	1	Online, Sem 1 only
Total						17	
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
MA1002 Fundamental Engineering Materials	C	2	1	-	3	3	
HE1005 Introduction to Probability and Statistical Inference	C	3	-	-	-	3	
HE2001 Intermediate Microeconomics	C	3	-	-	-	3	
HW0188 Engineering Communication I	GC	-	2	-	2	2	HW0001 (co-requisite)
Total						17	
YEAR 2 SEMESTER 1							
MA2001 Mechanics of Materials	C	2	1	-	3	3	
MA2003 Introduction to Thermo-fluids	C	2	1	-	3	3	
MA2004 Manufacturing Processes	C	2	1	-	3	3	
MA2009 Introduction to Electrical Circuits & Electronic Devices	C	2	1	-	3	3	
MA2011 Mechatronics Systems Interfacing	C	2	1	-	3	3	
HE2005 Principles of Econometrics	C	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							
MA2002 Theory of Mechanism	C	2	1	-	3	3	MA1001
MA2005 Engineering Graphics	C	2	-	3	5	3	Semester 2 for ME students
MA2006 Engineering Mathematics	C	2	1	-	3	3	(MH1810 & MH1811)/ MH2812/CY1203
MA2012 Introduction to Mechatronics Systems Design	C	1	1	3	5	3	
MA2071 Laboratory Experiments (ME)	C	-	-	3	3	1	
MA2079 Engineering Innovation and Design	C	2	-	-	2	2	Semester 2 with 1 week in Special Term
HE2002 Intermediate Macroeconomics	C	3	-	-	-	3	HE1002/AB9091/HE9091
Data Science and Artificial Intelligence	GC	TBA	TBA	TBA	TBA	3	
Total						21	
YEAR 2 SPECIAL SEMESTER							
MA3075 Professional Attachment	C	-	-	-	-	5	
Total						5	
YEAR 3 SEMESTER 1							
MA0101 Engineers and Society	GC	2	1	-	3	3	
MA3001 Machine Element Design	C	2	-	3	5	3	Having read MA2001 and MA2002
MA3002 Solid Mechanics and Vibration	C	2	1	-	3	3	MA2001
MA3004 Mathematical Methods in Engineering	C	2	1	-	3	3	(MH1810 & MH1811)/ MH2812/CY1203
MA3010 Thermodynamics & Heat Transfer	C	2	1	-	3	3	MA2003
Economics Elective 1	PE	3	-	-	3	3	
ET0001 Entrepreneurship and Innovation	GC	-	1	-	1	1	Online, Sem 1 only
Total						19	
YEAR 3 SEMESTER 2							
MA3005 Control Theory	C	2	1	-	3	3	Having read MA2006
MA3006 Fluid Mechanics	C	2	1	-	3	3	MA2003
MA3071 Engineering Experiments (ME)	C	-	-	3	3	1	
HE3021 Intermediate Econometrics	C	2	1	-	3	3	HE2005
Economics Elective 2	PE	3	-	-	3	3	
Unrestricted Elective (UE) 1	UE	3	-	-	3	3	
Total						16	
YEAR 4 SEMESTER 1							
HE4010 Singapore Economy in a Globalized World	C	2	2	-	4	4	HE2001 & HE2002
Economics Elective 3	PE	3	-	-	3	3	
Economics Elective 4	PE	3	-	-	3	3	
Economics Elective 5	PE	3	-	-	3	3	
MA48XX Major-PE 1	PE	3	-	-	3	3	
HW0288 Engineering Communication II	GC	-	2	-	2	2	HW0188
Total						18	

YEAR 4 SEMESTER 2							
MA4012 Mechatronics Engineering Design	C	3	-	3	6	4	Having read MA3001
MA48XX Major-PE 2	PE	3	-	-	3	3	
Economics Elective 6	PE	3	-	-	3	3	
Economics Elective 7	PE	3	-	-	3	3	
Economics Elective 8	PE	3	-	-	3	3	
Unrestricted Elective (UE) 2	UE	2	-	-	2	2	
Total						18	
YEAR 5 SEMESTER 1							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 3	PE	3	-	-	3	3	
Economics Elective 9	PE	4	-	-	4	4	
Economics Elective 10	PE	4	-	-	4	4	
Total						15	
YEAR 5 SEMESTER 2							
MA4079 Final Year Project	C	-	-	4	4	4	Year 4 standing, 2 semesters
MA48XX Major-PE 4	PE	3	-	-	3	3	
Economics Elective 11	PE	4	-	-	4	4	
Economics Elective 12	PE	3	-	-	3	3	
Total						14	
GRAND TOTAL (Year 1 to 5)						180	

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