

AU Required for Graduation

DOUBLE DEGREES 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 AY2016/2017 - YEAR 1 (MAINSTREAM)
(Professional Internship)

For students admitted to FULL-TIME B.ENG (ME) in AY2016/2017 - YEAR 1

| 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 | - | - | 4 | - | - | - | - | - | 35 |
| 2 | 30 | 9 | - | - | 1 | - | - | - | - | - | 40 |
| 3 | 23 | - | - | 3 | 5 | - | - | - | - | - | 31 |
| 4 | 10 | 4 | 6 | 18 | 2 | - | - | - | - | - | 40 |
| 5 | 8 | - | 6 | 18 | - | - | - | - | - | - | 32 |
| Total | 90 | 25 | 12 | 39 | 12 | 0 | | | | 0 | 178 |

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

For students admitted to FULL-TIME B.ENG (ME) in AY2016/2017 - YEAR 1

| 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 | - | - | 4 | - | - | - | - | - | 35 |
| 2 | 35 | 9 | - | - | 2 | - | - | - | - | - | 46 |
| 3 | 16 | - | - | 9 | 4 | - | - | - | - | 5 | 34 |
| 4 | 7 | 4 | 6 | 15 | 2 | - | - | - | - | - | 34 |
| 5 | 8 | - | 6 | 15 | - | - | - | - | - | - | 29 |
| Total | 85 | 25 | 12 | 39 | 12 | 0 | | | | 5 | 178 |

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

For students admitted to FULL-TIME B.ENG (ME) in AY2016/2017 - YEAR 1

| Year of Study | Number of Academic Units (AUs) | | | | | | | | | | Total |
|---------------|--------------------------------|------------|-------------|-----------------|-------------------------------------|---------------------------|---|---|---|----|-------|
| | ME CORE | ECONS CORE | ME MAJOR PE | ECONS ELECTIVES | General Education Requirement (GER) | | | | | | |
| | | | | | Core | Prescribed Electives (PE) | | | | UE | |
| LA | STS | BM | ANY | | | | | | | | |
| 1 | 19 | 12 | - | - | 4 | - | - | - | - | - | 35 |
| 2 | 33 | 9 | - | - | 1 | - | - | - | - | - | 43 |
| 3 | 23 | - | - | 3 | 5 | - | - | - | - | - | 31 |
| 4 | 7 | 4 | 6 | 18 | 2 | - | - | - | - | - | 37 |
| 5 | 8 | - | 6 | 18 | - | - | - | - | - | - | 32 |
| Total | 90 | 25 | 12 | 39 | 12 | 0 | | | | 0 | 178 |

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

For students admitted to FULL-TIME B.ENG (ME) in AY2016/2017 - YEAR 1

| Year of Study | Number of Academic Units (AUs) | | | | | | | | | | Total |
|---------------|--------------------------------|------------|-------------|-----------------|-------------------------------------|---------------------------|---|---|---|----|-------|
| | ME CORE | ECONS CORE | ME MAJOR PE | ECONS ELECTIVES | General Education Requirement (GER) | | | | | | |
| | | | | | Core | Prescribed Electives (PE) | | | | UE | |
| LA | STS | BM | ANY | | | | | | | | |
| 1 | 31 | - | - | - | 4 | - | - | - | - | - | 35 |
| 2 | 41 | - | - | - | 2 | - | - | - | - | - | 43 |
| 3 | 22 | - | 6 | - | 4 | - | - | - | - | 3 | 35 |
| 4 | 8 | - | 24 | - | 2 | - | - | - | - | 2 | 36 |
| 5 | 8 | - | 21 | - | - | - | - | - | - | - | 29 |
| Total | 110 | 0 | 51 | 0 | 12 | 0 | | | | 5 | 178 |

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

For students admitted to FULL-TIME B.ENG (ME) in AY2016/2017 - YEAR 1

| Year of Study | Number of Academic Units (AUs) | | | | | | | | | | Total |
|---------------|--------------------------------|------------|-------------|-----------------|-------------------------------------|---------------------------|---|---|---|----|-------|
| | ME CORE | ECONS CORE | ME MAJOR PE | ECONS ELECTIVES | General Education Requirement (GER) | | | | | | |
| | | | | | Core | Prescribed Electives (PE) | | | | UE | |
| LA | STS | BM | ANY | | | | | | | | |
| 1 | 31 | - | - | - | 4 | - | - | - | - | - | 35 |
| 2 | 42 | - | - | - | 1 | - | - | - | - | - | 43 |
| 3 | 23 | - | 3 | - | 5 | - | - | - | - | - | 31 |
| 4 | 11 | - | 24 | - | 2 | - | - | - | - | - | 37 |
| 5 | 8 | - | 24 | - | - | - | - | - | - | - | 32 |
| Total | 115 | 0 | 51 | 0 | 12 | 0 | | | | 0 | 178 |

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

For students admitted to FULL-TIME B.ENG (ME) in AY2016/2017 - YEAR 1

| 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 | 31 | - | - | - | 4 | - | - | - | - | - | 35 |
| 2 | 41 | - | - | - | 2 | - | - | - | - | - | 43 |
| 3 | 22 | - | 6 | - | 4 | - | - | - | - | 3 | 35 |
| 4 | 8 | - | 24 | - | 2 | - | - | - | - | 2 | 36 |
| 5 | 8 | - | 21 | - | - | - | - | - | - | - | 29 |
| <u>Total</u> | 110 | 0 | 51 | 0 | 12 | 0 | | | | 5 | 178 |

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 AY2016/2017 (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 | |
| 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 | |
| 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)&(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) |
| ML0001 Absolute Basics in Career | GC | - | 1 | - | 1 | 1 | Online, Sem 2 only |
| Total | | | | | | 18 | |
| 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 |
| 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 |
| 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 |
| Total | | | | | | 20 | |
| 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 | |
| ML0002 Career Power Up! | GC | - | 1 | - | 1 | 1 | ML0001, online |
| Total | | | | | | 11 | |
| 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) | | | | | | 178 | |

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 AY2016/2017 (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 | |
| 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 | |
| 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)&(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) |
| ML0001 Absolute Basics in Career | GC | - | 1 | - | 1 | 1 | Online, Sem 2 only |
| Total | | | | | | 18 | |
| 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 |
| 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 |
| 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 |
| Total | | | | | | 20 | |
| YEAR 2 SPECIAL SEMESTER | | | | | | | |
| MA3075 Professional Attachment | C | - | - | - | - | 5 | |
| ML0002 Career Power Up! | GC | - | 1 | - | 1 | 1 | ML0001, online |
| Total | | | | | | 6 | |
| 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) | | | | | | 178 | |

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 AY2016/2017 (MECHATRONICS)

| 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 | |
| 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 | |
| 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)&(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) |
| ML0001 Absolute Basics in Career | GC | - | 1 | - | 1 | 1 | Online, Sem 2 only |
| Total | | | | | | 18 | |
| 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 |
| Total | | | | | | 22 | |

| 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 |
| Total | | | | | | 21 | |
| 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 | |
| ML0002 Career Power Up! | GC | - | 1 | - | 1 | 1 | ML0001, online |
| Total | | | | | | 11 | |
| 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) | | | | | | 178 | |

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 AY2016/2017 (MECHATRONICS)

| 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 | |
| FE1008 Computing | C | 2 | 1 | 1 | 4 | 3 | |
| PH1011 Physics OR PH1012 Physics A | C | 2 3 | 1 1 | - - | 3 4 | 3 4 | PH1011: 'A' level Physics |
| FE1073 Introduction to Engineering & Practices | C | - | - | - | 1 | 1 | 9 hrs of lectures plus 6 labs |
| 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)&(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) |
| ML0001 Absolute Basics in Career | GC | - | 1 | - | 1 | 1 | Online, Sem 2 only |
| Total | | | | | | 18 | |
| 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 |
| Total | | | | | | 19 | |

| 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 |
| Total | | | | | | 18 | |
| YEAR 2 SPECIAL SEMESTER | | | | | | | |
| MA3075 Professional Attachment | C | - | - | - | - | 5 | |
| ML0002 Career Power Up! | GC | - | 1 | - | 1 | 1 | ML0001, online |
| Total | | | | | | 6 | |
| 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) | | | | | | 178 | |

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 AY2016/2017 (DESIGN)

| 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 | |
| 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 | |
| FE1073 Introduction to Engineering & Practices | C | - | - | - | 1 | 1 | 9 hrs of lectures plus 6 labs |
| 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)&(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) |
| ML0001 Absolute Basics in Career | GC | - | 1 | - | 1 | 1 | Online, Sem 2 only |
| Total | | | | | | 18 | |
| 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 |
| Total | | | | | | 22 | |

| 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 |
| Total | | | | | | 21 | |
| 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 | |
| ML0002 Career Power Up! | GC | - | 1 | - | 1 | 1 | ML0001, online |
| Total | | | | | | 11 | |
| 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) | | | | | | 178 | |

| 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 AY2016/2017 (DESIGN)

| 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 | |
| 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 | |
| FE1073 Introduction to Engineering & Practices | C | - | - | - | 1 | 1 | 9 hrs of lectures plus 6 labs |
| 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)&(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) |
| ML0001 Absolute Basics in Career | GC | - | 1 | - | 1 | 1 | Online, Sem 2 only |
| Total | | | | | | 18 | |
| 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 |
| Total | | | | | | 19 | |

| 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 |
| Total | | | | | | 18 | |
| YEAR 2 SPECIAL SEMESTER | | | | | | | |
| MA3075 Professional Attachment | C | - | - | - | - | 5 | |
| ML0002 Career Power Up! | GC | - | 1 | - | 1 | 1 | ML0001, online |
| Total | | | | | | 6 | |
| 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) | | | | | | 178 | |

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