

| Course Code   | Course Title                                             | AU | Pre-Requisite                                                                                                                    | Offering Semester |
|---------------|----------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------|-------------------|
| EG1001        | Engineers in Society                                     | 2  |                                                                                                                                  | Sem 1 & 2         |
| EG0001        | Engineers and Society                                    | 3  |                                                                                                                                  | Sem 1 & 2         |
| FE1073        | Introduction to Engineering & Practices                  | 1  |                                                                                                                                  | Sem 1             |
| HW0001        | English Proficiency                                      | 0  |                                                                                                                                  | Sem 1             |
| HW0288        | Engineering Communication                                | 2  | HW0188 or CC0001                                                                                                                 | Sem 1 & 2         |
| MH1810        | Mathematics I                                            | 3  |                                                                                                                                  | Sem 1 & 2         |
| MH1811        | Mathematics II                                           | 3  | MH1810 (Co-requisite)                                                                                                            | Sem 1 & 2         |
| EG2810        | Mathematics A                                            | 4  |                                                                                                                                  | Sem 1             |
| PH1011        | Physics                                                  | 3  | Pass 'A' level Physics                                                                                                           | Sem 1 & 2         |
| PH1012        | Physics A                                                | 4  | For students w/o A level Physic                                                                                                  | Sem 1 & 2         |
| MA0218        | Introduction to Data Science and Artificial Intelligence | 3  | MA1008 (Co-requisite)                                                                                                            | Sem 1 & 2         |
| MA1001        | Dynamics                                                 | 3  | Having read:<br>MH1810 & PH1011 or<br>MH1810 & PH1012 or<br>EG2810 & PH1012 or<br>CY1601 & CY1308                                | Sem 1 & 2         |
| MA1008        | Introduction to Computational Thinking                   | 3  |                                                                                                                                  | Sem 1 & 2         |
| MA1601        | Introduction to Robotics                                 | 2  |                                                                                                                                  | Sem 1             |
| MA1602        | Robotics Programming Fundamentals                        | 3  | MA1008                                                                                                                           | Sem 2             |
| MA1603        | Mechatronics System Interfacing & Design                 | 3  |                                                                                                                                  | Sem 2             |
| MA1700        | Aerospace Discovery Course                               | 1  |                                                                                                                                  | Sem 2             |
| MA1701        | Introduction to Aerospace Engineering I                  | 3  |                                                                                                                                  | Sem 2             |
| MA2001        | Mechanics of Materials                                   | 3  |                                                                                                                                  | Sem 1 & 2         |
| MA2002        | Theory of Mechanism                                      | 3  | MA1001                                                                                                                           | Sem 1 & 2         |
| MA2003        | Introduction to Thermo-fluids                            | 3  |                                                                                                                                  | Sem 1 & 2         |
| MA2024        | Engineering Materials and Manufacturing Processes        | 3  |                                                                                                                                  | Sem 1 & 2         |
| MA2005        | Engineering Graphics                                     | 3  |                                                                                                                                  | Sem 1 & 2         |
| MA2006        | Engineering Mathematics                                  | 3  | MH1810 & MH1811 or CY1203 or MH2812 or<br>CY1602 or MH2810 or EG2810                                                             | Sem 1 & 2         |
| MA2007        | Thermodynamics                                           | 3  | MA2003                                                                                                                           | Sem 1 & 2         |
| MA2009        | Introduction to Electrical Circuits & Electronic Devices | 3  |                                                                                                                                  | Sem 1 & 2         |
| MA2011        | Mechatronics System Interfacing                          | 3  |                                                                                                                                  | Sem 1             |
| MA2015        | Design Thinking and Methods                              | 3  |                                                                                                                                  | Sem 1             |
| MA2071        | Laboratory Experiments (ME)                              | 1  |                                                                                                                                  | Sem 1 & 2         |
| MA2072        | Laboratory Experiments (AE)                              | 1  |                                                                                                                                  | Sem 1             |
| MA2079        | Engineering Innovation & Design                          | 2  |                                                                                                                                  | Sem 2             |
| MA2601        | Sensing and Sensors                                      | 3  | MA1602                                                                                                                           | Sem 1             |
| MA2604        | Classical Control Theory for Robotic Applications        | 3  | MA2006                                                                                                                           | Sem 2             |
| MA2700        | Aerospace Materials & Manufacturing Processes            | 3  |                                                                                                                                  | Sem 2             |
| MA2701        | Flight Performance                                       | 2  | MA1001 and MA1700                                                                                                                | Sem 1             |
| MA3001        | Machine Element Design                                   | 3  | Having read MA2001, MA2002 and MA2005                                                                                            | Sem 1 & 2         |
| MA3002        | Solid Mechanics and Vibration                            | 3  | MA2001                                                                                                                           | Sem 1 & 2         |
| MA3003        | Heat Transfer                                            | 3  | MA2007                                                                                                                           | Sem 1 & 2         |
| MA3004        | Mathematical Methods in Engineering                      | 3  | MH1810 & MH1811 or CY1203 or MH2812 or<br>CY1602 or MH2810 or EG2810                                                             | Sem 1 & 2         |
| MA3005/MA3705 | Control Theory/Aerospace Control Theory                  | 3  | Having read MA2006                                                                                                               | Sem 1 & 2         |
| MA3006        | Fluid Mechanics                                          | 3  | MA2003                                                                                                                           | Sem 1 & 2         |
| MA3010        | Thermodynamics & Heat Transfer                           | 3  | MA2003                                                                                                                           | Sem 1             |
| MA3071        | Engineering Experiments (ME)                             | 1  |                                                                                                                                  | Sem 1 & 2         |
| MA3072        | Engineering Experiments (AE)                             | 1  |                                                                                                                                  | Sem 1             |
| MA3601        | Linear Systems and Control                               | 3  | MA2604                                                                                                                           | Sem 1             |
| MA3700        | Aircraft Structures I                                    | 3  | MA2001                                                                                                                           | Sem 1             |
| MA3701        | Aerodynamics                                             | 3  | MA2003                                                                                                                           | Sem 1             |
| MA3702        | Aircraft Propulsion                                      | 3  | MA2007                                                                                                                           | Sem 1             |
| MA3703        | Flight Dynamics                                          | 2  | MA2701 & MA3705                                                                                                                  | Sem 1             |
| MA3704        | Aircraft Electrical Devices                              | 3  |                                                                                                                                  | Sem 1             |
| MA4001        | Engineering Design                                       | 4  | Having Read MA3001                                                                                                               | Sem 1 & 2         |
| MA4002        | Fluid Dynamics                                           | 3  | MA3006                                                                                                                           | Sem 1 & 2         |
| MA4011        | Engineering Product Design                               | 4  | Having Read MA3001                                                                                                               | Sem 2             |
| MA4012        | Mechatronics Engineering Design                          | 4  | Having Read MA3001                                                                                                               | Sem 1 & 2         |
| MA4013        | Manufacturing Engineering Design                         | 4  | Having Read MA3001                                                                                                               | Sem 2             |
| MA4701        | Aircraft Design                                          | 3  | MA3701 & MA3702 & MA3703                                                                                                         | Sem 1             |
| MA4702        | Aircraft Structures II                                   | 3  | MA3700                                                                                                                           | Sem 1             |
| MA4704        | Aeroelasticity                                           | 3  | MA3700 & MA3701                                                                                                                  | Sem 1             |
| MA4705        | Aircraft Navigation & Flight Computers                   | 3  | MH1811/ CY1203/ MH2812/ MH2810/<br>CY1602/EG2810                                                                                 | Sem 1             |
| MA4804        | Optimization Theory and Applications                     | 3  | MH1810 & MA2079/ CY1201 & MA2079/<br>MH2810 & MA2079/ EG2810 & MA2079                                                            | Sem 1             |
| MA4807        | Marine Structural Integrity                              | 3  | MA2001 & MA2079                                                                                                                  | Sem 2             |
| MA4808        | Marine Control Systems                                   | 3  | MA2079                                                                                                                           | Sem 2             |
| MA4811        | Psychrometry & Air Conditioning                          | 3  | MA3003 & MA2079 / MA3010 & MA2079                                                                                                | Sem 1             |
| MA4813        | Building Services Engineering                            | 3  | MA3003 & MA2079                                                                                                                  | Sem 2             |
| MA4814        | Computational Fluid Dynamics                             | 3  | MA3006 & MH1811 & MA2079 or MH2812 &<br>MA2079 or CY1203 & MA2079 or CY1602 &<br>MA2079 or MH2810 & MA2079 or EG2810 &<br>MA2079 | Sem 1             |
| MA4819        | Energy Technologies for Sustainability                   | 3  | MA2079                                                                                                                           | Sem 2             |
| MA4822        | Measurements & Sensing Systems                           | 3  | MA2079                                                                                                                           | Sem 1             |
| MA4825        | Robotics                                                 | 3  | MA3001 & MA3005 & MA2079                                                                                                         | Sem 1             |
| MA4830        | Realtime Software for Mechatronic Systems                | 3  | MA2079                                                                                                                           | Sem 2             |

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| MA4831 | Computer-aided Engineering                                         | 3 | MA2079                                               | Sem 2        |
| MA4832 | Microprocessor Systems                                             | 3 | MA2079                                               | Sem 1        |
| MA4842 | Engineering Metrology                                              | 3 | MA2079                                               | Sem 1        |
| MA4843 | Management of Product Development                                  | 3 | MA2079                                               | Sem 2        |
| MA4845 | Additive Manufacturing in Industry 4.0                             | 3 | MA2079                                               | Sem 2        |
| MA4846 | Sustainable Design                                                 | 3 | MA2079                                               | Sem 2        |
| MA4849 | Operations Research                                                | 3 | MA2079                                               | Sem 1        |
| MA4850 | Supply Chain and Logistics Management                              | 3 | MA2079                                               | Sem 2        |
| MA4853 | Manufacturing Systems                                              | 3 | MA2004 or MA2024 & MA2079                            | Sem 2        |
| MA4854 | Quality Assurance and Management                                   | 3 | MA2006 & MA2079                                      | Sem 2        |
| MA4856 | Naval Architecture and Marine Engineering                          | 3 | MA2079                                               | Sem 1        |
| MA4858 | Product Design                                                     | 3 | MA2013 & MA2014 & MA2079                             | Sem 1        |
| MA4870 | Mechanics of Composite Materials                                   | 3 | MA2001 & MA2079                                      | Sem 2        |
| MA4871 | Non-Destructive Testing                                            | 3 | MA2079                                               | Sem 2        |
| MA4872 | Aircraft Reliability & Maintainability                             | 3 | MA2006 & MA2079                                      | Sem 2        |
| MA4878 | Autonomous Flight                                                  | 3 | MA3701 & MA3703 & MA2079                             | Sem 2        |
| MA4880 | Airport Operations and Systems                                     | 3 | MA2079                                               | Sem 1        |
| MA4881 | Air Traffic Management                                             | 3 | MA2079                                               | Sem 1        |
| MA4882 | Advanced Manufacturing and Materials Processing                    | 3 | MA2004 or MA2024 & MA2079                            | Sem 1        |
| MA4884 | Systems Thinking and Systems Engineering                           | 3 | MA2079                                               | Sem 1        |
| MA4890 | Autonomous Driving                                                 | 3 | MA3005& MA2079 / MA3705 & MA2079                     | Sem 1        |
| MA4891 | AI/ML to Engineering Applications                                  | 3 | MA3005 & MA0218 & MA2079 or MA3705 & MA0218 & MA2079 | Sem 2        |
| MA4892 | Engineering Project Management: Principles and Practice            | 3 | MA2079                                               | Sem 2        |
| MA0303 | Human Resource Management                                          | 3 |                                                      | Sem 2        |
| MA5007 | Integrated Design and Practice                                     | 3 |                                                      | Sem 1 & 2    |
| MA5008 | Campus CEO - Innovation to Business                                | 3 | MA1008                                               | Sem 2        |
| MA5030 | Bioprinting Principles and Applications                            | 3 |                                                      | Special Term |
| MA5031 | 3D Printing and Additive Manufacturing- Principles and Application | 3 |                                                      | Special Term |
| MA5032 | Sustainability: Advances in Singapore and Indonesia                | 3 |                                                      | Special Term |

Note: The semester in which a course offered is subject to change.

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