



Major Programme Requirements

Year 1

Faculty Package

ENGG1100 Introduction to Engineering Design/
ENGG1110 Problem Solving By Programming
ENGG2601 Technology, Society and Engineering Practice (2 units)

Foundation Mathematics Courses

ENGG1410 Linear Algebra and Vector Calculus for Engineers
ENGG2420 Complex Analysis and Differential Equations for Engineers

Major Required Courses

ELEG2202 Fundamental of Electric Circuits/
MAEG2030 Thermodynamics
MAEG2020 Engineering Mechanics
MAEG3020 Manufacturing Technology/
MAEG3030 Fluid Mechanics
MAEG3050 Introduction to Control Systems

ENGG2602 Engineering Practicum (1 unit)
(5 weeks)

Year 2

Major Required Courses

MAEG3010 Mechanics of Materials
MAEG3020 Manufacturing Technology/
MAEG3030 Fluid Mechanics
MAEG4998 Final Year Project I
MAEG4999 Final Year Project II

Major Electives**

Breadth Electives: 9 units (for Associate Degree Holders)
6 units (for Higher Diploma Holders)
Depth Electives: 9 units (for Associate Degree Holders)
9 units (for Higher Diploma Holders)

Major Electives

Design and Manufacturing Stream

(B) / (C) CSCI1020 Hands-on Introduction to C++ (1 unit)
(B) / (C) MAEG2010 Computer-Aided Drafting (2 units)
(B) / (C) MAEG3040 Mechanical Design
(B) / (E) MAEG3060 Introduction to Robotics
(B) / (E) MAEG3070 Fundamentals of Computer-Aided Design
(B) / (E) MAEG3080 Fundamentals of Machine Intelligence
(B) / (E) MAEG3920 Engineering Design and Applications
(D) / (E) MAEG4010 Computer-Integrated Manufacturing
(D) / (E) MAEG4020 Finite Element Modelling and Analysis
(D) / (E) MAEG4060 Virtual Reality Systems and Applications
(D) / (E) MAEG4070 Engineering Optimization
(D) / (E) MAEG5030 Topics in Computer-Aided Geometric Design
(B) / (E) MAEG5050 MEMS and Nano-Robotics
(or ENGG5404 Micromachining and Microelectromechanical Systems)
(D) / (E) MAEG5100 Advanced Engineering Design and Optimization
(or ENGG5405 Theory of Engineering Design)
(B) / (E) MAEG5120 Nanomaterials and Nanotechnology: Fundamentals and Applications
(B) / (E) MAEG5130 Computational Mechanics
(B) / (E) SEEM3500 Quality Control and Management

Mechatronics Stream

(B) / (C) CSCI1020 Hands-on Introduction to C++ (1 unit)
(C) / (D) MAEG4040 Mechatronic Systems
(C) / (D) MAEG4050 Modern Control Systems Analysis and Design
(B) / (E) ELEG2401 Introduction to Embedded Systems
(B) / (E) ENGG2020 Digital Logic and Systems
(B) / (E) MAEG3080 Fundamentals of Machine Intelligence
(B) / (E) MAEG5050 MEMS and Nano-Robotics
(or ENGG5404 Micromachining and Microelectromechanical Systems)
(B) / (E) MAEG5080 Smart Materials and Structures

Robotics and Automation Stream

(B) / (C) CSCI1020 Hands-on Introduction to C++ (1 unit)
(B) / (C) MAEG3060 Introduction to Robotics
(C) / (D) MAEG4050 Modern Control Systems Analysis and Design
(B) / (E) MAEG1010 Introduction to Robot Design
(D) / (E) MAEG4010 Computer-Integrated Manufacturing
(D) / (E) MAEG5010 Advanced Robotics
(or ENGG5402 Advanced Robotics)
(D) / (E) MAEG5020 Topics in Linear Control Systems
(or ENGG5403 Linear System Theory and Design)
(B) / (E) MAEG5050 MEMS and Nano-Robotics
(or ENGG5404 Micromachining and Microelectromechanical Systems)
(D) / (E) MAEG5090 Topics in Robotics
(B) / (E) MAEG5120 Nanomaterials and Nanotechnology: Fundamentals and Applications

Others

(B) CSCI1040 Hands-on Introduction to Python (1 unit)
(B) CSCI1050 Hands-on Introduction to MATLAB (1 unit)
(B) CSCI2100 Data Structures
(B) CSCI2120 Introduction to Software Engineering (2 units)
(B) CSCI2800 Numerical Computation
(B) CSCI3170 Introduction to Database Systems
(B) ~DSME1030 Economics for Business Studies I
(B) EEEN2020 Renewable Energy Technologies
(D) EEEN4010 Kinetic Energy Harvesting Devices and Systems
(D) EEEN4020 Solar Energy and Photovoltaic Technology
(D) EEEN4030 Nuclear Energy and Risk Assessment
(D) EEEN4050 Energy Storage Devices and Systems
(D) EEEN4060 Energy Distribution
(B) ELEG3101 Medical Instrumentation and Sensors
(B) ENGG1820 Engineering Internship (1 unit)
(D) MAEG4030 Heat Transfer
(D) MAEG4080 Introduction to Combustion
(D) MAEG5060 Computational Intelligence
(D) MAEG5070 Nonlinear Control Systems
(D) MAEG5110 Quantum Control and Quantum Information
(B) MAEG5140 Materials Characterization Techniques
(B) MGNT1010 Introduction to Business
(B) MGNT4090 Technology and Innovation Management
(B) ~SEEM2440 Engineering Economics
(B) SEEM3450 Engineering Innovation and Entrepreneurship
(B) SEEM3490 Information Systems Management

** At least 9 units of Major Electives at MAEG4000 and above level or ENGG5000 level are required.

(B) - Breadth Electives (at least 3 units at MAEG 3000 level)

(C) - Compulsory Courses in specific streams

(D) - Depth Electives

(E) - Electives in specific streams

~ Students can take either SEEM2440 or DSME1030 but not both.

To qualify for a stream, students must complete a minimum of 15 units taken under the stream.

Admission

Local students with excellent results in their Associate Degree or Higher Diploma study can apply for admission to the senior year of the programme. Please visit the website of the Office of Admissions and Financial Aid at <http://www.oafa.cuhk.edu.hk> for admission details.

For updated information, please refer to <http://www.mae.cuhk.edu.hk>.