## Curriculum Structure

### Courses

**Year 1 Semester 1**
- **MH1810** Mathematics I (C 3)
- **PH1011** Physics* (C 3)
- **EE1005** From Computational Thinking to Programming (C 3)
- **DA1000** Thinking and Communicating Visually I (ADM) (C 3)
- **GC0001** Sustainability: Seeing Through the Haze (GC 1)
- **AB1201** Financial Management (UE 3)
- **AD1101** Financial Accounting (UE 4)

**Total**: 20

**Year 1 Semester 2**
- **MH1811** Mathematics II (C 3)
- **IM0002** Engineers & Society (GC 3)
- **IM1002** Analog Electronics (C 3 [with LAB])
- **IM1003** Object-Oriented Programming (C 3)
- **CS0204** Basic Media Writing (SCI) (GC 3)
- **AB1501** Marketing (UE 3)
- **BE1401** Business Operations and Processes (UE 4)

**Total**: 22

**Year 2 Semester 1**
- **EE0005** Intro to Data Science & AI (GC 3)
- **IM1001** Data Structures & Algorithms (C 4 [with LAB])
- **IM1004** Digital Electronics (C 4 [with LAB])
- **IM2003** Computer Communications (C 3 [with LAB])
- **IM2006** Engineering Mathematics I (C 4)
- **CS2006** Theories of Visual Communication and their Applications (SCI) (GC 3)
- **HY0001** Ethics and Moral Reasoning (GC 1)

**Total**: 22

**Year 2 Semester 2**
- **IM2001** Software Engineering (C 3 [with LAB])
- **IM2002** Microprocessors (C 4 [with LAB])
- **IM2004** Signals and Systems (C 4)
- **IM2073** Introduction to Design & Project (C 2)
- **DA2002** Thinking and Communicating Visually II (ADM) (C 3)
- **ML0003** Kickstart Your Career Success (GC 1)
- **ADVANCED BUSINESS COURSE** (UE 4)

**Total**: 21

### AU Requirement Table (Professional Internship)

<table>
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<tr>
<th>STUDY YEAR</th>
<th>EEE MAJOR REQUIREMENTS</th>
<th>GER-CORE</th>
<th>UNRESTRICTED ELECTIVE</th>
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**Core (C)**

- **ELECTIVE (PE)**
- **PRESCRIBED MAJOR REQUIREMENTS**
- **MAJOR ELECTIVE (PE)**
- **GER-CORE**
- **UNRESTRICTED ELECTIVE**
- **TOTAL**

**Year 3 Semester 1**
- **IM2007** Engineering Mathematics II (C 4)
- **IM3001** Digital Signal Processing (C 3)
- **IM3002** Communication Principles (C 3)
- **IM3003** Information Security (C 3)
- **IM3008** Design & Innovation Project (C 2)
- **HW0188** Engineering Communications II (GC 2)
- **AB1301** Business Law (UE 3)
- **AB1601** Organisiation Behaviour & Design (UE 3)

**Total**: 23

**Year 3 Semester 2**
- **IM3279** Professional Internship + (C 10)

**Total**: 10

**Year 4 Semester 1**
- **IM4080** Final Year Project (C 4)
- **IM4XX** Design Elective 1 (P 2)
- **IM4XX** Technical Elective 1 (P 2)
- **DA3000** Thinking and Communicating Visually III (ADM) (C 3)
- **ET0001** Enterprise & Innovation (GC 1)

**Total**: 17

**Year 4 Semester 2**
- **IM4080** Final Year Project (C 4)
- **IM4XX** Design Elective 2/Technical Elective 4 (P 2)

**Total**: 16

**NOTE:**
- * Students without A-level Physics will read PH1012 Physic A (4 AUs).
- # IEM students are waived of its pre-requisite (HW0188), on condition that they pass CS0204.

http://www.eee.ntu.edu.sg/programmes/CurrentStudents/undergraduate/undergraduatefull-time/Pages/Home.aspx
## DEGREE IN BACHELOR OF ENGINEERING (INFORMATION ENGINEERING & MEDIA) PROGRAMME WITH A SECOND MAJOR IN BUSINESS (AY2018 Cohort) - Mainstream

### AU Requirement Table (Professional Attachment)

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</table>

### Curriculum Structure

#### YEAR 1 SEMESTER 1
- **MH1810** Mathematics I (C 3)
- **PH1011** Physics* (C 3)
- **EE1005** From Computational Thinking To Programming (C 3)
- **DA1000** Thinking and Communicating Visually I (ADM) (C 3)
- **GC0001** Sustainability: Seeing Through the Haze (GC 1)
- **AB1201** Financial Management (UE 3)
- **AD1101** Financial Accounting (UE 4)

**TOTAL 20**

#### YEAR 1 SEMESTER 2
- **MH1811** Mathematics II (C 3)
- **IM0002** Engineers & Society (GC 3)
- **IM1002** Analog Electronics (C 3 [with LAB])
- **IM1003** Object-Oriented Programming (C 3)
- **AB1501** Marketing (UE 3)
- **BE1401** Business Operations and Processes (UE 4)

**TOTAL 19**

#### YEAR 2 SEMESTER 1
- **EE0005** Intro to Data Science & AI (GC 3)
- **IM1001** Data Structures & Algorithms (C 4 [with LAB])
- **IM1004** Digital Electronics (C 4 [with LAB])
- **IM2006** Engineering Mathematics I (C 4)
- **DA2002** Thinking and Communicating Visually I (ADM) (C 3)
- **HY0001** Ethics & Moral Reasoning (GC 1)

**TOTAL 19**

#### YEAR 2 SEMESTER 2
- **IM2001** Software Engineering (C 3)
- **IM2002** Microprocessors (C 4 [with LAB])
- **IM2003** Computer Communications (C 3 [with LAB])
- **IM2007** Engineering Mathematics II (C 4)
- **IM2073** Introduction to Design & Project (C 2)
- **CS0204** Basic Media Writing (SCI) (GC 3)
- **ML0003** Kickstart Your Career Success (GC 1)

**TOTAL 20**

#### YEAR 3 SEMESTER 1
- **IM2004** Signals and Systems (C 4)
- **IM3080** Design & Innovation Project (C 2)
- **CS2006** Theories of Visual Communication and Their Applications (SCI) (GC 3)
- **ET0001** Enterprise & Innovation (GC 1)
- **AB1301** Business Law (UE 3)
- **AB1601** Organisation Behaviour & Design (UE 3)
- **UNRESTRICTED ELECTIVE 1** (UE 2)

**TOTAL 18**

#### YEAR 3 SEMESTER 2
- **IM3001** Digital Signal Processing (C 3)
- **IM3002** Communication Principles (C 3 [with LAB])
- **DA3000** Thinking and Communicating Visually III (ADM) (C 3)
- **HW0288** Engineering Communications II (GC 2)
- **ADVANCED BUSINESS COURSE** (UE 4)
- **UNRESTRICTED ELECTIVE 2** (UE 3)

**TOTAL 18**

#### YEAR 3 SPECIAL TERM (MAY – JULY)
- **IM3276** Professional Attachment (C 5)
- **ML0003** (ML 0003)

**TOTAL 5**

#### YEAR 4 SEMESTER 1
- **IM3003** Information Security (C 3)
- **IM4080** Final Year Project (C 4)
- **IM4XXX** Design Elective 1 (P 2)
- **IM4XXX** Technical Elective 1 (P 3)
- **ADVANCED BUSINESS COURSE** (UE 4)

**TOTAL 16**

#### YEAR 4 SEMESTER 2
- **IM4080** Final Year Project (C 4)
- **IM4XXX** Design Elective 2/Technical Elective 4 (P 2)
- **IM4XXX** Technical Elective 2 (P 3)
- **IM4XXX** Technical Elective 3 (P 3)
- **ADVANCED BUSINESS COURSE** (UE 4)

**TOTAL 16**
### Advanced Business Courses (Choose 3)
- BF2201 Investments *(Prerequisite: AB1201)*
- BM2501 Market Behaviour *(Prerequisite: AB1501)*
- BM2502 Market Intelligence *(Prerequisite: AB1501)*
- BE2601 Management Principles, Skills and Competencies *(Prerequisite: AB1601)*

### FINAL YEAR DESIGN/TECHNICAL ELECTIVES (IEM MAJOR-PE)

Students are required to choose 1 Design Elective and 4 Technical Electives; or 2 Design Electives and 3 Technical Electives.

#### Design Electives
- IM4105 Cellular Communication System Design
- IM4717 Web Application Design
- IM4718 Enterprise Network Design
- IM4413 DSP System Design
- EE4414 Machine Learning Design and Application (TBC)

#### Technical Electives
- EE4491 Probability Theory and Applications (TBC)
- EE4497 Pattern Recognition and Machine Learning (TBC)
- IM4756 Computer Architecture
- IM4761 Computer Networking
- IM4791 Database Systems
- IM4152 Digital Communications
- IM4153 Telecommunication Systems
- IM4188 Wireless Communications
- IM4455 Embedded Systems
- IM4475 Audio Signal Processing
- IM4476 Image Processing
- IM4477 Digital Video Processing
- IM4483 Artificial Intelligence and Data Mining
- IM4490 Multimedia Systems
- CE4001 Virtual and Augmented Reality (SCE) *
- CE4002 Visual Information Processing and Management (SCE) *
- CE4003 Computer Vision (SCE) *
- CE4004 3D Modelling and Animation (SCE) *
- CE4015 Simulation and Modelling (SCE) *
- CE4001 Virtual and Augmented Reality (SCE) *
- CE4002 Visual Information Processing and Management (SCE) *
- CE4003 Computer Vision (SCE) *
- CE4004 3D Modelling and Animation (SCE) *
- CE4015 Simulation and Modelling (SCE) *

**Note:** Certain Major-PEs may be offered as GER-PE / GER-UE. Re-classification of course type from GER-UE / GER-PE to Major-PE (and vice versa) after course registration are not allowed.

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**NOTE:**
* Students without A-level Physics will read PH1012 Physic A (4 AUs).
# IEM students are waived of its pre-requisite (HW0188), on condition that they pass CS0204.

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[^ Vacancy is subject to availability]

http://www.eee.ntu.edu.sg/programmes/CurrentStudents/undergraduate/undergraduatefull-time/Pages/Home.aspx

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