DEGREE IN BACHELOR OF ENGINEERING (INFORMATION ENGINEERING & MEDIA) PROGRAMME
WITH A SECOND MAJOR IN BUSINESS (International Trade Programme Track) – AY2018/19

AU Requirement Table (Professional Internship)

<table>
<thead>
<tr>
<th>STUDY YEAR</th>
<th>EEE MAJOR REQUIREMENTS</th>
<th>GER-CORE</th>
<th>UNRESTRICTED ELECTIVE</th>
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Curriculum Structure

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<tr>
<th>COURSES</th>
<th>TYPE</th>
<th>AU</th>
<th>PREREQ COREQ*</th>
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<tbody>
<tr>
<td>YEAR 1 SEMESTER 1</td>
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<tr>
<td>MH1810 MATHEMATICS I</td>
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<td>HY0001 ETHICS AND MORAL REASONING</td>
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<td>ML0003 KICKSTART YOUR CAREER SUCCESS</td>
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<td>BF3211 COMMODITIES TRADING</td>
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<td>(with LAB)</td>
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<td>IM2004 SIGNALS AND SYSTEMS</td>
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<tr>
<td>IM2007 ENGINEERING MATHEMATICS</td>
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<td>IM2073 INTRODUCTION TO DESIGN &amp; PROJECT</td>
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<td>DA2002 THINKING AND COMMUNICATING VISUALLY II (ADM)</td>
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COURSES TYPE AU PREREQ COREQ*
| YEAR 3 SEMESTER 1                              |      |    |               |
| IM3001 DIGITAL SIGNAL PROCESSING               | C    | 3  | IM2004        |
| IM3002 COMMUNICATION PRINCIPLES                | C    | 3  | IM2004        |
| IM3003 INFORMATION SECURITY                    | C    | 3  |               |
| IM3080 DESIGN & INNOVATION PROJECT              | C    | 2  |               |
| CS2006 THEORIES OF VISUAL COMMUNICATION AND THEIR APPLICATIONS (SCI) | GC | 3 | |
| DA3000 THINKING AND COMMUNICATING VISUALLY III (ADM) | C | 3 | |
| TBC ENTERPRISE RISK MANAGEMENT                  | UE   | 2  |               |
| TBC COMMODITIES FINANCE                        | UE   | 2  |               |
| TOTAL                                         |      | 21 |               |

NOTE:
* Students without A-level Physics will read PH1012 Physic A (4 AUs).
+ Professional Internship (PI) is available in Year 3 Semester 1 or 2.
# IEM students are waived of its pre-requisite (HW0188), on condition that they pass CS2004.

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 (International Trade Programme Track) – AY2018/19

### AU Requirement Table (Professional Attachment)

<table>
<thead>
<tr>
<th>STUDY YEAR</th>
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### Curriculum Structure

#### COURSES

##### YEAR 1 SEMESTER 1
- **MH1810** MATHEMATICS I
  - Type: C
  - AU: 3
- **PH1011** PHYSICS*
  - Type: C
  - AU: 3
- **EE1005** FROM COMPUTATIONAL THINKING TO PROGRAMMING
  - Type: C
  - AU: 3
- **DA1000** THINKING AND COMMUNICATING VISUALLY I (ADM)
  - Type: C
  - AU: 3
- **GC0001** SUSTAINABILITY: SEEING THROUGH THE HAZE
  - Type: GC
  - AU: 1
- **AB1201** FINANCIAL MANAGEMENT
  - Type: UE
  - AU: 3
- **AD1101** FINANCIAL ACCOUNTING
  - Type: UE
  - AU: 4

**TOTAL:** 20

##### YEAR 1 SEMESTER 2
- **MH1811** MATHEMATICS II
  - Type: C
  - AU: 3
  - PREREQ: MH1810*
- **IM0002** ENGINEERS & SOCIETY
  - Type: GC
  - AU: 3
- **IM1002** ANALOG ELECTRONICS
  - Type: C
  - AU: 3
  - PREREQ: [with LAB]
- **IM1003** OBJECT-ORIENTED PROGRAMMING
  - Type: C
  - AU: 3
- **CS0204** BASIC MEDIA WRITING (SCI)
  - Type: GC
  - AU: 3
- **AB1501** MARKETING
  - Type: UE
  - AU: 3
- **BE1401** BUSINESS OPERATIONS AND PROCESS
  - Type: UE
  - AU: 4

**TOTAL:** 22

##### YEAR 2 SEMESTER 1
- **EE0005** INTRO TO DATA SCIENCE & AI
  - Type: GC
  - AU: 3
  - PREREQ: EE1005
- **IM0001** DATA STRUCTURES & ALGORITHMS
  - Type: C
  - AU: 4
  - PREREQ: [with LAB]
- **IM1004** DIGITAL ELECTRONICS
  - Type: C
  - AU: 4
  - PREREQ: [with LAB]
- **IM2003** COMPUTER COMMUNICATIONS
  - Type: C
  - AU: 3
  - PREREQ: [with LAB]
- **IM2006** ENGINEERING MATHEMATICS I
  - Type: C
  - AU: 4
  - PREREQ: MH1811
- **HY0001** ETHICS AND MORAL REASONING
  - Type: GC
  - AU: 1
- **BF3211** COMMODITIES TRADING
  - Type: UE
  - AU: 2

**TOTAL:** 21

##### YEAR 2 SEMESTER 2
- **IM2001** SOFTWARE ENGINEERING
  - Type: C
  - AU: 3
- **IM2002** MICROPROCESSORS
  - Type: C
  - AU: 4
  - PREREQ: [with LAB]
- **IM2007** ENGINEERING MATHEMATICS II
  - Type: C
  - AU: 4
  - PREREQ: MH1811
- **IM2073** INTRODUCTION TO DESIGN & PROJECT
  - Type: C
  - AU: 2
- **DA2002** THINKING AND COMMUNICATING VISUALLY II (ADM)
  - Type: C
  - AU: 3
- **ML0003** KICKSTART YOUR CAREER SUCCESS
  - Type: GC
  - AU: 1
- **BF2301** INTERNATIONAL TAX AND TRADING LAW
  - Type: UE
  - AU: 2

**TOTAL:** 19

##### YEAR 3 SEMESTER 1
- **IM2004** SIGNALS AND SYSTEMS
  - Type: C
  - AU: 4
  - PREREQ: MH1810 & MH1811 [with LAB]
- **IM3003** INFORMATION SECURITY
  - Type: C
  - AU: 3
- **IM3080** DESIGN & INNOVATION PROJECT
  - Type: C
  - AU: 2
- **CS2006** THEORIES OF VISUAL COMMUNICATION AND THEIR APPLICATIONS (SCI)
  - Type: GC
  - AU: 3
- **ET0001** ENTERPRISE & INNOVATION
  - Type: GC
  - AU: 1
- **TBC** ENTERPRISE RISK MANAGEMENT
  - Type: UE
  - AU: 2
- **TBC** COMMODITIES FINANCE
  - Type: UE
  - AU: 2

**TOTAL:** 17

##### YEAR 3 SEMESTER 2
- **IM3001** DIGITAL SIGNAL PROCESSING
  - Type: C
  - AU: 3
  - PREREQ: IM2004 [with LAB]
- **IM3002** COMMUNICATION PRINCIPLES
  - Type: C
  - AU: 3
  - PREREQ: IM2004 [with LAB]
- **DA3000** THINKING AND COMMUNICATING VISUALLY III (ADM)
  - Type: C
  - AU: 3
- **HW0288** ENGINEERING COMMUNICATIONS II
  - Type: GC
  - AU: 2
  - PREREQ: HW0188*
- **UNRESTRICT ELECTIVE**
  - Type: UE
  - AU: 3
- **UNRESTRICT ELECTIVE**
  - Type: UE
  - AU: 2

**TOTAL:** 16

##### YEAR 3 SPECIAL TERM (MAY – JULY)
- **IM3276** PROFESSIONAL ATTACHMENT
  - Type: C
  - AU: 5
  - PREREQ: ML0003

**TOTAL:** 5

##### YEAR 4 SEMESTER 1
- **IM4080** FINAL YEAR PROJECT
  - Type: C
  - AU: 4
- **IM4XXX** DESIGN ELECTIVE 1
  - Type: P
  - AU: 2
- **IM4XXX** TECHNICAL ELECTIVE 1
  - Type: P
  - AU: 3
- **IM4XXX** TECHNICAL ELECTIVE 2
  - Type: P
  - AU: 3
- **TBC** INTRO TO SHIP CHARTERING & TRADE PRACTICE
  - Type: UE
  - AU: 4

**TOTAL:** 16

##### YEAR 4 SEMESTER 2
- **IM4080** FINAL YEAR PROJECT
  - Type: C
  - AU: 4
- **IM4XXX** DESIGN ELECTIVE 2/TECHNICAL ELECTIVE 4
  - Type: P
  - AU: 2
- **IM4XXX** TECHNICAL ELECTIVE 3
  - Type: P
  - AU: 3
- **MS4670** COMMODITIES' GEOLOGY & METALLURGY
  - Type: UE
  - AU: 3
- **BF4001** INDUSTRY SEMINAR
  - Type: UE
  - AU: 1

**TOTAL:** 13
**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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**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.

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<tr>
<th>Design Electives</th>
<th>Technical Electives</th>
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<tbody>
<tr>
<td>IM4105 Cellular Communication System Design</td>
<td>IM4413 DSP System Design</td>
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<tr>
<td>IM4717 Web Application Design</td>
<td>EE4414 Machine Learning Design and Application (TBC)</td>
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<td>IM4718 Enterprise Network Design</td>
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<td>IM4476 Image Processing</td>
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<td>IM4478 Digital Video Processing</td>
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<tr>
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<td>IM4483 Artificial Intelligence and Data Mining</td>
</tr>
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<td>IM4490 Multimedia Systems</td>
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<td>IM4901 Virtual and Augmented Reality (SCE)</td>
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<td>IM4902 Visual Information Processing and Management (SCE)</td>
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<td>IM4903 Computer Vision (SCE)</td>
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<td>IM4904 3D Modelling and Animation (SCE)</td>
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<tr>
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<td>IM4915 Simulation and Modelling (SCE)</td>
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**Design Electives**
- IM4105 Cellular Communication System Design
- IM4717 Web Application Design
- IM4718 Enterprise Network Design

**Technical Electives**
- EE4491 Probability Theory and Applications (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
- IM4478 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) ^

Students should not take more than 2 courses from the following group of Technical Electives:

- CS2024 Web Design and Technologies (SCI) ^
- CS2025 Image and Sound Production (SCI) ^
- CS2030 Audio in Media (SCI) ^
- DV2008 Interface Design (ADM) ^
- DM2000 Interactive I (ADM) ^
- DM2007 Interactive II (ADM) ^

^ Vacancy is subject to availability

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

**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.