# Bachelor of Engineering (Materials Engineering)

**2nd Major in Business (AY2017-18)**

## Professional Attachment (PA) Option

### ACADEMIC UNIT (AU) REQUIRED FOR GRADUATION

<table>
<thead>
<tr>
<th>2nd Major in Business Programme</th>
<th>Year of Study</th>
<th>Core</th>
<th>Core Electives</th>
<th>GER Core</th>
<th>Electives</th>
<th>Unrestricted Electives</th>
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<td>STS</td>
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<td>All Years</td>
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*Business

* Students without H2 Level Physics will take PH1012 Physics A (4 AU)

* Degree Requirements

**Description of Abbreviation**

BM – Business & Management
LA – Liberal Arts
STS – Science, Technology & Society
### YEAR 1  2nd Major in Business – PA Option

<table>
<thead>
<tr>
<th>Course Code and Title</th>
<th>Type</th>
<th>No of Hours Per Week</th>
<th>Pre-requisite / Co-Requisite^ / Remarks</th>
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<tbody>
<tr>
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<tr>
<td><strong>YEAR 1 SEMESTER 1</strong></td>
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<tr>
<td>HW0001 English Proficiency</td>
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<tr>
<td>FE1008 Computing</td>
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<tr>
<td>GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions</td>
<td>GER Core</td>
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</tr>
<tr>
<td>MH1810 Mathematics I*</td>
<td>Core</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>MS1013 Materials Chemistry*</td>
<td>Core</td>
<td>2</td>
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<tr>
<td>PH1011 Physics**</td>
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<tr>
<td>AD1101 Financial Accounting</td>
<td>Unrestricted Elective (BUS)</td>
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<td>AB1201 Financial Management</td>
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</tbody>
</table>

** Students without H2 Level Physics will take PH1012 Physics A (4AU).

* Students who obtained at least 3 ‘A’s in H2 level subjects and at least grade ‘E’ or ‘C6’ in General Paper (GP) or Knowledge Inquiry (KI) will be eligible for exemption if a grade ‘A’ is obtained in the corresponding subject at H2 level.

### YEAR 1 SEMESTER 2

<table>
<thead>
<tr>
<th>Course Code and Title</th>
<th>Type</th>
<th>No of Hours Per Week</th>
<th>Pre-requisite / Co-Requisite^ / Remarks</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>ML0001 Absolute Basics for Career Course</td>
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<tr>
<td>MS1012 Materials Physics</td>
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<tr>
<td>MS1014 Materials Chemistry II</td>
<td>Core</td>
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<tr>
<td>MS1015 Materials Science</td>
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<tr>
<td>MS1016 Thermodynamics of Materials</td>
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<tr>
<td>AB1501 Marketing</td>
<td>Unrestricted Elective (BUS)</td>
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<tr>
<td>BE1401 Business Operations and Process OR; AB1401 Information Technology (3AU)* + AB1402 Foundational Excel (1AU)</td>
<td>Unrestricted Elective (BUS)</td>
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*AB1401 is a pre-requisite for courses under ACC, BA and OM tracks.
# YEAR 2 2nd Major in Business – PA Option

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<thead>
<tr>
<th>Course Code and Title</th>
<th>Type (i.e. Core/Core elective/GER core/GER elective/Unrestricted Elective)</th>
<th>No of Hours Per Week</th>
<th>Pre-requisite / Co-Requisite^ / Remarks</th>
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<td><strong>YEAR 2 SEMESTER 1</strong></td>
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<tr>
<td>HY0001 Ethics and Moral Reasoning</td>
<td>GER Core</td>
<td>0 1 0 1 1</td>
<td>Compulsory online module</td>
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<tr>
<td>HW0188 Engineering Communication I</td>
<td>GER Core</td>
<td>0 2 0 2 2</td>
<td>HW0001^</td>
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<tr>
<td>MH2811 Mathematics II</td>
<td>Core</td>
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<tr>
<td>MS2012 Introduction to Manufacturing Processes</td>
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<tr>
<td>MS2014 Materials Structure and Defects</td>
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<td>MS1015^</td>
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<tr>
<td>MS2016 Phase Transformations and Kinetics</td>
<td>Core</td>
<td>2 1 0 3 3</td>
<td>MS1016^</td>
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<td>MS2082 Laboratory IIB</td>
<td>Core</td>
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<tr>
<td>AB0901 Principals of Economics: A Singapore Perspective</td>
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<td>10 8 3 21 19</td>
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| **YEAR 2 SEMESTER 2**                                     |                                                                          |                      |                                                          |
| MS2013 Polymers and Composites                            | Core                                                                     | 2 1 0 3 3            | MS1014^                                                  |
| MS2015 Mechanical Behaviour of Materials                  | Core                                                                     | 2 1 0 3 3            |                                                          |
| MS2018 Electronic & Magnetic Properties of Materials      | Core                                                                     | 2 1 0 3 3            | MS1012^                                                  |
| MS2081 Laboratory IIA                                     | Core                                                                     | 0 0 3 3 1            |                                                          |
| MS3011 Metallic & Ceramic Materials                       | Core                                                                     | 2 1 0 3 3            | MS2016^                                                  |
| MS3012 Micro/Nanoelectronic Materials Processing          | Core                                                                     | 2 1 0 3 3            |                                                          |
| MS3014 Analysis of Materials                              | Core                                                                     | 2 1 0 3 3            |                                                          |
| **TOTAL**                                                 |                                                                          | 12 6 3 21 19         |                                                          |
## YEAR 3 2nd Major in Business – PA Option

<table>
<thead>
<tr>
<th>Course Code and Title</th>
<th>Type (i.e. Core/Core elective/GER core/GER elective/Unrestricted Elective)</th>
<th>No of Hours Per Week</th>
<th>Pre-requisite / Co-Requisite^ / Remarks</th>
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<tr>
<td>YEAR 3 SEMESTER 1</td>
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<tr>
<td>ET0001 Enterprise and Innovation*</td>
<td>GER Core</td>
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<tr>
<td>ML0002 Career Power Up!*</td>
<td>GER Core</td>
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<td>MS3013 Environmental Effects on Materials</td>
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<td>MS3015 Materials Aspects in Design</td>
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* ET0001 and ML0002 must be taken in S1

| YEAR 3 SEMESTER 2                                        |                                                                           |                  |      |      |       |        |                                                      |
| MS0002 Engineers & Society                              | GER Core                                                                  | 3    | 0    | 0    | 3     | 3      |                                                      |
| MS4012 Quality Control                                  | Core                                                                      | 2    | 1    | 0    | 3     | 3      | MS2013, MS3011^                                    |
| MS4013 Biomaterials                                     | Core                                                                      | 2    | 1    | 0    | 3     | 3      |                                                      |
| MS4014 Nanomaterials: Fundamentals and Applications     | Core                                                                      | 2    | 1    | 0    | 3     | 3      |                                                      |
| UE2                                                       | Unrestricted Elective                                                     | 1    | 1    | 0    | 2     | 2      |                                                      |
| AB1601 Organisational Behaviour & Design                | Unrestricted Elective (BUS)                                               | 2    | 1    | 0    | 3     | 3      |                                                      |
| TOTAL                                                     |                                                                           | 12   | 5    | 0    | 17    | 17     |                                                      |
YEAR 3 SPECIAL SEMESTER

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<th>Course Code and Title</th>
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<th>Pre-requisite / Co-Requisite</th>
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YEAR 4 2nd Major in Business – PA Option

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<th>Pre-requisite / Co-Requisite</th>
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<td>Lab</td>
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YEAR 4 SEMESTER 2

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