

**NUS DEPARTMENT OF MECHANICAL ENGINEERING**  
**B.Eng(ME) & BBA. Double Hons. Degree Programme (Matriculating AY15/16)**

| Degree Requirements                           | Modular Credits (MCs)   | Comments  |
|---|---|---|
| <b>(A) University Level Requirements</b>      | <b>Total 20 MCs</b>   |   |
| GEMs  | 20 MCs  |   |
| <b>(B) Business Programme Requirements</b>    | <b>Total 76 MCs</b>   |   |
| Foundation Modules                            | 48 MCs<br>(+ 16 MCs of common modules)  | See Table A for the list of Foundation Modules<br>See Table B for the list of Common Modules.   |
| Honours Dissertation                          | 12 MCs  |   |
| Essential Modules<br>(Specialization Modules) | 8 MCs<br>(+ 16 MCs of common modules from Table C)**  | Modules in this section are required for Business's specialization. *   |
| Compulsory Field Service Project              | 8 MCs   |   |
| <b>(C) Engineering Programme Requirements</b> | <b>Total 80 MCs</b>   | Some engineering courses will have more than this. As it varies according to the engineering course, students should seek advice from their department on the recommended schedule.           |
| Engineering Modules                           | 80 MCs<br>+ common modules (30 MCs)   | BEng Program requirements including Faculty & Discipline specific requirements (core, elective, projects & FYP Thesis). It is not compulsory for DDP students to do the Industrial Attachment |
| <b>(D) Common Modules</b>                     | <b>Total 32 MCs</b>   |   |
| These modules map towards both degrees.       | <u>Four</u> common modules (16 MCs)<br>(Please see Table B for details.)  | These constitute part of the Business Foundation modules and the Engineering Faculty requirements.  |
|   | <u>Four</u> of the following modules (16 MCs) from Table C: **<br><br><ul style="list-style-type: none"> <li>• <u>Two</u> BEng Modules</li> <li>• <u>Two</u> BBA Modules</li> </ul> |   |
| <b>(E) Unrestricted Elective Requirements</b> |   |   |
| Unrestricted Elective                         | -   | <i>Exempted under DDP Structure</i>   |
| <b>TOTAL</b>                                  | <b>208 MCs (min)</b>  | This is only the minimum requirement and will vary according to the engineering course. Students should seek advice from their department on the total MCs required to fulfil the DDP.        |

Please note that the curriculum is subject to changes and the MCs may vary.

**Notes:**

\* Students can choose to specialize or not. If they choose to specialize, they will have to read modules contributing to their chosen area of specialization. For different areas of specialization, the total number of MCs required may vary.

\*\* Subject to the availability of common modules for the respective department of study and area of specialization. Students have to read two modules (one BEng module & one BBA module) for each common module requirement that is not satisfied, subject to approval from FoE/Biz.

**Sample Semester Schedule for B.Eng. (M.E.) & B.B.A. Double Hons. Degree Programme (Matriculating AY15/16)**

| Year 1            |  |           |     |  |  |           |
|-------------------|--|-----------|-----|--|--|-----------|
| Semester 1        |  | MCs       |     | Semester 2                                 |  | MCs       |
| MA1505            | Mathematics I (replaces DSC1007) [Table B]                                 | 4         | CA* | MA1506                                     | Mathematics II   | 4 C1      |
| PC1431            | Physics IE   | 4         | C1* | ES1501X <sup>1</sup>                       | Critical Thinking and Expository Writing [Table B]                                     | 4 CA      |
| EG1109M           | Statics and Mechanics of Materials   | 4         | C1  | EG1108                                     | Electrical Engineering   | 3 C1      |
| CS1010E           | Programming Methodology  | 4         | C1  | ME2103                                     | Engineering Visualisation and Modelling  | 3 C1      |
| ACC1002           | Financial Accounting<br>Compulsory Foundation Business Module 1 [Table A]  | 4         | C2* | MKT1003                                    | Marketing<br>Compulsory Foundation Business Module 2 [Table A]                         | 4 C2      |
| GER1000           | Quantitative Reasoning (GE 1 - QR) <sup>2</sup>                            | 4         | CA  | GE 2 <sup>2</sup>                          |  | 4 CA      |
| <b>Sub-total</b>  |  | <b>24</b> |     | <b>Sub-total</b>                           |  | <b>22</b> |
| Year 2            |  |           |     |  |  |           |
| Semester 3        |  |           |     | Semester 4                                 |  |           |
| ME2113            | Mechanics of Materials I   | 3         | C1  | ME2101                                     | Fundamentals of Mechanical Design  | 4 C1      |
| ME2121            | Engineering Thermodynamics   | 4         | C1  | ME2114                                     | Mechanics of Materials II  | 3 C1      |
| ME2151            | Principles of Mechanical Engineering<br>Materials                          | 4         | C1  | ME2135                                     | Fluid Mechanics II   | 4 C1      |
| ME2134            | Fluid Mechanics I  | 4         | C1  | ME2143                                     | Sensors and Actuators  | 4 C1      |
| ME3162            | Manufacturing Processes  | 4         | C1  | ME3112                                     | Mechanics of Machines  | 4 C1      |
| GE 3 <sup>2</sup> |  | 4         | CA  | GE4 <sup>2</sup>                           |  | 4 CA      |
| <b>Sub-total</b>  |  | <b>23</b> |     | <b>Sub-total</b>                           |  | <b>23</b> |
| Year 3            |  |           |     |  |  |           |
| Semester 5        |  |           |     | Semester 6                                 |  |           |
| ME3103            | Mechanical Systems Design  | 6         | C1  | ME2142                                     | Feedback Control Systems   | 4 C1      |
| ME3122            | Heat Transfer  | 4         | C1  | BSP1004                                    | Legal Environment of Business<br>Compulsory Foundation Business Module 5 [Table A]     | 4 C2      |
| ACC2002           | Managerial Accounting<br>Compulsory Foundation Business Module 3 [Table A] | 4         | C2  | BSP1005                                    | Managerial Economics<br>Compulsory Foundation Business Module 4 [Table A]              | 4 C2      |
| MNO1001           | Management & Organisation<br>(replaces HR2002) [Table B]                   | 4         | CA  | BSP2005                                    | Asia Pacific Business Environment<br>Compulsory Foundation Business Module 6 [Table A] | 4 C2      |
| MNO2007           | Leadership and Ethics (replaces EG2401)<br>[Table B]                       | 4         | CA  | BSP2001                                    | Macro and International Economics<br>Compulsory Foundation Business Module 7 [Table A] | 4 C2      |
|                   |  |           |     | Singapore Studies (SS) Module <sup>2</sup> |  | 4 CA      |
| <b>Sub-total</b>  |  | <b>22</b> |     | <b>Sub-total</b>                           |  | <b>24</b> |

| Year 4   |           |    |   |            |    |
|--|-----------|----|---|------------|----|
| Semester 7   |           |    | Semester 8  |            |    |
| ME4101A B.Eng. Dissertation (over 2 semesters)                                     | 4         | C1 | ME4101A B.Eng. Dissertation (over 2 semesters)  | 4          | C1 |
| MNO2009 Entrepreneurship<br>Compulsory Foundation Business Module 8 [Table A]      | 4         | C2 | FIN2004 Finance<br>Compulsory Foundation Business Module 10 [Table A]                               | 4          | C2 |
| DSC2006 Operations Management<br>Compulsory Foundation Business Module 9 [Table A] | 4         | C2 | DSC2008 Business Analytics – Data & Decisions<br>Compulsory Foundation Business Module 11 [Table A] | 4          | C2 |
| Business Essential Modules 1   | 4         | C2 | BSP3001 Strategic Management<br>Compulsory Foundation Business Module 12 [Table A]                  | 4          | C2 |
| FSP4003 Field Service Project (Can be done over 1 or 2 semesters)                  | 4         | C2 | FSP4003 Field Service Project   | 4          | C2 |
| <b>Sub-total</b>   | <b>20</b> |    | <b>Sub-total</b>  | <b>20</b>  |    |
| Year 5   |           |    |   |            |    |
| Semester 9   |           |    | Semester 10   |            |    |
| B.B.A. Thesis  | 6         | C2 | B.B.A. Thesis   | 6          | C2 |
| IE4240 Project Management (BEng Common Electives 2) [Table C] <sup>2</sup>         | 4         | CA | B.B.A. Common Electives 2 [Table C] <sup>3</sup>  | 4          | CA |
| BEng Common Electives 2 [Table C] <sup>3</sup>                                     | 4         | CA | Business Essential Modules 2  | 4          | C2 |
| B.B.A. Common Electives 1 [Table C] <sup>3</sup>                                   | 4         | CA |   |            |    |
| <b>Sub-total</b>   | <b>18</b> |    | <b>Sub-total</b>  | <b>14</b>  |    |
| <b>Total MCs</b>   |           |    |   | <b>212</b> |    |

**Notes:**

<sup>1</sup> DDP students are encouraged to read ES1501X. However, in the event that students are not able to get ES1501X, they have to read one of the following choices as classified :

- ES1531 (C1) + ES2002 (CA)
- ES1531 (C1) + ES2331 (CA)
- USP Writing and Critical Thinking Module (CA)
- IEM1201X (C1) + IEM2201X (CA)

<sup>2</sup> Students are strongly encouraged to complete all the five GE modules latest by the end of Year 2. UEM can be read in any semester and can be any modules out of your major requirements.

<sup>3</sup> THREE (3) modules from Table C with at least ONE (1) BEng and ONE (1) BBA module. Subject to the availability of common modules for the respective department of study and area of specialization. Students have to read two modules (one BEng module & one BBA module) for each common module requirement that is not satisfied subject to approval of FoE/Biz.

\* C1 – Counted as B.Eng. degree requirement; C2 – Counted as 2<sup>nd</sup> degree requirement; CA – Double – counted as both degree requirements

**Please note that this semester schedule is only a sample, you can customized your own schedule taking into considerations the semester the modules are offered and the pre- and co-requisites of a module.**

**Table A: List of Compulsory Business Foundation Modules AY2012/2013 onwards**

| Module Code | Module Title                          |
|-------------|---------------------------------------|
| ACC1002     | Financial Accounting                  |
| MKT1003     | Marketing                             |
| BSP1004     | Legal Environment of Business         |
| BSP1005     | Managerial Economics                  |
| BSP2001     | Macro and International Economics     |
| ACC2002     | Managerial Accounting                 |
| FIN2004     | Finance                               |
| BSP2005     | Asia Pacific Business Environment     |
| DSC2006     | Operations Management                 |
| DSC2008     | Business Analytics – Data & Decisions |
| MNO2009     | Entrepreneurship (NEW)                |
| BSP3001     | Strategic Management                  |

**Table B: List of 16 MCs of Common Modules that map to part of the Business Foundation Modules & Engineering Requirements for all BBA programmes from AY2012/2013 onwards.**

| Module Code and Title   |
|---|
| <p>DDP students are strongly encouraged to read ES1501X (e.g. ES1501 A or ES1501B) so that they do not need to read an additional communications module which will add to the total workload. However, if you are a DDP student who is also in the USP or University Town residential programme, the respective specially-tailored writing and communication modules that you are reading will be deemed as the equivalent of ES1501X.</p> <ul style="list-style-type: none"> <li>• ES1501X Critical Thinking and Expository Writing (4MCs) <b>or</b></li> <li>• ES1531 Critical Thinking &amp; Writing (4MCs) + ES2002 Business Communication (4MCs) <b>or</b></li> <li>• ES1531 Critical Thinking &amp; Writing (4MCs) + ES2331 Communicating Engineering (4MCs) <b>or</b></li> <li>• USP Writing and Critical Thinking module (4MCs) if you are a USP student <b>or</b></li> <li>• Ideas and Exposition Modules offered by the University Town if you are in the University Town residential programme. These modules are: IEM1201x (on a graded basis) and IEM2201x (on a graded basis), which may be read in lieu of ES1531 and ES2331, respectively.</li> </ul> <p>Depending on the options that you have chosen, the modules will be classified as:</p> <ul style="list-style-type: none"> <li>• ES1501X (CA)</li> <li>• ES1531 (C1) + ES2002 (CA)</li> <li>• ES1531 (C1) + ES2331 (CA)</li> <li>• USP Writing and Critical Module Module (CA)</li> <li>• IEM1201X (C1) + IEM2201X (CA)</li> </ul> <p><b>Legend</b><br/> CA = grade included in calculating Cumulative Average Points (CAPs) of both degrees<br/> C1 = grade included in calculating CAP of primary degree</p> <p>- MNO2007 Leadership and Ethics (replaces EG2401 Engineering Professionalism)<br/> - MNO1001 Management &amp; Organization (replaces HR2002 Understanding Human Relations in the New Economy)<br/> - MA1505 Mathematics I (replaces DSC1007 Business Analytics – Models &amp; Decisions)</p> |

**Table C: Common Modules in the BEng & BBA Double Degree programme.\*\*\***

| BEng Programmes        | BEng modules that can be counted towards BBA requirements*  | BBA modules that can be counted towards BEng requirements*   |
|------------------------|---|--|
| Mechanical Engineering | IE4240 Project Management<br>IE2110 Operations Research I<br><i>(anti-req: DSC3214 Int. to Optimization)</i><br>IE2130 Quality Engineering I<br><i>(anti-req: DSC3219 Quality Management)</i> | DSC3201 Supply Chain Management<br>DSC3214 Introduction to Optimisation<br>DSC4211B/DSC4213 Seminars in Ops & Supply Chain Management: Analytical Tools for Consulting<br>DSC5211B Analytical Tools for Consulting |