

**B.Eng. (Infrastructure and Project Management) (Hons) curriculum for AY2025/26 intake and after:**

**Table 1: Programme Structure**

| No       | Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Units (UTs) |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>1</b> | <b>Common Curriculum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>40</b>   |
| a        | <p><u>General Education Pillars</u> (University-wide), 4 UTs each</p> <ol style="list-style-type: none"> <li>1. Data Literacy (GEA1000 Quantitative Reasoning with Data)</li> <li>2. Digital Literacy (CS1010E Programming Methodology)</li> <li>3. Critique and Expressions (ES2631 Critique and Communication of Thinking and Design)</li> <li>4. Cultures and Connection *</li> <li>5. Singapore Studies (CDE2501 Liveable Cities)</li> <li>6. Communities and Engagement *</li> </ol> <p>*Students to select from the following list of available courses for GE Pillars with no pre-assigned course: -<br/> <a href="https://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/general-education/list-of-courses-approved-under-the-ge-pillars">https://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/general-education/list-of-courses-approved-under-the-ge-pillars</a></p>                                                                                                                                                                                                                               | 24          |
| b        | <p><u>Common Curriculum Pillars</u> (CDE), 4 UTs each</p> <ol style="list-style-type: none"> <li>1. Design Thinking (DTK1234 Design Thinking)</li> <li>2. Maker Space (EG1311 Design and Make OR EG1311BE Design and Make)</li> <li>3. Artificial Intelligence (EE2211 Introduction to Machine Learning OR EE2213 Introduction to Artificial Intelligence)</li> <li>4. Project Management (PF1101A Project Management and Finance)</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 16          |
| <b>2</b> | <b>Primary Major</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>80</b>   |
| a        | <p><u>Engineering Core</u> (CDE)</p> <ol style="list-style-type: none"> <li>1. CE2407A Uncertainty Analysis for Engineers (2 UTs)</li> <li>2. CE2407B Introduction to Numerical Methods for Engineers (2 UTs)</li> <li>3. MA1511 Engineering Calculus (2 UTs)</li> <li>4. MA1513 Linear Algebra with Differential Equations (2 UTs)</li> <li>5. EG2401A Engineering Professionalism (2 UTs)</li> <li>6. EG3611A Industrial Attachment (10 UTs) *</li> </ol> <p>* <u>Alternatives for Industrial Attachment:</u><br/> a. EG3612 Vacation Industrial Attachment (6 UTs) + EG2605 Undergraduate Research Opportunities Programme (4 UTs)<br/> b. EG3612 Vacation Industrial Attachment (6 UTs) + CDE2605R Undergraduate Research Experience (4 UTs)<br/> c. EG3612 Vacation Industrial Attachment (6 UTs) + CFG2101 NUS Vacation Internship Programme (4 UTs)<br/> d. ETP3205 Innovation &amp; Enterprise Internship (6 UTs) + EG3612 Vacation Industrial Attachment (6 UTs)</p>                                                                                                                                                                                                | 20          |
| b        | <p><u>Discipline Core</u> (IPM Essentials)</p> <p><u>Year 1</u></p> <ol style="list-style-type: none"> <li>1. IPM1102 Infrastructure and Project Management Law (4 UTs)</li> <li>2. IPM1103I Digitalisation in the Built Environment (4 UTs)</li> <li>3. IPM1104 Built Environment Engineering Principles and Practice (4 UTs)</li> </ol> <p><u>Year 2</u></p> <ol style="list-style-type: none"> <li>1. IPM2101 Introduction to Building Performance (4 UTs)</li> <li>2. IPM2102 Construction Technology (4 UTs)</li> <li>3. IPM2103 Measurement (Building Works) (4 UTs)</li> <li>4. IPM2104 Project Cost Management (4 UTs)</li> <li>5. IPM2105 Structural Systems (4 UTs)</li> <li>6. IPM2106 Mechanical and Electrical Systems (4 UTs)</li> </ol> <p><u>Year 3</u></p> <ol style="list-style-type: none"> <li>1. IPM3102 Infrastructure and Facilities Management (4 UTs)</li> <li>2. IPM3103 Project Finance (4 UTs)</li> </ol> <p><u>Year 4</u></p> <ol style="list-style-type: none"> <li>1. IPM4101 Dissertation (8 UTs) *Year-long course</li> <li>2. IPM4102 Project Execution (4 UTs)</li> <li>3. IPM4103 Contract and Procurement Management (4 UTs)</li> </ol> | 60          |
| <b>3</b> | <b>Unrestricted Electives</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>40</b>   |
|          | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>160</b>  |

- Some specific courses indicated might differ for students in Residential Colleges (RC).
- GEN coded courses are only available from year 2 onwards.

|                                                             | Year 1                                                                        |                                                                         | Year 2                                                                                                        |                                                                          | Year 3                                                           |                                                                                                                                 | Year 4                                                           |                                                                |
|-------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------|
|                                                             | Sem 1                                                                         | Sem 2                                                                   | Sem 3                                                                                                         | Sem 4                                                                    | Sem 5                                                            | Sem 6                                                                                                                           | Sem 7                                                            | Sem 8                                                          |
| NUS GE Pillars                                              | GEA1000<br>Quantitative Reasoning with Data<br>(4 Units)                      | CS1010E<br>Programming Methodology<br>(4 Units)                         |                                                                                                               | ES2631<br>Critique and Communication of Thinking and Design<br>(4 Units) | CDE2501<br>Liveable Cities<br>(4 Units)                          |                                                                                                                                 |                                                                  |                                                                |
| CDE Common Curriculum Courses                               | DTK1234<br>Design Thinking<br>(4 Units)                                       | EG1311 / EG1311BE<br>Design and Make<br>(4 Units)                       | EE2211 / EE2213<br>Introduction to Machine Learning /<br>Introduction to Artificial Intelligence<br>(4 Units) |                                                                          |                                                                  |                                                                                                                                 |                                                                  |                                                                |
|                                                             |                                                                               |                                                                         | PF1101A<br>Project Management and Finance<br>(4 Units)                                                        |                                                                          |                                                                  |                                                                                                                                 |                                                                  |                                                                |
| Engineering Core Courses                                    | CE2407A<br>Uncertainty Analysis for Engineers<br>(2 Units)                    | CE2407B<br>Introduction to Numerical Methods for Engineers<br>(2 Units) |                                                                                                               |                                                                          | EG2401A<br>Engineering Professionalism<br>(2 Units)              | EG3611A*<br>Industrial Attachment<br>(10 Units)                                                                                 |                                                                  |                                                                |
|                                                             | MA1513<br>Linear Algebra with Differential Equations<br>(2 Units)             | MA1511<br>Engineering Calculus<br>(2 Units)                             |                                                                                                               |                                                                          |                                                                  | Alternatives:<br>EG3612 + EG2605<br>EG3612 + CDE2605R<br>EG3612 + CFG2101<br>ETP3205 + EG2605<br>*Polytechnic students exempted |                                                                  |                                                                |
| Programme Core (IPM Essential) Courses                      | IPM1102<br>Infrastructure and Project Management Law<br>(4 Units)             | IPM1103I<br>Digitalisation in the Built Environment<br>(4 Units)        | IPM2101<br>Introduction to Building Performance<br>(4 Units)                                                  | IPM2103<br>Measurement (Building Works)<br>(4 Units)                     | IPM3102<br>Infrastructure and Facilities Management<br>(4 Units) |                                                                                                                                 | IPM4101<br>Dissertation<br>(8 Units)                             |                                                                |
|                                                             | IPM1104<br>Built Environment Engineering Principles and Practice<br>(4 Units) |                                                                         | IPM2102<br>Construction Technology<br>(4 Units)                                                               | IPM2104<br>Project Cost Management<br>(4 Units)                          | IPM3103<br>Project Finance<br>(4 Units)                          |                                                                                                                                 | IPM4102<br>Project Execution<br>(4 Units)                        |                                                                |
|                                                             |                                                                               |                                                                         | IPM2105<br>Structural Systems<br>(4 Units)                                                                    | IPM2106<br>Mechanical and Electrical Systems<br>(4 Units)                |                                                                  |                                                                                                                                 | IPM4103<br>Contract and Procurement Management<br>(4 Units)      |                                                                |
| IPM Elective Courses                                        |                                                                               |                                                                         |                                                                                                               |                                                                          | IPM3101<br>Project Feasibility<br>(4 Units)                      | IPM3505<br>Computational Fluid Dynamics for the Built Environment<br>(4 Units)                                                  |                                                                  | PF4208<br>Safety and Health Management<br>(4 Units)            |
|                                                             |                                                                               |                                                                         |                                                                                                               |                                                                          | PF3105<br>Research Methods<br>(4 Units)                          |                                                                                                                                 |                                                                  |                                                                |
| IPM Elective Courses (Cost and Contract Management)         |                                                                               |                                                                         |                                                                                                               | PF2203<br>Quality and Productivity Management<br>(4 Units)               | PF3208<br>Project Leadership<br>(4 Units)                        | PF3207<br>Project Management Law<br>(4 Units)                                                                                   |                                                                  | PF4203<br>Project Dispute Management<br>(4 Units)              |
|                                                             |                                                                               |                                                                         |                                                                                                               |                                                                          | PF3205<br>Advanced Measurement<br>(4 Units)                      |                                                                                                                                 |                                                                  |                                                                |
|                                                             |                                                                               |                                                                         |                                                                                                               |                                                                          | PF3209<br>Building Information Modelling<br>(4 Units)            |                                                                                                                                 |                                                                  |                                                                |
| IPM Elective Courses (Facilities Management)                |                                                                               |                                                                         |                                                                                                               | PF2504<br>Materials Technology<br>(4 Units)                              |                                                                  | PF3305<br>Facilities Planning and Design<br>(4 Units)                                                                           | PF4309<br>Infrastructure Operations and Maintenance<br>(4 Units) | PF4306<br>REITs Facilities Management<br>(4 Units)             |
| IPM Elective Courses (Sustainable and Digital Technologies) |                                                                               |                                                                         |                                                                                                               |                                                                          | PF3211<br>AI Applications for the Built Environment<br>(4 Units) | PF3502<br>Smart Facilities<br>(4 Units)                                                                                         | PF4213<br>Building Energy Analysis and Simulation<br>(4 Units)   | PF4502<br>Green Development<br>(4 Units)                       |
|                                                             |                                                                               |                                                                         |                                                                                                               |                                                                          | PF3210<br>Total Building Performance<br>(4 Units)                | PF3504<br>Sustainable Energy Management<br>(4 Units)                                                                            |                                                                  | PF4212<br>Advanced Building Information Modelling<br>(4 Units) |
| Unrestricted Electives                                      |                                                                               | 1 x GE/UE                                                               |                                                                                                               | 1 x GE/UE                                                                | 1 x GE/UE                                                        | 1 x GE/UE                                                                                                                       | 2 x GE/UE                                                        | 4 x GE/UE                                                      |