

**Bachelor of Engineering (Chemical Engineering)**  
**Recommended Semester Schedule for Polytechnic Graduate Students**  
**(AY2023/2024 Intake)**

Based on their polytechnic qualification, polytechnic graduate students will be exempted from Unrestricted Elective Courses (UE, 20 units), EG3611P Industrial Attachment (10 units), DTK1234 Design Thinking (4 units) and EG1311 Design and Make (4 units)

(The following schedule is for those who have to do MA1301 Introductory Mathematics)

| <b>Semester 1</b>   |    | <b>Semester 2</b>   |    |
|---|----|---|----|
| GEA1000 Quantitative Reasoning with Data  | 4  | CS1010E Programming Methodology   | 4  |
| GE/UE   | 4  | GE/UE   | 4  |
| MA1301 Introductory Mathematics   | 4  | GE/UE   | 4  |
| CN1101A Chemical Engineering Principles and Practice I                              | 4  | MA1511 Engineering Calculus   | 2  |
| PF1101 Fundamentals of Project Management   | 4  | MA1512 Differential Equations for Engineering                                       | 2  |
|   |    | CN2102 Chemical Engineering Principles and Practice II                              | 4  |
| <b>Sub-total</b>  | 20 | <b>Sub-total</b>  | 20 |
| <b>Semester 3</b>   |    | <b>Semester 4</b>   |    |
| CDE2501 Liveable Cities   | 4  | ES2631 Critique and Communication of Thinking and Design                            | 4  |
| CN2104 Chemical Engineering Thermodynamics  | 4  | IE2141 Systems Thinking and Dynamics  | 4  |
| CN2103 Mass & Energy Balance  | 4  | CN2106 Fluid Mechanics & Heat Transfer  | 4  |
| MA1513 Linear Algebra with Differential Equations                                   | 2  | CN2105 Reaction Engineering   | 4  |
| CE2407A Engineering Uncertainty Analysis  | 2  | CN3103 Mass Transfer and Separation Processes                                       | 4  |
| EG2401A Engineering Professionalism   | 2  |   |    |
| CDE2000 Creating Narratives   | 4  |   |    |
| <b>Sub-total</b>  | 22 | <b>Sub-total</b>  | 20 |
| <b>Semester 5</b>   |    | <b>Semester 6</b>   |    |
| CN3104 Computer-Aided Chemical Process Simulation                                   | 4  | GE/UE   | 4  |
| GE/UE   | 4  | GE/UE   | 4  |
| EE2211 Introduction to Machine Learning   | 4  | GE/UE   | 4  |
| CN4119 Final Year Design Project (Part 1) OR<br>CN4118 B.Eng. Dissertation (Part 1) | 4  | CN4119 Final Year Design Project (Part 2) OR<br>CN4118 B.Eng. Dissertation (Part 2) | 4  |
| CN4101 Process Control and Safety   | 4  | CN4102 Chemical Engineering Lab   | 4  |
| <b>Sub-total</b>  | 20 | <b>Sub-total</b>  | 20 |

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| Semester 1  |           | Semester 2  |           |
|---|-----------|---|-----------|
| GEA1000 Quantitative Reasoning with Data  | 4         | CS1010E Programming Methodology   | 4         |
| GE/UE   | 4         | GE/UE   | 4         |
| MA1513 Linear Algebra with Differential Equations                                   | 2         | GE/UE   | 4         |
| CN1101A Chemical Engineering Principles and Practice I                              | 4         | MA1511 Engineering Calculus   | 2         |
| PF1101 Fundamentals of Project Management   | 4         | MA1512 Differential Equations for Engineering                                       | 2         |
| CE2407A Engineering Uncertainty Analysis  | 2         | CN2102 Chemical Engineering Principles and Practice II                              | 4         |
| <b>Sub-total</b>  | <b>20</b> | <b>Sub-total</b>  | <b>20</b> |
| Semester 3  |           | Semester 4  |           |
| CDE2501 Liveable Cities   | 4         | ES2631 Critique and Communication of Thinking and Design                            | 4         |
| CN2104 Chemical Engineering Thermodynamics  | 4         | IE2141 Systems Thinking and Dynamics  | 4         |
| CN2103 Mass & Energy Balance  | 4         | CN2106 Fluid Mechanics & Heat Transfer  | 4         |
| EE2211 Introduction to Machine Learning   | 4         | CN2105 Reaction Engineering   | 4         |
| EG2401A Engineering Professionalism   | 2         | CN3103 Mass Transfer and Separation Processes                                       | 4         |
| GE/UE   | 4         |   |           |
| <b>Sub-total</b>  | <b>22</b> | <b>Sub-total</b>  | <b>20</b> |
| Semester 5  |           | Semester 6  |           |
| CN3104 Computer-Aided Chemical Process Simulation                                   | 4         | GE/UE   | 4         |
| GE/UE   | 4         | GE/UE   | 4         |
| CN4119 Final Year Design Project (Part 1) OR<br>CN4118 B.Eng. Dissertation (Part 1) | 4         | GE/UE   | 4         |
| CN4101 Process Control and Safety   | 4         | CN4119 Final Year Design Project (Part 2) OR<br>CN4118 B.Eng. Dissertation (Part 2) | 4         |
| CDE2000 Creating Narratives   | 4         | CN4102 Chemical Engineering Lab   | 4         |
| <b>Sub-total</b>  | <b>20</b> | <b>Sub-total</b>  | <b>20</b> |