

Chemical Engineering

AY2025 cohort

Accurate as of July 2025

E-Scholars 3-years schedule (CHEM)			
Semester 0 (APT)			
EG1311 Design and Make			4
MA1505 Mathematics I (4 units. It is mapped to MA1511 which is 2 units, + 2 units to UE)			4
CS1010E Programming Methodology			4
Sub-total			12
Semester 1		Semester 2	
CN1101A Chemical Engineering Principles and Practice I	4	CN2102 Chemical Engineering Principles and Practice II	4
CN2103 Mass & Energy Balance	4	EE2211 Introduction to Machine Learning or EE2213 Introduction to Artificial Intelligence	4
GEA1000 Quantitative Reasoning	2	MA1512 Differential Equations for Engineering	2
DTK1234 Design Thinking	4	PF1101A Project Management and Finance	4
MA1513 Linear Algebra with Differential Equations	4	UTCP #2	4
CE2407A Engineering Uncertainty Analysis	2	UE	4
UTCP #1	4	UE	4
Sub-total	24	Sub-total	26
Semester 3		Semester 4	
CN2109 Fluid Mechanics	4	NUS Overseas College (NOC) experience (20 units)*	20
CN2111 Fundamentals of Biomolecular Engineering	4		
CN2105 Reaction Engineering	4		
CN2104 Chemical Engineering Thermodynamics	4		
UE	4		
UE	4		
UTCP #3 (Replaces CDE2501)	4		
Sub-total	28	Sub-total	20
Semester 5		Semester 6	
CN4119 Final Year Design Project	4	CN4119 Final Year Design Project	4
CN2110 Heat and Mass Transfer	4	CN4102 Chemical Engineering Lab	4
CN3104 Computer-Aided Chemical Process Simulation	4	CN4101 Process Control and Safety	4
CN3105 Machine Learning in Chemical Engineering	4	UE	4
CN3106 Separation Processes	4	UE	4
UTCP #4	4	UE	4
UE*	2		
Sub-total	26	Sub-total	24
Grand total			160

Notes:

- If APT courses are not cleared, those courses (EG1311, MA1511, CS1010E) must be cleared during the normal semesters
- Important rules for NOC:
 - You MUST be in Singapore for Visa processing the semester BEFORE going to NOC.
 - You MUST have cleared at least 70 units before applying to NOC
- *If not embarking on NOC, alternate course combinations to fulfil Industrial Attachment requirement (10 units) include:
 - EG3611A Industrial Attachment (10 units)
 - EG3612 Vacation Industrial Attachment / ETP3205 Innovation & Enterprise Internship (6 units) + CDE2605 Undergraduate Research Opportunity (4 units)
 - EG3612 Vacation Industrial Attachment / ETP3205 Innovation & Enterprise Internship (6 units) + CFG2101 NUS Vacation Internship Programme (4 units) Note that EG3612 and EG3611A can be done as long as you have cleared 60 units.
 - EG3612 Vacation Industrial Attachment / ETP3205 Innovation & Enterprise Internship (6 units) + CDE2605R Undergraduate Research Experience (4 units)

Note that UROP (CDE2605) may be taken in any regular semester or special term as long as you are at seniority 2.

- If you wish to read Common Curriculum courses before your department's recommended semester, please submit an appeal or select the courses from Round 2.

- courses that require appeal: DTK1234, GEA1000, please email:

DTK1234 - dtk1234@nus.edu.sg

GEA1000 - qradmin@nus.edu.sg