

**Bachelor of Engineering (Chemical Engineering)
with Second Major in Innovation & Design**

Cohort 2016/2017

Modular Requirements	Modular Credits (MCs)
University Level Requirements	
General education modules:	
• Quantitative Reasoning (GER1000)	4
• Thinking & Expression (GET)	4
• Human Cultures (GEH)	4
• Singapore Studies (GES)	4
• Asking Questions (GEQ1000)	4
Sub-total for University Level Requirements	20
Programme Requirements	
Faculty requirements:	
• ES1531 Critical Thinking & Writing ¹ (or equivalent) <i>(Double-counted for Second Major in Innovation & Design)</i>	4
• ES2331 Communicating Engineering ¹	4
• EG2401 Engineering Professionalism	3
• ES1xxx English ²	-
Year 1 and core modules:	
• MA1505 Mathematics I	4
• MA1506 Mathematics II	4
• CM1502 General & Physical Chemistry for Engineers	4
• LSM1401 Fundamentals of Biochemistry	4
• MLE1101 Introduction Materials Science & Engineering	4
• IT1005 Introduction to Programming with Matlab	4
• CN1111 Chemical Engineering Principles	4
• CN2108 Chemical Engineering Laboratory I	2
• CN2116 Chemical Kinetics & Reactor Design	4
• CN2121 Chemical Engineering Thermodynamics	4
• CN2122 Fluid Mechanics	4
• CN2125 Heat & Mass Transfer	4
• CN3108 Chemical Engineering Laboratory II	4
• CN3109 Chemical Engineering Laboratory III	2
• CN3121 Process Dynamics & Control	4
• CN3124 Fluid-Solid Systems	3
• CN3132 Separation Processes	4
• CN3135 Process Safety, Health & Environment	3
• CN3421 Process Modelling & Numerical Simulation	4
• CN4122 Process Synthesis & Simulation	3
CHE technical electives ³	14
CHE design and project modules:	
• CN4123R Final Year Design Project	6
• EG4301 DCP Dissertation <u>or</u> EG4301A Ideas to Start-up (over 2 consecutive semesters) <i>(Double-counted for Second Major in Innovation & Design and replaces CN4118 B.Eng. Dissertation)</i>	12
EG3612 Vacation Internship Programme (VIP) ^{3,4}	6
Sub-total for Programme Requirements	122

Unrestricted Elective Modules (UEM)	
• Group A module for Second Major	4
• Group B module for Second Major	4
• Group C modules for Second Major – Innovation & Enterprise electives	12
• EG3301R DCP Project (over 2 consecutive semesters)	12
Sub-total for Unrestricted Elective Modules	32
Total	174

Notes:

- ¹ Students in USP, UTRP, and RVRC may read an equivalent module (e.g. ES1501X Academic Expository Writing) in lieu of EG1531 and/or ES2331.
- ² Students who have not passed or been exempted from the Qualifying English Test at the point of admission will have to read ES1000 and/or ES1103. ES1103 carries 4 MCs which may be counted as UEM.
- ³ Students in this Second Major are allowed to complete EG3612 (6 MCs) plus additional technical electives (6 MCs) in lieu of EG3611 (12 MCs).

Students may also opt to do EG3611 (12 MCs) in lieu of EG3612 (6 MCs) and 6 MCs of technical electives.
- ⁴ EG3612 (VIP) is optional for poly-intake students and those in the following special programmes: double degree programmes (DDP), concurrent degree programmes (CDP), Chemical Sciences Programme (CSP), and Global Engineering Programme (GEP).