

**Bachelor of Engineering (Industrial & Systems 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
• ES1xxxx English ²	-
Year 1 and core modules:	
• MA1505 Mathematics I	4
• MA1506 Mathematics II	4
• CS1010E Programming Methodology	4
• CS1020E Data Structures & Algorithms	4
• ST1131 Introduction to Statistics	4
• ST2131 Probability	4
• IE2100 Probability Models with Applications	4
• IE2101 Introduction to Systems Thinking	4
• IE2110 Operations Research I	4
• IE2130 Quality Engineering I	4
• IE2140 Engineering Economy	4
• IE2150 Human Factors Engineering	4
• IE3101 Statistics for Engineering Applications	4
• IE3110 Simulation	5
Engineering Science modules	4
ISE technical electives ³	32
ISE design and project modules:	
• EG3301R DCP Project (over 2 consecutive semesters) <i>(Double-counted for Second Major in Innovation & Design and replaces IE3100M Systems Design Project)</i>	12
EG3612 Vacation Internship Programme (VIP) ³	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
• EG4301 DCP Dissertation <u>or</u> EG4301A Ideas to Start-up (over 2 consecutive semesters)	12
Sub-total for Unrestricted Elective Modules	32
Total	174

Innovation & Design Programme
Faculty of Engineering

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 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).

Students may also opt to do EG3611 (12 MCs) in lieu of EG3612 (6 MCs) and 6 MCs of technical electives.