

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

Cohort 2017/2018

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 <i>(Double-counted for Second Major in Innovation & Design)</i>	4
• EG2401A Engineering Professionalism	2
• ES1xxxx English ²	-
Year 1 and core modules:	
• CE1101 Civil Engineering Principles & Practice	6
• CE1102 Principles & Practice in Infrastructure & Environment	6
• MA1505 Mathematics I	4
• PC1431 Physics IE	4
• CE2112 Soil Mechanics	4
• CE2134 Hydraulics	4
• CE2155 Structural Mechanics & Materials	4
• CE2183 Construction Project Management	4
• CE2407 Engineering & Uncertainty Analyses	4
• CE2409 Computer Applications in Civil Engineering	4
• ESE3001 Water Quality Engineering	4
• CE3115 Geotechnical Engineering	4
• CE3116 Foundation Engineering	4
• CE3121 Transportation Engineering	4
• CE3132 Water Resources Engineering	4
• CE3155 Structural Analysis	4
• CE3165 Structural Concrete Design	4
• CE3166 Structural Steel Design & System	4
CVE technical electives ³	8
CVE design and project modules:	
• CE4103 Design Project	4
• EG4301 DCP Dissertation <u>or</u> EG4301A Ideas to Start-up ³ (over 2 consecutive semesters) <i>(Double-counted for Second Major in Innovation & Design and replaces CE4104 B.Eng. Dissertation)</i>	12
EG3612 Vacation Internship Programme (VIP) ^{3,4}	6
Sub-total for Programme Requirements	112
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	164

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Notes:

- ¹ Students in USP, UTRP, and RVRC may read an equivalent module (e.g. ES1501X Academic Expository Writing) in lieu of EG1531.
- 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) in lieu of EG3611A (10 MCs).

The 12 MCs for EG4301 are mapped by 8 MCs from CE4104 and 4 MCs from the replacement of EG3611A (10 MCs) with EG3612 (6 MCs).

Students may also opt to do EG3611A (10 MCs) in lieu of EG3612 (6 MCs) and 4 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).

Recommended semester schedule for Cohort 2017/2018 – JC-intake students or equivalent

Semester 1	MCs	Semester 2	MCs
CE1101 Civil Engineering Principles & Practice	6	CE1102 Principles & Practice in Infrastructure & Environment	6
CE2409 Computer Applications in Civil Engineering	4	CE2155 Structural Mechanics & Materials	4
MA1505 Mathematics I	4	GET	4
PC1431 Physics IE	4	ES1531 Critical Thinking & Writing (double-counted)	4
GER1000 Quantitative Reasoning	4	Group A module for Second Major (UEM)	4
Sub-total	22	Sub-total	22

Semester 3	MCs	Semester 4	MCs
CE2112 Soil Mechanics	4	EG3301R DCP Project (UEM)	6
CE2134 Hydraulics	4	CE3115 Geotechnical Engineering	4
CE2183 Construction Project Management	4	CE3155 Structural Analysis	4
CE2407 Engineering & Uncertainty Analysis	4	CE3121 Water Resources Engineering	4
Group B module for Second Major (UEM)	4	GEQ1000 Asking Questions	4
Sub-total	20	Sub-total	22

Summer vacation between Semesters 4 and 5	MCs
EG3612 Vacation Internship Programme	6
Sub-total	6

Semester 5	MCs	Semester 6	MCs
EG3301R DCP Project (UEM)	6	Innovation & Enterprise Elective 1 (UEM)	4
CE3116 Foundation Engineering	4	CE3166 Structural Steel Design & System	4
CE3121 Transportation Engineering	4	ESE3001 Water Quality Engineering	4
CE3165 Structural Concrete Design	4	GEH	4
		GES	4
Sub-total	18	Sub-total	20

Semester 7	MCs	Semester 8	MCs
EG4301 DCP Dissertation (double-counted)	6	EG4301 DCP Dissertation (double-counted)	6
Innovation & Enterprise Elective 2 (UEM)	4	Innovation & Enterprise Elective 3 (UEM)	4
CE4103 Design Project	4	Technical Elective 2	4
Technical Elective 1	4	EG2401A Engineering Professionalism	2
Sub-total	18	Sub-total	16

Recommended semester schedule for Cohort 2017/2018 – poly-intake students

Semester 3	MCs	Semester 4	MCs
MA1301 Introductory Mathematics (in lieu of EG3612)	4	EG3301R DCP Project (UEM)	6
PC1431 Physics IE	4	CE2155 Structural Mechanics & Materials	4
CE2112 Soil Mechanics	4	CE3155 Structural Analysis	4
CE2134 Hydraulics	4	GER1000 Quantitative Reasoning	4
Group B module for Second Major (UEM)	4	Group A module for Second Major (UEM)	4
Sub-total	20	Sub-total	22

Semester 5	MCs	Semester 6	MCs
EG3301R DCP Project (UEM)	6	CE3115 Geotechnical Engineering	4
MA1505 Mathematics I	4	CE3121 Water Resources Engineering	4
CE2183 Construction Project Management	4	GEH	4
CE3121 Transportation Engineering	4	GEQ1000 Asking Questions	4
GET	4	ES1531 Critical Thinking & Writing (double-counted)	4
Sub-total	22	Sub-total	20

Semester 7	MCs	Semester 8	MCs
EG4301 DCP Dissertation (double-counted)	6	EG4301 DCP Dissertation (double-counted)	6
Innovation & Enterprise Elective 1 (UEM)	4	Innovation & Enterprise Elective 2 (UEM)	4
CE3116 Foundation Engineering	4	CE3166 Structural Steel Design & System	4
CE3165 Structural Concrete Design	4	ESE3001 Water Quality Engineering	4
GES	4	Technical Elective 1	4
Sub-total	22	Sub-total	22

Semester 9	MCs
Innovation & Enterprise Elective 3 (UEM)	4
CE4103 Design Project	4
CE2407 Engineering & Uncertainty Analysis	4
Technical Elective 2	4
EG2401A Engineering Professionalism	2
UEM (in lieu of EG3612)	2
Sub-total	20

Notes:

- Poly-intake students may receive the following exemptions depending on their Diploma qualification:
 - CE1101 Civil Engineering Principles & Practice (6 MCs)
 - CE1102 Principles & Practice in Infrastructure & Environment (6 MCs)
 - CE2409 Computer Applications in Civil Engineering (4 MCs)
 - Unrestricted elective modules (20 MCs)
- Poly-intake students may be exempted from Group A module for Second Major (4 MCs) and/or one Innovation & Enterprise elective (4 MCs) depending on their Diploma qualification. These would be included as part of the 20 MCs of exemptions for unrestricted elective modules.

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3. EG3612 (VIP) is not compulsory for poly-intake students. The 6 MCs for VIP may be fulfilled by MA1301 (4 MCs) and/or other modules.