

**Joint Bachelor's Degree Program between CityU and National Taiwan University**

Tentative Study Plan for CityU students of Materials Science and Engineering (Cohort 2018; 2018/19 Catalogue Term)

		CityU - MSE		National Taiwan University - MSE		
		Minimum: 120 Credit units Maximum: 144 Credit units		Minimum: 135 Credit units		
		Gateway Education: 30		School requirement (Sch Common 校共同必修 12 + Gen. Edu 通識 12 +PE 4 ): 28		
		College requirement: 6		Major requirement (Dept Com: Gen 24 + Prof 49 系共同必修): 73		
		Major requirement: 75 (Core: 51; Elective: 24)		School Elective (校訂選修): 17		
		Free elective: 9		Dept Electives (系訂選修): 21		
		Courses	Credits	Courses	Credits	
Year 1 (33 credits) at CityU	Sem A (15 credits, CityU)	[GE] GE1401 University English	3	[School-Core] FL1003 Freshman English/ FL1007 Freshman English (with 1-hour Aural Training) I/ FL1009 Freshman English (with 2-hour Aural Training) I	3	
		[GE] GE1501 Chinese Civilization – History & Philosophy <sup>1</sup>	3	[School-Core] GE Course 1	3	
		[GE] Gateway Education - Area 1 (Arts and Humanities)	3	[School-Core] Chinese 1	3	
		[GE] MA1200 Calculus and Basic Linear Algebra I/ MA1300 Enhanced Calculus and Linear Algebra I	3	[Major-Core] Calculus (a1)	4	
		[CSE] PHY1201 General Physics I	3	[Major-Core] Physics Lab (1) & (2)	2	
		[Major-Core] MSE1001 Program Induction	0			
			<b>Credits earned at CityU</b>	<b>15</b>	<b>Credits transferred from CityU</b>	<b>15</b>
	Sem B (18 credits, CityU)	[GE] GE2410 English for Engineering <sup>1</sup>	3	[School-Core] GE Course 2	3	
		[GE] MA1201 Calculus and Basic Linear Algebra II/ MA1301 Enhanced Calculus and Linear Algebra II	3	[Major-Core] Calculus (a2)	4	
		[GE] CS1102 Introduction to Computer Studies / CS1302 Introduction to Computer Programming	3	[Major-Core] Computer Programming	3	
		[Major-Core] PHY1202 General Physics II	3	[Major-Core] General Physics a1	3	
		[Major-Core] PHY1203 General Physics III	3	[Major-Core] General Physics a2	3	
[GE] Gateway Education - Area 1 (Arts and Humanities)		3	[School-Core] Chinese 2	3		
		<b>Credits earned at CityU</b>	<b>18</b>	<b>Credits transferred from CityU</b>	<b>19</b>	
Year 2 (35 credits) at NTU	Sem A (17 credits, NTU)	[CSE] BCH1100 Chemistry	3	[Major-Core] Chemistry a1	3	
		[Major-Core] MA2158 Linear Algebra and Calculus	3	[Major-Core] Chemistry 1 Lab	1	
		[Major-Core] MSE2102 Intro to MSE	3	[Major-Core] Engineering Math 1	3	
		[Major-Core] MSE2104 Mechanics of Materials	3	[Major-Core] Intro to MSE 1	3	
				[Major-Core] Mechanics of Materials	3	
				[School-Core] English 2	3	
					[School-Core] PE Course	1
			<b>Credits transferred from NTU</b>	<b>12</b>	<b>Credits earned at NTU</b>	<b>17</b>
	Sem B (18 credits, NTU)				[Major-Core] Engineering Math 2	3
					[Major-Core] Chemistry a2	3
					[Major-Core] Chemistry 2 Lab	1
		Free elective 1	3	[Major-Core] Intro to MSE 2	3	
[GE] Gateway Education - Area 3 (Science and Technology)		3	[School-Core] GE Course 3	3		
					[School-Core] PE Course	1
				School Elective	4	
		<b>Credits transferred from NTU</b>	<b>6</b>	<b>Credits earned at NTU</b>	<b>18</b>	
Year 3 (36 credits) at NTU	Sem A (19 credits, NTU)	[Major-Core] MSE3190 Thermodynamics	3	[Major-Core] Thermodynamics of Materials I	3	
		[Major-Core] MSE3110 Deformation & Fracture	3	[Major-Core] Physical Metallurgy 1	3	
		Free elective 2	3	[Major-Core] Theory of Diffraction	3	
		[Major-Core] MSE3172 Electrical Properties	3	[Major-Core] Electronic Properties of Materials	3	
		[Major-Core] Group A Elective 2 (Biomaterials)	3	[Major-Core] Intro to Molecular Materials	3	
		[Major-Core] MSE3169 Materials Testing	3	[Major-Core] Experimental Materials Sci. & Eng. I	1	
					[Major-Core] Research Project Course	2
					[School-Core] PE Course	1
			<b>Credits transferred from NTU</b>	<b>18</b>	<b>Credits earned at NTU</b>	<b>19</b>
	Sem B (17 credits, NTU)	[Major-Core] Group A Elective 1 (Ceramic Processing)	3	[Major-Core] Intro to Ceramics Materials	3	
		Free elective: Group B Elective 5 (Special topic)	3	[Major-Core] Thermodynamics of Materials II	3	
		[Major-Core] MSE3109 Kinetics Processes in Materials	3	[Major-Elective] Phase Transformation	3	
[Major-Core] MSE3171 Materials Characterizations		3	[Major-Elective] Surface Analysis	3		
[Major-Core] MSE3169 Materials Testing		3	[Major-Core] Experimental Materials Sci. & Eng. II	1		
[Major-Elective] Group B Elective 4 (Failure Analysis & Case Study)		3	[Major-Core] Physical Metallurgy 2	3		
				[School-Core] PE Course	1	
		<b>Credits transferred from NTU</b>	<b>15</b>	<b>Credits earned at NTU</b>	<b>17</b>	
Summer (3 credits, CityU)		[Major-Core] MSE 2243 Workshop Practice	3	[School Elective] Mechanical Workshop	3	
		<b>Credits earned at CityU</b>	<b>3</b>	<b>Credits transferred from CityU</b>	<b>3</b>	
Year 4 (33 credits) at CityU	Sem A (18 credits, CityU)	[GE] Gateway Education - Area 2 (Study of Societies, Social and Business Organisations)	3	[School-Core] GE Course 4	3	
		[Major-Core] Group A Elective 4 (Polymer Engineering)	3	[Major-Elective] Polymeric Materials for Biomedical Applications	3	
		[Major-Core] Group B Elective 1 (Electronic Packaging)	3	[Major-Elective] Electronic Packaging Technology	3	
		[Major-Core] MSE4101 Materials Engineers in Society	3	[School Elective] Ethics for Engineers Professionals	2	
		[Major-Core] MSE4116 FYP 1	3	[School-Elective] Research Project Course	2	
		[Major-Core] MSE3244 Design Lab	3	[Major-Core] Materials Design <sup>2</sup>	3	
			<b>Credits earned at CityU</b>	<b>18</b>	<b>Credits transferred from CityU</b>	<b>16</b>
	Sem B (15 credits, CityU)	[Major-Core] Group B Elective 3 (Composite)	3	[Major-Elective] Ceramic-matrix Composites	3	
		[Major-Core] Group B Elective 2 (Nanotechnology)	3	[Major-Elective] Nanoelectronics	3	
		[Major-Core] MSE4116 FYP 2	3	[School-Elective] Undergraduate Research Thesis <sup>2</sup>	3	
		[Major-Core] Group A Elective 3 (Computational Studies)	3	[Major-Elective] First Principles Computational Materials Science	3	
		[Major-Core] MBE2016 Engineering Graphics	3	[School-Elective] Engineering Graphics	3	