

Single Degree (Single Major) Programmes

Programme	Year of Study	Number of Academic Units (AUs)								
		Major Requirements		General Education Requirement (GER)					Total	
Bioengineering (PI [®])	1	27/28 [^]		3					3	
	2	27		5					6	
	3	23	9	3	3	3			3	
	4	16		3					3	
	Total		93/94[^]	9	14	9			15	140/141[^]
Chemical & Biomolecular Engineering (PI [®])	1	29		6						
	2	31		2					6	
	3	22	9	6	3	3	3			
	4	11							9	
	Total		93	9	14	9			15	140

[^] For students who do not have "A" level Physics.

B.Eng. (Chemical & Biomolecular Engineering / Bioengineering) (ABP)

		Academic Units (AU)
University Requirement	General Education Requirement Core (GER-Core)	14
	Engineering Communication I (2 AU)	
	Engineering Communication II (2 AU)	
	Introduction to Sustainability: Multidisciplinary Approaches and Solutions (1 AU)	
	Ethics and Moral Reasoning (1 AU)	
	Enterprise and Innovation (1 AU)	
	Career Preparatory Course (1 AU)	
	Introduction to Data Science and Artificial Intelligence (3 AU)	
	Engineers & Society (3 AU)	
	General Education Requirement Elective (GER-Elective)	9
	GER-Elective in Business Management (3 AU)	
	GER-Elective in Science, Technology & Society (3 AU)	
	GER-Elective in Liberal Arts (3 AU)	
Major Requirement	CBE / BIE Core	93/94 [^]
	Major Prescribed Electives (Major PE)	9
Unrestricted Electives		15
Total AU requirement		140/141[^]

[^] For students who do not have "A" level Physics.

AU requirements for OEP, wef AY1617

OEP consists of 20AU with 10AU drawn from Core for Professional Internship and another 10AU that students can utilize from their Unrestricted Electives. To facilitate the credit transfer for OEP, Engineering students who take up the programme will have their degree requirements adjusted to move the 10AU of UE to Core. The tables below show the original and adjusted AU distribution for students taking OEP. There is no change in the total AU.

SINGLE DEGREE PROGRAMMES (PROFESSIONAL INTERNSHIP)

SCHOOL	PROGRAMME	MAJOR REQUIREMENTS			GENERAL EDUCATION REQUIREMENTS (GER)				TOTAL	
		CORE (C)	MAJOR PRESCRIBED ELECTIVE (PE)	GER-CORE (GC)	GER-PRESCRIBED ELECTIVE (GER-PE)			UNRESTRICTED ELECTIVE (UE)		
					BUSINESS & MANAGEMENT (BM)	LIBERAL ARTS (LA)	SCIENCE, TECHNOLOGY & SOCIETY (STS)			ANY CATEGORY (BM/LA/STS)
SCBE	BIE	103/104 [^]	9	14	3	3	3	0	5	140/141 [^]
	CBE	103	9	14	3	3	3	0	5	140

[^] For students who do not have "A" level Physics.

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake ONWARDS
with Professional Internship

Year 1 Semester 1

Course	AU
CH1102 Introduction to Chemical Engineering in New Era	1
CH1104 Materials & Energy Balance	4
CH1131 Biomolecular Engineering	4
CH1801 Lab 1	1
CH2106 Introduction to Multidisciplinary Engineering	2
GC0001 Introduction to Sustainability	1
HW0001 English Proficiency*	
MH1810 Math 1	3
GER elective 1	3
19	

Year 1 Semester 2

Course	AU
CH1108 Thermodynamics	4
CH1117 Engineering Mathematics	4
CH1802 Lab 2	1
CH2102 Organic Chemistry & Spectrophotometry	4
HW0188 Engineering Communication I	2
GER elective 2	3
18	

**For students who have not passed or been exempted from the Qualifying English Test at the time of admission.*

Year 2 Semester 1

Course	AU
CH0491 Engineers & Society	3
CH2103 Fluid Systems	4
CH2010 Engineering Statistics	3
CH2107 Introduction to Computational Thinking	3
CH2801 Lab 3	2
CH3103 Chemical Thermodynamics	3
HY0001 Ethics & Moral Reasoning	1
ML0003 Career Preparatory Course (to be confirmed)	1
20	

Year 2 Semester 2

Course	AU
CH2104 Heat & Mass Transfer in Chemical and Biological Systems	4
CH0494 Introduction to Data Science and Artificial Intelligence	3
CH3141 Advanced Unit Operations	3
CH2802 Lab 4	2
CH3102 Chemical Reaction Engineering	4
CH3104 Biochemical Engineering	3
19	

Year 3 Semester 1

Course	AU
CH3101 Process Control and Dynamics	4
CH2140 Unit Operations	4
CH3802 Lab 5	3
CH4101 Chemical, Biological & Plant Safety	2
CH2109 Decision Tools for Business & Engineering	3
ET0001 Enterprise & Innovation	1
HW0288 Engineering Communication II	2
GER elective 3	3
22	

Year 3 Semester 2

Course	AU
CH3880 Professional Internship	10
10	

Year 4 Semester 1

Course	AU
CH4801 Final Year Design Project	4
CBE elective 1	3
CBE elective 2	3
Free elective 1	3
Free elective 2	3
Free elective 3	3
19	

Year 4 Semester 2

Course	AU
CH4801 Final Year Design Project	4
CBE elective 3	3
Free elective 4	3
Free elective 5	3
13	

Total (AU)

140

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake ONWARDS (ABP)
with Professional Internship

Year 1 Semester 1

Course		AU
CH1102	Introduction to Chemical Engineering in New Era	1
CH1104	Materials & Energy Balance	4
CH1131	Biomolecular Engineering	4
CH1801	Lab 1	1
CH2106	Introduction to Multidisciplinary Engineering	2
GC0001	Introduction to Sustainability	1
HW001	English Proficiency*	
MH1810	Math 1	3
	GER elective 1	3
		19

Year 1 Semester 2

Course		AU
CH1108	Thermodynamics	4
CH1117	Engineering Mathematics	4
CH1802	Lab 2	1
CH2102	Organic Chemistry & Spectrophotometry	4
HW0188	Engineering Communication I	2
	GER elective 2	3
		18

* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.

Year 2 Semester 1

Course		AU
CH0491	Engineers & Society	3
CH2103	Fluid Systems	4
CH2010	Engineering Statistics	3
CH2107	Introduction to Computational Thinking	3
CH2801	Lab 2A	2
CH3103	Chemical Thermodynamics	3
HY0001	Ethics & Moral Reasoning	1
ML0003	Career Preparatory Course (to be confirmed)	1
	GER elective 3	3
	Free elective 1	3
		26

Year 2 Semester 2

Course		AU
CH2104	Heat & Mass Transfer	4
CH0494	Introduction to Data Science and Artificial Intelligence	3
CH3141	Advanced Unit Operations	3
CH2802	Lab 2B	2
CH3102	Reaction Engineering	4
CH3104	Biochemical Engineering	3
	Free elective 2	3
	CBE elective 1	3
		25

Year 3 Semester 1

Course		AU
CH3101	Process Control and Dynamics	4
CH2140	Unit Operations	4
CH3802	Lab 5	3
CH4101	Chemical, Biological & Plant Safety	2
CH4801	Final Year Design Project	4
ET0001	Enterprise & Innovation	1
HW0288	Engineering Communication II	2
CH2109	Decision Tools for Business & Engineering	3
		23

Year 3 Semester 2

Course		AU
CH4801	Final Year Design Project	4
	CBE elective 2	3
	CBE elective 3	3
	Free elective 3	3
	Free elective 4	3
	Free elective 5	3
		19

Year 4 Semester 1

Course		AU
CH3880	Professional Internship	10
		10

Total (AU) **140**

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake (Direct entry)
with Professional Internship

Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH1102	Introduction to Chemical Engineering in New Era	1	CH1108	Thermodynamics	4
CH1131	Biomolecular Engineering	4	CH1117	Engineering Mathematics	4
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4
CH2106	Introduction to Multidisciplinary Engineering	2	CH3141	Advanced Unit Operations	3
CH2107	Introduction to Computational Thinking	3	CH2802	Lab 2B	2
CH2801	Lab 2A	2	CH3102	Reaction Engineering	4
GC0001	Introduction to Sustainability	1	HW0188	Engineering Communication I	2
MH1810	Math 1	3	ML0001	Absolute Basics for Career	1
HW0001	English Proficiency*				
		20			24
*For students who have not passed or been exempted from the Qualifying English Test at the time of admission.					
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH2109	Decision Tools for Business & Engineering	3	CH2102	Organic Chemistry & Spectrophotometry	4
CH2140	Unit Operations	4	CH0491	Engineers & Society	3
CH3101	Process Control and Dynamics	4	CH3104	Biochemical Engineering	3
CH3103	Chemical Thermodynamics	3	CH4801	Final Year Design Project	4
CH3802	Lab 3	3		CBE elective 1	3
CH4101	Chemical, Biological & Plant Safety	2		GER elective (Any)	3
HW0288	Engineering Communication II	2			
ET0001	Enterprise & Innovation	1			
HY0001	Ethics & Moral Reasoning	1			
		23			20
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH3880	Professional Internship	10	CH4801	Final Year Design Project	4
ML0002	Career Power Up	1		CBE elective 2	3
				CBE elective 3	3
				Free elective	3
		11			13
Total (AU)					111

2nd Major Business (PI Option)

		Academic Units (AU)
University Requirement	General Education Requirement Core (GER-Core)	14
	Engineering Communication I (2 AU)	
	Engineering Communication II (2 AU)	
	Career Preparatory Course (1 AU)	
	Introduction to Data Science and Artificial Intelligence (3 AU)	
	Engineers & Society (3 AU)	
	Introduction to Sustainability; Multidisciplinary Approaches and Solutions (1 AU)	
	Enterprise & Innovation (1 AU)	
	Ethics and Moral Reasoning (1 AU)	
	General Education Requirement Elective (GER-Elective)	0
	GER-Elective in Science, Technology & Society (3 AU)	
	GER-Elective in Liberal Arts (3 AU)	
Major Requirement	CBE Core	93
	Major Prescribed Electives (Major PE)	9
2nd Major in Business	Business Foundation Courses	20
	Track Courses	12
Total AU requirement		148

[^] For students who do not have "A" level Physics.

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake (BM)
with Professional Internship

Year 1 Semester 1			Year 1 Semester 2		
Course		AU	Course		AU
CH1102	Introduction to Chemical Engineering in New Era	1	CH1108	Thermodynamics	4
CH1104	Mass & Energy Balance	4	CH1117	Engineering Mathematics	4
CH1131	Biomolecular Engineering	4	CH1802	Lab 2	1
CH1801	Lab 1	1	CH2102	Organic Chemistry and Spectrophotometry	4
CH2106	Introduction to Multidisciplinary Engineering	2	HW0188	Engineering Communication I	2
MH1810	Math 1	3	AB1501	Marketing	3
HW001	English Proficiency*		BE1401	Business Operations and Processes	4
AD1101	Financial Accounting	4			
AB1201	Financial Management	3			
GC0001	Introduction to Sustainability	1			
		23			22
* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.					
Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4
CH2010	Engineering Statistics	3	CH0494	Introduction to Data Science and Artificial Intelligence	3
CH2107	Introduction to Computational Thinking	3	CH3141	Advanced Unit Operations	3
CH3103	Chemical Thermodynamics	3	CH3102	Chemical Reaction Engineering	4
CH2801	Lab 3	2	CH2802	Lab 4	2
AB1301	Business Law	3	CH3104	Biochemical Engineering	3
HY0001	Ethics & Moral Reasoning	1	AB1601	Organisational Behaviour & Design	3
ML0003	Career Preparatory Course	1			
		20			22
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH3101	Process Control and Dynamics	4	CH3880	Professional Internship	10
CH2140	Unit Operations	4			
CH3802	Lab 5	3			
CH4101	Chemical, Biological & Plant Safety	2			
CH0491	Engineers & Society	3			
ET0001	Enterprise & Innovation	1			
HW0288	Engineering Communication II	2			
		19			10
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH4801	Final Year Design Project	4	CH4801	Final Year Design Project	4
CH2109	Decision Tools for Business & Engineering	3			
	CBE elective 1	3		CBE elective 2	3
	Track Course 1	4		CBE elective 3	3
	Track Course 2	4		Track Course 3	4
		18			14
					148
Total (AU)					148

2nd Major Business (PA Option)

		Academic Units (AU)
University Requirement	General Education Requirement Core (GER-Core)	14
	Engineering Communication I (2 AU)	
	Engineering Communication II (2 AU)	
	Career Preparatory Course (1 AU)	
	Introduction to Data Science and Artificial Intelligence (3 AU)	
	Engineers & Society (3 AU)	
	Introduction to Sustainability; Multidisciplinary Approaches and Solutions (1 AU)	
	Enterprise & Innovation (1 AU)	
	Ethics and Moral Reasoning (1 AU)	
	General Education Requirement Elective (GER-Elective)	0
	GER-Elective in Science, Technology & Society (3 AU)	
GER-Elective in Liberal Arts (3 AU)		
Major Requirement	CBE Core	88
	Major Prescribed Electives (Major PE)	9
2nd Major in Business	Business Foundation Courses	20
	Track Courses	12
Unrestricted Electives	Unrestricted Electives	5
Total AU requirement		148

[^] For students who do not have "A" level Physics.

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake (BM)
with Professional Attachment

Year 1 Semester 1			Year 1 Semester 2		
Course		AU	Course		AU
CH1102	Introduction to Chemical Engineering in New Era	1	CH1108	Thermodynamics	4
CH1104	Mass & Energy Balance	4	CH1117	Engineering Mathematics	4
CH1131	Biomolecular Engineering	4	CH1802	Lab 2	1
CH1801	Lab 1	1	CH2102	Organic Chemistry and Spectrophotometry	4
CH2106	Introduction to Multidisciplinary Engineering	2	HW0188	Engineering Communication I	2
MH1810	Math 1	3			
HW001	English Proficiency*		AB1501	Marketing	3
AD1101	Financial Accounting	4	BE1401	Business Operations and Processes	4
AB1201	Financial Management	3			
GC0001	Introduction to Sustainability	1			
		23			22
* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.					
Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4
CH2010	Engineering Statistics	3	CH0494	Introduction to Data Science and Artificial Intelligence	3
CH2107	Introduction to Computational Thinking	3	CH3141	Advanced Unit Operations	3
CH3103	Chemical Thermodynamics	3	CH3102	Chemical Reaction Engineering	4
CH2801	Lab 3	2	CH2802	Lab 4	2
AB1301	Business Law	3	CH3104	Biochemical Engineering	3
HY0001	Ethics & Moral Reasoning	1			
ML0003	Career Preparatory Course	1			
		20			19
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH3101	Process Control and Dynamics	4	AB1601	Organisational Behaviour and Design	3
CH2140	Unit Operations	4		CBE elective 1	3
CH3802	Lab	3		CBE elective 2	3
CH4101	Chemical, Biological & Plant Safety	2		Free elective 1	3
CH0491	Engineers & Society	3		Free elective 2	2
ET0001	Enterprise & Innovation	1			
HW0288	Engineering Communication II	2			
		19			19
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH4801	Final Year Design Project	4	CH4801	Final Year Design Project	4
CH2109	Decision Tools for Business & Engineering	3			
	CBE elective 3	3		Track Course 2	4
	Track Course 1	4			
	Track Course 2	4			
		18			8
Total (AU)					148

2nd Major Business ITP Track (PI Option)

		Academic Units (AU)
University Requirement	General Education Requirement Core (GER-Core)	14
	Engineering Communication I (2 AU)	
	Engineering Communication II (2 AU)	
	Career Preparatory Course (1 AU)	
	Introduction to Data Science and Artificial Intelligence (3 AU)	
	Engineers & Society (3 AU)	
	Introduction to Sustainability; Multidisciplinary Approaches and Solutions (1 AU)	
	Enterprise & Innovation (1 AU)	
	Ethics and Moral Reasoning (1 AU)	
General Education Requirement Elective (GER-Elective)		0
	GER-Elective in Science, Technology & Society (3 AU)	
	GER-Elective in Liberal Arts (3 AU)	
Major Requirement	CBE Core	93
	Major Prescribed Electives (Major PE)	9
2nd Major in Business	Business Foundation Courses	14
	Track Courses	16
Total AU requirement		146

[^] For students who do not have "A" level Physics.

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake (BM ITP Track)
with Professional Internship

Year 1 Semester 1			Year 1 Semester 2		
Course		AU	Course		AU
CH1102	Introduction to Chemical Engineering in New Era	1	CH1117	Engineering Mathematics	4
CH1104	Mass & Energy Balance	4	CH2102	Organic Chemistry & Spectrophotometry	4
CH1131	Biomolecular Engineering	4	CH1108	Thermodynamics	4
CH1801	Lab 1	1	CH1802	Lab	1
CH2106	Introduction to Multidisciplinary Engineering	2	HW0188	Engineering Communication I	2
MH1810	Math 1	3	AB1501	Marketing	3
HW001	English Proficiency*		BE1401	Business Operations and Processes	4
AD1101	Financial Accounting	4			
AB1201	Financial Management	3			
GC0001	Introduction to Sustainability	1			
		23			22
* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.					
Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4
CH2010	Engineering Statistics	3	CH0494	Introduction to Data Science and Artificial Intelligence	3
CH2107	Introduction to Computational Thinking	3	CH3141	Advanced Unit Operations	3
CH3103	Chemical Thermodynamics	3	CH3102	Chemical Reaction Engineering	4
CH2801	Lab 3	2	CH2802	Lab 4	2
BF2217	Commodity Markets	3	CH3104	Biochemical Engineering	3
ML0003	Career Preparatory Course	1	BF3214	Commodities Trading	2
HY0001	Ethics & Moral Reasoning	1	BF4001	Industry Seminar	1
	CBE elective 1	3			
		23			22
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH3101	Process Control and Dynamics	4	CH3880	Professional Internship	10
CH2140	Unit Operations	4			
CH3802	Lab 5	3			
CH4101	Chemical, Biological & Plant Safety	2			
CH0491	Engineers & Society	3			
BF2216	Trade Incoterms & Ship Chartering	4			
ET0001	Enterprise & Innovation	1			
HW0288	Engineering Communication II	2			
		23			10
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH4801	Final Year Design Project	4	CH4801	Final Year Design Project	4
CH2109	Decision Tools for Business & Engineering	3	BF3212	Trade, Structured & Supply Chain Finance	2
	CBE elective 2	3	BF3213	Enterprise Risk Management	2
	CBE elective 3	3			
BF2302	International Tax and Trading Law	2			
		15			8
Total (AU)					146

2nd Major Business ITP Track (PA)

		Academic Units (AU)
University Requirement	General Education Requirement Core (GER-Core)	14
	Engineering Communication I (2 AU)	
	Engineering Communication II (2 AU)	
	Career Preparatory Course (1 AU)	
	Introduction to Data Science and Artificial Intelligence (3 AU)	
	Engineers & Society (3 AU)	
	Introduction to Sustainability; Multidisciplinary Approaches and Solutions (1 AU)	
	Enterprise & Innovation (1 AU)	
	Ethics and Moral Reasoning (1 AU)	
General Education Requirement Elective (GER-Elective)		0
	GER-Elective in Science, Technology & Society (3 AU)	
	GER-Elective in Liberal Arts (3 AU)	
Major Requirement	CBE Core	88
	Major Prescribed Electives (Major PE)	9
2nd Major in Business	Business Foundation Courses	14
	Track Courses	16
Unrestricted Electives	Unrestricted Electives	5
Total AU requirement		146

[^] For students who do not have "A" level Physics.

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake (BM ITP Track)
with Professional Attachment

Year 1 Semester 1			Year 1 Semester 2		
Course		AU	Course		AU
CH1102	Introduction to Chemical Engineering in New Era	1	CH1117	Engineering Mathematics	4
CH1104	Mass & Energy Balance	4	CH2102	Organic Chemistry & Spectrophotometry	4
CH1131	Biomolecular Engineering	4	CH1108	Thermodynamics	4
CH1801	Lab 1	1	CH1802	Lab 2	1
CH2106	Introduction to Multidisciplinary Engineering	2	HW0188	Engineering Communication I	2
MH1810	Math 1	3	AB1501	Marketing	3
HW001	English Proficiency*		BE1401	Business Operations and Processes	4
AD1101	Financial Accounting	4			
AB1201	Financial Management	3			
GC0001	Introduction to Sustainability	1			
		23			22
* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.					
Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4
CH2010	Engineering Statistics	3	CH0494	Introduction to Data Science and Artificial Intelligence	3
CH2107	Introduction to Computational Thinking	3	CH3141	Advanced Unit Operations	3
CH3103	Chemical Thermodynamics	3	CH3102	Chemical Reaction Engineering	4
CH2801	Lab 3	2	CH2802	Lab 4	2
BF2217	Commodity Markets	3	CH3104	Biochemical Engineering	3
ML0003	Career Preparatory Course	1	BF3214	Commodities Trading	2
HY0001	Ethics & Moral Reasoning	1			
		20			21
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH3101	Process Control and Dynamics	4	BF3213	Enterprise Risk Management	2
CH2140	Unit Operations	4	BF4001	Industry Seminar	1
CH3802	Lab 5	3		CBE elective 1	3
CH4101	Chemical, Biological & Plant Safety	2		CBE elective 2	3
CH0491	Engineers & Society	3		Unrestricted Elective	5
BF2216	Trade Incoterms & Ship Chartering	4			
ET0001	Enterprise & Innovation	1			
HW0288	Engineering Communication II	2			
		23			19
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH4801	Final Year Design Project	4	CH4801	Final Year Design Project	4
CH2109	Decision Tools for Business & Engineering	3	BF3212	Trade, Structured & Supply Chain Finance	2
	CBE elective 3	3			
BF2302	International Tax and Trading Law	2			
		12			6
					Total (AU)
					146

**BEng (Chemical and Biomolecular Engineering) Hons with 2nd Major in Food Science and Technology
AY 2018/2019 onwards**

FST (PI Option)

Curriculum Structure			Academic Unit (AU) Requirement	
			BEng Hons with 2nd Major in Food Science and Technology	BEng Hons
Core			93	93
Major Prescribed Elective (Major PE)			9	9
General Education Requirement (GER)	Core		14	14
	Prescribed Elective (PE)	Liberal Arts (LA)	3	3
		Business & Management (BM)		3
		Science, Technology & Society (STS)	0 [#]	3
	Unrestricted Electives (UE)	UE	0	15
		Food Science and Technology (Core)	18	NA
Food Science and Technology (PE)		15	NA	
Total AUs			152	140

FST (PA Option)

Curriculum Structure			Academic Unit (AU) Requirement	
			BEng Hons with 2nd Major in Food Science and Technology	
Core			88	
Major Prescribed Elective (Major PE)			9	
General Education Requirement (GER)	Core		14	
	Prescribed Elective (PE)	Liberal Arts (LA)	3	
		Business & Management (BM)		
		Science, Technology & Society (STS)	0 [#]	
	Unrestricted Electives (UE)	UE	5	
		Food Science and Technology (Core)	18	
Food Science and Technology (PE)		15		
Total AUs			152	

[#] CH9200 Food Microbiology will be used to satisfy the requirement of PE-STS.

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake (FST)
with Professional Internship

Year 1 Semester 1			Year 1 Semester 2			
Course		AU	Course		AU	
CH1102	Introduction to Chemical Engineering in New Era	1	CH1117	Engineering Mathematics	4	
CH1104	Mass & Energy Balance	4	CH2102	Organic Chemistry and Spectrophotometry	4	
CH1131	Biomolecular Engineering	4	CH1108	Thermodynamics	4	
CH1801	Lab	1	CH1802	Lab	1	
CH2106	Introduction to Multidisciplinary Engineering	2	HW0188	Engineering Communication I	2	
MH1810	Math 1	3		CBE elective 1	3	
HW001	English Proficiency*					
GC0001	Introduction to Sustainability	1				
		16			18	
* For students who have not passed or been exempted from the Qualifying English test at the time of admission.						
Year 2 Semester 1			Year 2 Semester 2			
Course		AU	Course		AU	
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4	
CH2010	Engineering Statistics	3	CH3141	Advanced Unit Operations	3	
CH2107	Introduction to Computational Thinking	3	CH3102	Chemical Reaction Engineering	4	
CH3103	Chemical Thermodynamics	3	CH2802	Lab	2	
CH2801	Lab	2	CH9200	Food Microbiology	3	
CH9201	Food Chemistry	5	CH3104	Biochemical Engineering	3	
	GER-UE (FST)	3	CH0494	Introduction to Data Science and Artificial Intelligence	3	
ML0003	Career Preparatory Course	1		GER-UE (FST)	3	
HY0001	Ethics & Moral Reasoning	1				
		25			25	
Year 3 Semester 1			Year 3 Semester 2			
Course		AU	Course		AU	
CH3101	Process Control and Dynamics	4	CH3880	Professional Internship	10	
CH2140	Unit Operations	4				
CH3802	Lab	3				
CH4101	Chemical, Biological & Plant Safety	2				
CH0491	Engineers & Society	3				
CH9203	Food Process Engineering	5				
ET0001	Enterprise & Innovation	1				
HW0288	Engineering Communication II	2				
		24			10	
Year 4 Semester 1			Year 4 Semester 2			
Course		AU	Course		AU	
CH4801	Final Year Design Project	4		GER-UE (FST)	3	
CH2109	Decision Tools for Business & Engineering	3				
	CBE elective 2	3	CH4801	Final Year Design Project	4	
	CBE elective 3	3	CH9202	Food Physics	3	
	GERPE (BM/LA)	3	CH9204	Quality Systems Operations	2	
	GER-UE (FST)	3		GER-UE (FST)	3	
		19			15	
					Total (AU)	152

B.Eng. (Chemical & Biomolecular Engineering)
Suggested Study Plan for AY2018-2019 intake (FST)

with Professional Attachment

Year 1 Semester 1			Year 1 Semester 2		
Course		AU	Course		AU
CH1102	Introduction to Chemical Engineering in New Era	1	CH1117	Engineering Mathematics	4
CH1104	Mass & Energy Balance	4	CH2102	Organic Chemistry and Spectrophotometry	4
CH1131	Biomolecular Engineering	4	CH1108	Thermodynamics	4
CH1801	Lab	1	CH1802	Lab	1
CH2106	Introduction to Multidisciplinary Engineering	2	HW0188	Engineering Communication I	2
MH1810	Math 1	3			
HW001	English Proficiency*				
GC0001	Introduction to Sustainability	1			
		16			15
* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.					
Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4
CH2010	Engineering Statistics	3	CH3141	Advanced Unit Operations	3
CH2107	Introduction to Computational Thinking	3	CH3102	Chemical Reaction Engineering	4
CH3103	Chemical Thermodynamics	3	CH2802	Lab	2
CH2801	Lab	2	CH0494	Introduction to Data Science and Artificial Intelligence	3
CH9201	Food Chemistry	5	CH9200	Food Microbiology	3
	GER-UE (FST)	3	CH3104	Biochemical Engineering	3
ML0003	Career Preparatory Course	1		GER-UE (FST)	3
HY0001	Ethics & Moral Reasoning	1			
		25			25
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH3101	Process Control and Dynamics	4	CH9202	Food Physics	3
CH2140	Unit Operations	4	CH9204	Quality Systems Operations	2
CH3802	Lab	3		CBE elective 1	3
CH4101	Chemical, Biological & Plant Safety	2		CBE elective 2	3
CH0491	Engineers & Society	3		CBE elective 3	3
CH9203	Food Process Engineering	5			
ET0001	Enterprise & Innovation	1			
HW0288	Engineering Communication II	2			
		24	Year 3 Special Semester		
			CH3885	Professional Attachment	5
					19
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH4801	Final Year Design Project	4		GER-UE (FST)	3
CH2109	Decision Tools for Business & Engineering	3			
	GER-UE (FST)	3	CH4801	Final Year Design Project	4
	GER-UE (FST)	3		Free elective 3	3
	GERPE (BM/LA)	3		Free elective 4	2
		16			12
			Total (AU)		152

CBE

Course Type	AU Required
Core Courses	119
Major Prescribed Electives	3
GER-Core	17
GERPE	0
Unrestricted Electives	3
Total	142

B.Eng. (Chemical & Biomolecular Engineering)					
Suggested Study Plan for AY18-19 intake (CN Yang)					
<u>with Professional Attachment</u>					
Year 1 Semester 1			Year 1 Semester 2		
Course		AU	Course		AU
CY1001	Introduction to Biology	3	CY1007	Climate Change	3
CY1101	Principles of Modern Chemistry	3	CY1307	Relativity and Quantum Physics	3
CY1308	Physics	3	CY1400	CN Yang Scholars Programme Undergraduate Research Experience	3
CY1500	Introductory Research Methodology	3	CY1602	Mathematics II	4
CY1601	Mathematics I	4	CH1108	Thermodynamics	4
CH1102	Introduction to Chemical Engineering	1	CH2102	Organic Chemistry and Spectrophotometry	4
CH1104	Materials & Energy Balance	4			
CH2106	Introduction to Multidisciplinary Engineering	2	Year 1 Special Term		AU
GC0001	Introduction to Sustainability	1	CY2003	Research Attachment 3 (Making & Tinkering) Overseas Learning Trip	4
HW0001	English Proficiency*				
		24			25
<i>*For students who have not passed or been exempted from the Qualifying English Test at the time of admission.</i>					
Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH2107	Introduction to Computational Thinking	3	CH2104	Heat & Mass Transfer	4
CH1131	Biomolecular Engineering	4	CH0494	Introduction to Data Science and Artificial Intelligence	3
CH2103	Fluids Systems	4	CH3141	Advanced Unit Operations	3
CH3103	Chemical Thermodynamics	3	CH2802	Lab 4	2
CY0001	Writing & Reasoning	3	CH3104	Biochemical Engineering	3
CY2001	Research Attachment I	4	CH3102	Chemical Reaction Engineering	4
			CY0002	Ethics	3
			ML0003	Career Preparatory Course	1
		21			23
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH3101	Process Control and Dynamics	4	CH4211	CNYSPP Overseas Final Year Project	8
CH0491	Engineers & Society	3			
CH2140	Unit Operations	4			
CH3802	Lab 5	3			
CH4101	Chemical, Biological & Plant Safety	2			
CH2109	Decision Tools for Business & Engineering	3	Year 3 Special Terms		AU
CY0006	Enterprise, Innovation and Leadership	3	CH3885	Professional Attachment	5
		22			13
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH4801	Final Year Design Project	4	CH4801	Final Year Design Project	4
	CBE elective	3			
	Free elective 1	3			
		10			4
			Total (AU)		142

USP**CBE**

Course Type	AU Required (new)
Core Courses	93
Major Prescribed Electives	9
USP Core	12
GER-Core	10
GER-PE –BM	0
GER-PE –STS	0
GER-PE –LA	0
GER-PE –Any Category	0
USP Electives	15
Unrestricted Electives	3
Total	142

B.Eng. (Chemical & Biomolecular Engineering)

Suggested Study Plan for AY2018-2019 intake (USP) with Professional Internship

Year 1 Semester 1			Year 1 Semester 2		
Course		AU	Course		AU
MH1810	Math 1	3	CH1117	Engineering Mathematics	4
CH1102	Introduction to Chemical Engineering in New Era	1	CH2102	Organic Chemistry and Spectrophotometry	4
CH1104	Materials & Energy Balance	4	CH1108	Thermodynamics	4
CH2106	Introduction of Multidisciplinary Engineering	2	CH1802	Lab 2	1
CH1131	Biomolecular Engineering	4	SP0002	Ethics	3
CH1801	Lab 1	1	SP0007	Fieldwork and Documentation	3
SP0001	Writing and Reasoning	3			
SP0005	Quantitative Reasoning	3			
GC0001	Introduction to Sustainability	1			
HW0001	English Proficiency*				
		22			19
*For students who have not passed or been exempted from the Qualifying English Test at admission.					
Year 2 Semester 1			Year 2 Semester 2		
Course		AU	Course		AU
CH2103	Fluid Systems	4	CH2104	Heat & Mass Transfer	4
CH2010	Engineering Statistics	3	CH0494	Introduction to Data Science and Artificial Intelligence	3
CH2107	Introduction to Computational Thinking	3	CH3141	Advanced Unit Operations	3
CH3103	Chemical Thermodynamics	3	CH3102	Chemical Reaction Engineering	4
CH2801	Lab 3	2	CH2802	Lab 4	2
ML0003	Career Preparatory Course	1	CH3104	Biochemical Engineering	3
HY0001	Ethics & Moral Reasoning	1		USP Elective 2	3
	USP Elective 1	3			
		20			22
Year 3 Semester 1			Year 3 Semester 2		
Course		AU	Course		AU
CH3101	Process Control and Dynamics	4	CH3880	Professional Internship	10
CH2140	Unit Operations	4			
CH3802	Lab 5	3			
CH4101	Chemical, Biological & Plant Safety	2			
CH0491	Engineers & Society	3			
ET0001	Enterprise & Innovation	1			
	USP Elective 3	3			
	USP Elective 4	3			
		23			10
Year 4 Semester 1			Year 4 Semester 2		
Course		AU	Course		AU
CH2109	Decision Tools for Business & Engineering	3			
CH4801	Final Year Design Project	4	CH4801	Final Year Design Project	4
	CBE Elective 1	3		CBE Elective 3	3
	CBE Elective 2	3		Free Elective 1	3
	USP Elective 5	3			
		16			10
					142
Total (AU)					142

CBEC (PI Option)

Category		AU	
Core		93	141
Major Prescribed	CBE	9	
Electives (Major PE)	Economics	39	
GER Core		14	14
GER Elective		0	
Free Elective (Economics <Core>)		25	
Total		180	

CBEC (PA Option)

Category		AU	
Core		88	136
Major Prescribed	CBE	9	
Electives (Major PE)	Economics	39	
GER Core		14	19
GER Elective		5	
Free Elective (Economics <Core>)		25	
Total		180	

Double Degree in Engineering and Economics
B.Eng. (Chemical & Biomolecular Engineering) and Economics
Suggested Study Plan for AY2018-2019 intake
with Professional Internship

Year 1 Semester 1

Course	AU
MH1810 Math 1	3
CH1102 Introduction to Chemical Engineering in New Era	1
CH1104 Materials & Energy Balance	4
CH2106 Introduction to Multidisciplinary Engineering	2
CH1131 Biomolecular Engineering	4
CH1801 Lab 1	1
HE1001 Microeconomics Principles	3
HE1002 Macroeconomics Principles	3
HW001 English Proficiency*	
GC0001 Introduction to Sustainability	1
22	

Year 1 Semester 2

Course	AU
CH1117 Engineering Mathematics	4
CH2102 Organic Chemistry and Spectrophotometry	4
CH1108 Thermodynamics	4
CH1802 Lab 2	1
HW0188 Engineering Communication I	2
HE1005 Intro to Probability & Statistical Inference	3
HE2001 Intermediate Microeconomics	3
21	

* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.

Year 2 Semester 1

Course	AU
CH2103 Fluid Systems	4
CH2010 Engineering Statistics	3
CH2107 Introduction to Computational Thinking	3
CH3103 Chemical Thermodynamics	3
CH2801 Lab 3	2
HE2005 Principles of Econometrics	3
ML0003 Career Preparatory Course	1
HY0001 Ethics & Moral Reasoning	1
20	

Year 2 Semester 2

Course	AU
CH2104 Heat & Mass Transfer	4
CH0494 Introduction to Data Science and Artificial Intelligence	3
CH3141 Advanced Unit Operations	3
CH3102 Chemical Reaction Engineering	4
CH2802 Lab 4	2
CH3104 Biochemical Engineering	3
HE3021 Intermediate Econometrics	3
HE2002 Intermediate Macroeconomics	3
25	

Year 3 Semester 1

Course	AU
CH3101 Process Control and Dynamics	4
CH2140 Unit Operations	4
CH3802 Lab 5	3
CH4101 Chemical, Biological & Plant Safety	2
CH0491 Engineers & Society	3
HE4010 Singapore Economy in A Globalized World	4
ET0001 Enterprise & Innovation	1
HW0288 Engineering Communication II	2
23	

Year 3 Semester 2

Course	AU
CH3880 Professional Internship	10
10	

Year 4 Semester 1

Course	AU
CH4801 Final Year Design Project	4
CH2109 Decision Tools for Business & Engineering	3
CBE elective 1	3
CBE elective 2	3
Econs elective 1	3
Econs elective 2	3
	19

Year 4 Semester 2

Course	AU
CH4801 Final Year Design Project	4
CBE elective 3	3
Econs elective 3	3
Econs elective 4	3
	13

Year 5 Semester 1

Course	AU
Econs elective 5	3
Econs elective 6	3
Econs elective 7	3
Econs elective 8	3
Econs elective 9	3
	15

Year 5 Semester 2

Course	AU
Econs elective 10	4
Econs elective 11	4
Econs elective 12	4
	12

Total (AU) 180

Double Degree in Engineering and Economics
B.Eng. (Chemical & Biomolecular Engineering) and Economics
Suggested Study Plan for AY2018-2019 intake
with Professional Attachment

Year 1 Semester 1

Course		AU
MH1810	Math 1	3
CH1102	Introduction to Chemical Engineering in New Era	1
CH1104	Materials & Energy Balance	4
CH2106	Introduction to Multidisciplinary Engineering	2
CH1131	Biomolecular Engineering	4
CH1801	Lab 1	1
HE1001	Microeconomics Principles	3
HE1002	Macroeconomics Principles	3
HW001	English Proficiency*	
GC0001	Introduction to Sustainability	1

22

Year 1 Semester 2

Course		AU
CH1117	Engineering Mathematics	4
CH2102	Organic Chemistry and Spectrophotometry	4
CH1108	Thermodynamics	4
CH1802	Lab 2	1
HW0188	Engineering Communication I	2
HE1005	Intro to Probability & Statistical Inference	3
HE2001	Intermediate Microeconomics	3

21

* For students who have not passed or been exempted from the Qualifying English Test at the time of admission.

Year 2 Semester 1

Course		AU
CH2103	Fluid Systems	4
CH2010	Engineering Statistics	3
CH2107	Introduction to Computational Thinking	3
CH3103	Chemical Thermodynamics	3
CH2801	Lab 3	2
HE2005	Principles of Econometrics	3
ML0003	Career Preparatory Course	1
HY0001	Ethics & Moral Reasoning	1

20

Year 2 Semester 2

Course		AU
CH2104	Heat & Mass Transfer	4
CH0494	Introduction to Data Science and Artificial Intelligence	3
CH3141	Advanced Unit Operations	3
CH3102	Chemical Reaction Engineering	4
CH2802	Lab 4	2
HE2002	Intermediate Macroeconomics	3
CH3104	Biochemical Engineering	3

22

Year 3 Semester 1

Course		AU
CH3101	Process Control and Dynamics	4
CH2140	Unit Operations	4
CH3802	Lab 5	3
CH4101	Chemical, Biological & Plant Safety	2
CH0491	Engineers & Society	3
HE4010	Singapore Economy in A Globalized World	4
ET0001	Enterprise & Innovation	1
HW0288	Engineering Communication II	2

23

Year 3 Semester 2

Course		AU
HE3021	Intermediate Econometrics	3
	Econs Elective 1	3
	Econs Elective 2	3
	Econs Elective 3	3
	Econs Elective 4	3
	Free elective 1	3

Year 3 Special Semester

CH3885	Professional Attachment	5
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23

Year 4 Semester 1

Course	AU
CH4801 Final Year Design Project	4
CH2109 Decision Tools for Business & Engineering	3
CBE elective 1	3
CBE elective 2	3
Econs Elective 5	3
	16

Year 4 Semester 2

Course	AU
CH4801 Final Year Design Project	4
CBE elective 3	3
Free elective 2	2
	9

Year 5 Semester 1

Course	AU
Econs Elective 6	3
Econs Elective 7	3
Econs Elective 8	3
Econs Elective 9	3
	12

Year 5 Semester 2

Course	AU
Econs Elective 10	4
Econs Elective 11	4
Econs Elective 12	4
	12

Total (AU)**180**