CBE University Scholars Programme (USP)

AY2020 - 2021 Intake onwards

Programme	Year of Study	Number of Academic Units (AUs)						
		Major Requirements		USP Requirement		General Education Requirement (GER)		Total
		Core	Major PE	USP Core	USP PE	GER Core	UE	
Chemical & Biomolecular Engineering (PI@)	1	27/28^		12		6		45/46^
	2	34			3	4		41
	3	24			3			27
	4	8	9		9		3	29
	Total	**93/94^**	**9**	**12**	**15**	**10**	**3**	**142/143^**

Category		Academic Units (AUs)	Total Aus
University Requirement	**General Education Requirement Core (GER-Core)**		10
	ET0001 Enterprise and Innovation	1	
	GC0001 Sustainability: Seeing through the haze	1	
	HY0001 Ethics and Moral Reasoning	1	
	ML0003 Kickstart your career	1	
	CB0494 Introduction to Data Science and Artificial Intelligence	3	
	EG0001 Engineers and Society	3	
	General Education Requirement Elective (GER-Elective)		0
	GER-Elective in Business Management (BM)		
	GER- Elective in Liberal Arts (LA)		
	GER-Elective in Science, Technology & Society (STS)		
Major Requirement	CBE Core		93/94^
	Major Prescribed Electives (Major PE)		9
USP Courses	USP Core		12
	USP Electives		15
Unrestricted Electives			3
Total			**142/143^**

^For students without 'A' level physics

B.Eng. (Chemical & Biomolecular Engineering)

Suggested Study Plan for AY2020-2021 intake (USP)

with Professional Internship

Year 1 Semester 1

Course		Type	AU
CB1102	Introduction to Chemical and Biomedical Engineering	C	1
CB2106	Introduction to Multidisciplinary Engineering	C	2
CB1131	**Engineering Fundamentals 1** Introduction to Biomolecular Engineering	C	3
CH1801	Chemical & Biomolecular Engineering Laboratory 1A	C	1
MH1810	Math 1	C	3
GC0001	Sustainability: Seeing Thru The Haze	GC	1
HW0001	Introduction to Academic Communication'		
SP0001	Writing and Reasoning	C	3
SP0005	Quantitative Reasoning	C	3
HY0001	Ethics & Moral Reasoning	GC	1
ET0001	Entrepreneurship & Innovation	GC	1
PH1011	Physics	C	3
PH1012	*or* Physics A *(^ For students without 'A' Level Physics)*		4
			22 ^ 23

Year 1 Semester 2

Course		Type	AU
CB1117	Engineering Mathematics	C	4
CH1104	Materials & Energy Balance	C	3
CB2102	Organic Chemistry For Engineers	C	3
CH1802	Chemical & Biomolecular Engineering Laboratory 2	C	1
SP0002	Ethics Seminar	C	3
SP0007	Field Work and Documentation	C	3
	Engineering Fundamentals 2 +	**C**	3
EG0001	Engineers & Society	GC	3
			23

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

Year 2 Semester1

Course		Type	AU
CH2107	Introduction to Computational Thinking	C	3
CH2103	Fluid Systems	C	4
CH2010	Engineering Statistics	C	3
CH1108	Thermodynamics	C	3
CH2801	Chemical & Biomolecular Engineering Laboratory 2A	C	2
	USP elective 1	P	3
ML0003	Kickstart your Career Success	GC	1
			19

Year 2 Semester 2

Course		Type	AU
CH2104	Heat & Mass Transfer in Chemical and Biological Systems	C	4
CH3102	Chemical Reaction Engineering	C	4
CH3103	Chemical Thermodynamics	C	3
CH3141	Unit Operations A	C	3
CH3104	Biochemical Engineering	C	3
CH2802	Chemical & Biomolecular Engineering Laboratory 2B	C	2
CB0494	Introduction to Data Science and Artificial Intelligence	GC	3
			22

Year 3 Semester 1

Course		Type	AU
CH2140	Unit Operations B	C	3
CH3111	Process Control and Dynamics	C	3
CH2109	Decision Tools for Business & Engineering	C	3
CH4101	Chemical, Biological & Plant Safety	C	2
CH3802	Chemical & Biomolecular Engineering Laboratory 5	C	3
	USP elective 2	P	3
			17

Year 3 Semester 2

Course		Type	AU
CH3880	Professional Internship	C	10
			10

Year 4 Semester 1

Course		Type	AU
CH4801	Final Year Design Project	C	4
	CBE PE 1	P	3
	CBE PE 2	P	3
	USP elective 3	P	3
	USP elective 4	P	3
			16

Year 4 Semester 2

Course		Type	AU
CH4801	Final Year Design Project	C	4
	CBE PE 3	P	3
	Free elective 1	UE	3
	USP elective 5	P	3
			13
	Total (AU)		**142** **143^**

+ students can choose from list of EF courses