

CBE Curriculum and Course Syllabus (AY2223 Intake)

The following is the recommended curriculum for CBE students:

Year 1 Semester 1	Course Type	Course Code	Course Title	AU
	Core	CB1102	Introduction to Chemical and Biomedical Engineering	1
	Core	CB1131	Introduction to Biomolecular Engineering	3
	Core	CH1801	Chemical & Biomolecular Engineering Laboratory 1A	1
	Core	MH1810	Math 1	3
	Core	PH1011 or PH1012	Physics or Physics A [^]	3 or 4 [^]
	Common-Core	CC0001	Inquiry and Communication in the Interdisciplinary World	2
	Common-Core	CC0002	Navigating the Digital World	2
	BDE		Broadening & Deepening Electives 1	3
			Total AUs	18 or 19[^]

[^]For students without 'A' Level Physics

Year 1 Semester 2	Course Type	Course Code	Course Title	AU
	Core	CB1103	Organic Chemistry for Engineers	3
	Core	CB1117	Engineering Mathematics	4
	Core	CH1104	Materials & Energy Balance	3
	Core	CH1802	Chemical & Biomolecular Engineering Laboratory 2	1
	Core	EG1001	Engineers in Society	2
	Common-Core	CC0003	Ethics & Civics in a Multi-Cultural World	2
	Common-Core	CC0005	Healthy Living & Well-being	3
	BDE		Broadening & Deepening Electives 2	3
			Total AUs	21

Year 2 Semester 1	Course Type	Course Code	Course Title	AU
	Core	CH2103	Fluid Systems	3
	Core	CH2107	Introduction to Computational Thinking	3
	Core	CH2108	Thermodynamics	3
	Core	CH2010	Engineering Statistics	3
	Core	CH2801	Chemical & Biomolecular Engineering Laboratory 2A	2
	Common-Core	CC0006	Sustainability: Society, Economy & Environment	3
	Common-Core	ML0004	Career and Entrepreneurial Development for the Future World	2
			Total AUs	19

Year 2 Semester 2	Course Type	Course Code	Course Title	AU
	Core	CH2112	Chemical Reaction Engineering	3
	Core	CH2114	Heat & Mass Transfer in Chemical and Biological Systems	3
	Core	CH2123	Chemical Thermodynamics	3
	Core	CH2151	Unit Operations - Fluid-Solid Separation	3
	Core	CH2802	Chemical & Biomolecular Engineering Laboratory 2B	2
	Foundational-Core	CB0494	Introduction to Data Science and Artificial Intelligence	3
	Common-Core	CC0007	Science & Technology for Humanity	3
			Total AUs	20

Year 3 Semester 1	Course Type	Course Code	Course Title	AU
	Core	CH3104	Biochemical Engineering	3
	Core	CH3109	Decision Tools for Business & Engineering	3
	Core	CH3111	Process Control and Dynamics	3
	Core	CH3121	Chemical, Biological & Plant Safety	2
	Core	CH3140	Unit Operations - Fluid-Fluid Separation	3
	Core	CH3802	Chemical & Biomolecular Engineering Laboratory 5	3
	Foundational-Core	HW0288	Engineering Communication	2
			Total AUs	19

Year 3 Semester 2	Course Type	Course Code	Course Title	AU
	Foundational-Core	CH3880	Professional Internship [#]	10
			Total AUs	10

#Professional Internship (PI) is offered in year 3 sem 2 or year 4 sem 1

Year 4 Semester 1	Course Type	Course Code	Course Title	AU
	Core	CH4801	Final Year Design Project	4
	Major PE		CBE Elective 1	3
	BDE		Broadening & Deepening Electives 3	3
	BDE		Broadening & Deepening Electives 4	3
	BDE		Broadening & Deepening Electives 5	3
	Total AUs			16

Year 4 Semester 2	Course Type	Course Code	Course Title	AU
	Core	CH4801	Final Year Design Project	4
	Major PE		CBE Elective 3	3
	BDE		Broadening & Deepening Electives 6	3
	BDE		Broadening & Deepening Electives 7	3
Total AUs			13	