



CHEMICAL BIOCHEMICAL AND
ENVIRONMENTAL ENGINEERING

B.S. Chemical Engineering - Traditional Track

Sample Academic Pathway

Degree Requirements		Curriculum Notes		
Total Credits: 129 - 130 Major Credits: 101 Min. Upper-Level Credits: 45 Minimum Cumulative GPA: 2.0		<ul style="list-style-type: none">This sample plan assumes no AP/IB/CLEP or transfer credit, foreign language proficiency up to the 201 level and a math placement level of MATH 151All students must complete a credit-bearing English and Mathematics course in the first year of studyGateway Course Information: advising.coeit.umbc.edu/gateway-information/cbee-gatewayCourses with an * symbol are benchmark requirements. Courses with an ^ symbol are gateway courses. For complete information on degree requirements, reference the Undergraduate Course Catalog (catalog.umbc.edu). Your personal program of study may vary.		
FALL SEMESTER		SPRING SEMESTER		
Year 1	Course	Credits	Course	Credits
	CHEM 101 (S non-lab GEP) Principles of Chemistry I	4	**CHEM 102 (S non-lab GEP) Principles of Chemistry II	4
	*MATH 151 (MATH GEP) Calculus & Analytic Geometry I	4	*CHEM 102L (Lab GEP) Introductory Chemistry Lab	2
	**ENES 101/101Y/101H Introduction to Engineering	3-4	PHYS 121 Introductory Physics I	4
	ENGL GEP	3	**MATH 152 Calculus & Analytic Geometry II	4
	AH GEP	3	ENME 110 Statics	3
	Total:	17-18	Total:	17
Year 2	Course	Credits	Course	Credits
	**ENCH 215 Chemical Engineering Analysis	3	ENCH 225L Chemical Engineering Problem Solving & Experiment Design Lab	4
	CHEM 351 Organic Chemistry I	3	CHEM 351L Organic Chemistry Lab	2
	MATH 251 Multivariable Calculus	4	*MATH 225 Introduction to Differential Equations	3
	PHYS 122 Introductory Physics II	4	Advanced Science Elective (see approved list)	3
	AH GEP	3	AH GEP	3
			SS GEP	3
Total:	17	Total:	18	
Year 3	Course	Credits	Course	Credits
	*ENCH 300 Chemical Process Thermodynamics	3	*ENCH 427 Transport Processes II: Mass Transfer	3
	*ENCH 425 Transport I: Fluids	3	*ENCH 440 Chemical Engineering Kinetics	3
	CHEM 301 Physical Chemistry I	4	ENCH 442 Chemical Engineering Systems Analysis	3
	CHEM 311L Advanced Laboratory I	3	CHEM 302 Physical Chemistry II	3
	Foreign Language 201	4	SS GEP	3
	Total:	17	Total:	15
Year 4	Course	Credits	Course	Credits
	ENCH 444 Process Engineering Economics & Design I	3	ENCH 446 Process Engineering Economics & Design II	4
	ENCH 445 Separation Processes	3	ENCH XXX Chemical Engineering Elective	3
	ENCH 437L Chemical Engineering Lab (WI)	3	ENCH XXX Chemical Engineering Elective	3
	ENCH XXX Chemical Engineering Elective	3	SS GEP	3
	C GEP	3		
	Total:	15	Total:	13