

CHEMICAL BIOCHEMICAL AND ENVIRONMENTAL ENGINEERING

B.S. Chemical Engineering – Environmental Engineering & Sustainability Track

Sample Academic Pathway

Degree Requirements			Curriculum Notes		
 This sample plan assumes no of MATH 151 All students must complete a Gateway Course Information: Courses with an * symbol are For complete information on degree restudy may vary. 		es no AP/IB/CLEF ete a credit-bearir tion: advising.co I are benchmark e requirements, r	o AP/IB/CLEP or transfer credit, foreign language proficiency up to the 201 level and a math placement level a credit-bearing English and Mathematics course in the first year of study at advising.coeit.umbc.edu/gateway-information/cbee-gateway e benchmark requirements. Courses with an ^ symbol are gateway courses. equirements, reference the Undergraduate Course Catalog (catalog.umbc.edu). Your personal program of		
FALL SEMESTER			SPRING SEMESTER		
Freshman	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	ENMES 110 Statics	3	
	Total:	17-18	Total:	17	
Sophomore	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 352 Organic Chemistry II	3	
	*MATH 251 Multivariable Calculus	4	*MATH 225 Introduction to Differential Equations	3	
	PHYS 122 Introductory Physics II	4	ENCH 210 Intro to Environmental Engineering or Advanced Science Elective	3	
	AH GEP	3	AH GEP	3	
	Total:	17	Total:	16	
Junior	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	
	ENCH 410 Environmental Chemistry	3	ENCH 442 Chemical Engineering Systems Analysis	3	
	Foreign Language GEP	4	CHEM 303 Physical Chemistry for Biochemical Science	3	
	SS GEP	3	SS GEP	3	
	Total:	16	Total:	15	
Senior	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 412 Environmental Physiccochem. Processes	3	
	ENCH 414 Environmental Biological Processes	3	ENCH XXX Chemical Engineering Elective	3	
	ENCH 437L Chemical Engineering Lab (WI)	3	ENCH XXX Chemical Engineering Elective	3	
	C GEP	3	SS GEP	3	
	Total:	15	Total:	16	