

Chemical Engineering Sample Curriculum

	WU Course	Fall	Spring
Home Institution (3-4 years)			
Calculus II, III	Math 132, 233	3	3
Differential Equations	Math 217	3	
General Chemistry I, II	Chem 111A, 112A	3	3
General Chemistry Laboratory I, II	Chem 151, 152	2	2
General Physics I, II	Physics 191, 192	3	3
General Physics Lab I, II	Physics 191L, 192L	1	1
Organic Chemistry I and Lab	Chem 261	4	
Strongly recommended (and can count as a Chemical Engineering Elective*): Physical Chemistry	Chem 401		3
Intro Computer Science (+ MATLAB experience helpful)	CSE 131		3
Principles of Biology I (cellular, molecular & developmental bio)	Bio 2960		4
English Composition	CWP 100	3	
Humanities and social science electives		9	6
Additional home institution degree requirements		varies	varies
90 units or more of transferable college credit	Subtotal	90+ to transfer	
First Year of Dual Degree Curriculum at WashU			
Numbers in bold denote courses typically offered in both fall and spring semesters			
Topics in Energy, Environmental and Chemical Engineering	EECE 103	1	
Process Analysis and Thermodynamics	EECE 205	4	
Materials Science	EECE 305	3	
Chemical Engineering Elective*	EECE XXX	3	
Engineering Mathematics A	ESE 318	3	
Engineering Mathematics B	ESE 319	3	
Computational Modeling in EECE	EECE 202		3
Thermodynamics II in EECE	EECE 204		3
Transport Phenomena I: Basics and Fluid Mechanics	EECE 301		3
Mass Transfer Operations	EECE 304		3
Engineering Statistics with Probability	ENGR 328		3
Technical Writing	ENGR 310		3
	Subtotal	17	18
Second Year of Dual Degree Curriculum at WashU			
Transport Phenomena II: Energy and Mass Transfer	EECE 307	4	
Chemical Process Dynamics & Control	EECE 401	3	
Chemical Reaction Engineering	EECE 403	3	
Unit Operations Laboratory	EECE 405	4	
Process Design, Economics and Simulation	EECE 409	2	
Chemical Engineering Electives*			12
ChE Capstone	EECE 402		3
Engineering Professional Practice (consider ENGR 450F)	ENGR 4501, 4502, 4503		3
	Subtotal	16	18
60 units or more must be taken at Washington Univ.	Total	60+ for WU degree	

*Of the 18 total required Chemical Engineering Electives units, 9 must be taken in EECE. The remaining 9 units are often transferred in from the home institution; upper division chemistry, mathematics, and physics courses are often acceptable. This sample curriculum assumes that only 3 units are transferred in.

MEng candidates may choose to earn both degrees after the third year, which allows for spreading out the coursework. Consult with EECE faculty advisor regarding a modified undergraduate/graduate course sequence. 84 minimum WashU residency units are required for MEng degree.