



B.S. in Applied Chemical Engineering (ACHE)
Four-year Academic Plan
Digital/Business Foundation

Freshman Year													
Course	Type	Title	LT	LB	Cr	Course	Type	Title	LT	LB	Cr		
CHEM 101	MS	General Chemistry	3	4	4	CHEM 102	MS	General Chemistry II	3	4	4		
ENGL 101	GS	Intro. to Academic Discourse	3	0	3	ENGL 102	GS	Introduction to report writing	3	0	3		
IAS 121	GS	Language Foundation	2	0	2	ICS 104	DF	Intro. to Programm. In Python & C	2	3	3		
MATH 101	MS	Calculus I	4	0	4	MATH 102	MS	Calculus II	4	0	4		
PE 101	GS	Health and Physical Education I	0	2	1	PHYS 102	MS	General Physics II	3	3	4		
PHYS 101	MS	General Physics I	3	3	4								
			Total	15	9	18				Total	15	10	18
Sophomore Year													
Course	Type	Title	LT	LB	Cr	Course	Type	Title	LT	LB	Cr		
CHE 200	CR	Principles of Chem. Engineering	3	2	3	CHE 204	CR	Fluid Mechanics	3	0	3		
CHEM 201	MS	Organic Chemistry I	3	4	4	CHE 212	CR	Intro. to Chem Engg. Comp.	1	3	2		
ENGL 214	GS	Academic & Professional Comn.	3	0	3	COE 292	DF	Intro. to Artificial Intelligence	3	0	3		
IAS 111	GS	Belief & Its Consequences	2	0	2	IAS 212	GS	Professional Ethics	2	0	2		
ISE 291	DF	Intro. to Data Science	3	0	3	MATH 202	MS	Elements of Diff. Eq.	3	0	3		
MATH 201	MS	Calculus III	3	0	3	ME 207	MS	Materials Science for CHE	2	0	2		
			Total	17	6	18				Total	14	3	15
Junior Year													
Course	Type	Title	LT	LB	Cr	Course	Type	Title	LT	LB	Cr		
CHE 300	CR	Heat Transfer	3	0	3	BUS 200	DF	Business & Entrepreneurship	3	0	3		
CHE 303	CR	Chemical Engineering Therm.	3	0	3	CHE 306	CR	Separation Processes	3	0	3		
CHE 304	CR	Mass Transfer	3	0	3	CHE 309	CR	Chem. Engg Lab I	0	6	2		
CHEM 311	MS	Physical Chemistry II	3	4	4	CHE 360	CR	Numerical Methods in Chem. Engg	3	0	3		
IAS xxx	GS	Islamic/Arabic Elective	2	0	2	GS xxx	GS	GS Elective	3	0	3		
STAT 319	MS	Probability & Stats. for Engrs.	2	3	3	XXX xxx	FE	General Elective	3	0	3		
			Total	16	7	18				Total	15	8	18

Senior Year											
Course	Type	Title	LT	LB	Cr	Course	Type	Title	LT	LB	Cr
CHE 398	CR	Internship	0	0	6	CHE 401	CR	Process Dynamics and Control	3	0	3
						CHE 402	CR	Kinetics & Reactor Design	3	0	3
						CHE 405	CR	Process Design and Econ.	3	0	3
						CHE 409	CR	Chem. Engg Lab II	0	6	2
						CHE 412	CR	Integrated Design Course	1	6	3
						CHE 4xx	CE	Chem. Engg. Elective I	3	0	3
Total			0	0	6	Total			13	12	17

Total Credit Hours	128
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MS	Math and Science	43
GS	General Studies	22
CR	Core Subjects	45
CE	Core Electives	3
EN	Engineering Electives	0
TE	Technical Electives	0
FE	Free Electives	3
DF	Digital/Business Foundation	12
Total		128
Total Core (CR+CE)		48
Total Engineering (Total Core+EN)		48