

Bachelor of Science in Chemical Engineering for Full Time Students

Four Year Study Plan as of Academic Year 2025/2026

FRESHMAN YEAR (36 Credit Hours)

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lec	Lab					Lec	Lab	
COMM 1321	Oral Communication	3	3	0	IELTS/APTIS	ISLM 1221	Islamic Cultures, Values & Societies	2	2	0	IELTS/APTIS
UNIV 1211	Professional Development and Competencies	2	2	0	PRPC/PRPW/PREE 0061 or equivalent	GEEN 1211	Intro to Engineering	2	2	0	PRPM 0022
MATH 1422	Calculus I	4	4	1	PRPM 0022	COMM 1322	Written Communication	3	3	0	COMM 1321
PHYS 1421	Physics for Engineers I	4	3	3	PRPM 0022	UNIV 1212	Critical Thinking & Problem Solving	2	2	0	UNIV 1211
CHEM 1421	Chemistry for Engineers I	4	3	3	PRPM 0022	MATH 1423	Calculus II	4	4	1	MATH 1422
PHED 1111	Active Living Lifestyle	1	1	0	PRPC/PRPW/PREE 0061 or equivalent	CHEM 1422	Chemistry for Engineers II	4	3	3	CHEM 1421
						PHED 1112	Healthy Behaviors & Management	1	1	0	PHED 1111
Total		18	16	7		Total		17	16	4	

SOPHOMORE YEAR (35 Credit Hours)

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lec	Lab					Lec	Lab	
COMM 2321	Technical & Professional Communication	3	3	0	COMM 1322	CHEN 2312	Materials Engineering	3	3	0	CHEM 1421
UNIV 1213	Leadership And Teamwork	2	2	0	UNIV 1212	GEEN 2313	Thermodynamics I	3	3	0	MATH 1423 CHEM 1421
MATH 1324	Calculus III	3	3	1	MATH 1423	MATH 2332	Ordinary Differential Equations	3	3	1	MATH 1324
CHEN 2391	Organic Chemistry	3	3	0	CHEM 1421	PHYS 1422	Physics for Engineers II	4	3	3	PHYS 1421 MATH 1422
GEEN 2211	Engineering Computing	2	1	3	MATH 1423 GEEN 1211	UNIV 1221	Generative AI Prompt Eng. Basics	2	2	0	UNIV 1211
ASSE 2111	Learning Outcome Assessment I	1	1	1	<i>Sophomore Standing</i>						
CHEN 2311	Principles of Chemical Engineering	3	3	0	PHYS 1421 MATH 422	COMM 2322	Writing & Research	3	3	0	COMM 2321
Total		17	16	5		Total		18	17	4	

Bachelor of Science in Chemical Engineering for Full Time Students

Four Year Study Plan as of Academic Year 2025/2026

JUNIOR YEAR (33 Credit Hours)

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lec	Lab					Lec	Lab	
GEEN 3314	Electric Circuits and Electronics	3	2	3	PHYS 1422 & Junior Standing	CHEN 3494	Separation Process	4	3	3	GEEN 3311 CHEN 2311 CHEN 3315
GEEN 3311	Intro to Fluid Mechanics	3	3	0	GEEN 2313	Social Science	Social Science Elective	3	3	0	<i>Select one from list</i>
UNIV 2221	Future Skills	2	2	0	UNIV 1221	CHEN 3343	Engineering Probability & Statistics	3	3	0	MATH 1324
CHEN 3313	Biology	3	3	0	CHEN 2391	CHEN 3333	Heat Transfer	3	3	0	GEEN 3311
CHEN 3315	Physical Chemistry	3	2	3	CHEM 1422	CHEN 3322	Chemical Engineering Thermodynamics II	3	3	0	CHEN 3315 GEEN 3311
ASSE 3211	Learning Outcome Assessment II	2	2	1	ASSE 2111 & Junior Standing	CHEN 3111	Thermo fluids & Energy Lab	1	0	3	GEEN 3311
Total		16	14	7		Total		17	15	6	

SUMMER OF JUNIOR YEAR (3 Credit Hours)

Course Number	Course Title	Credit Hours		Pre-requisite
CHEN 3301	Internship	3	8 weeks (320 hours) full time	End of Junior Year (90 student credit hours)

SENIOR YEAR (32 Credit Hours)

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lec	Lab					Lec	Lab	
CHEN 4492	Process Control	4	3	3	CHEN 3494 CHEN 3333	UNIV 2222	Systems Thinking for Future Innovations	2	2	0	UNIV 2221
CHEN 4493	Reaction Engineering	4	3	3	CHEN 3494 CHEN 3322	CHEN 4422	Plant Design	4	3	3	CHEN 4320
CHEN 4320	Process Simulation	3	3	0	CHEN 3494 CHEN 3333	CHEN 4397	Chemical Engineering Senior Design II	3	3	1	CHEN 4396
CHEN 4396	Chemical Engineering Senior Design I	3	3	1	CHEN 3494 CHEN 3322	GEEN 4311	Engineering Economy	3	3	0	CHEN 4396
CHEN XXXX	Chem Tech. Elective I	3	3	0	<i>**Select from the list</i>	CHEN XXXX	Chem Tech. Elective II	3	3	0	<i>**Select from the list</i>
Total		17	15	7		Total		15	14	4	

TOTAL DEGREE CREDIT HOURS = 139

SOCIAL SCIENCE ELECTIVES			
Course Number	Course Title	Credit Hours	Pre-requisites
BSTW 1311	Behavioral Sciences in 3D World	3	None
GEGR 1311	World Regional Geography	3	None
FREN 1311	Introduction to French Language	3	None
FURS 1311	Introduction to Futures Skills	3	None
FUTR 1311	Introduction to Futures Studies	3	None
HIST 1311	World Civilizations	3	None
PSYC 1311	Introduction to Psychology	3	None
SERV 1311	Introduction to Service Learning and Volunteering	3	None
SPAN 1311	Introduction to Spanish Language	3	None
SUST 1311	Introduction to Sustainability	3	None
SYST 1311	Introduction to Systems Thinking	3	None

CHEMICAL ENGINEERING TECHNICAL ELECTIVES			
Course Number	Course Title	Credit Hours	Pre-requisites
CHEN 4312	Polymer Engineering	3	CHEN 3494: Separation Process CHEN 3333: Heat Transfer
CHEN 4315	Catalysis	3	CHEN 3494: Separation Process CHEN 3333: Heat Transfer
CHEN 4332	Refinery Engineering	3	CHEN 3494: Separation Process CHEN 3333: Heat Transfer
CHEN 4351	Environmental Engineering	3	CHEN 3494: Separation Process CHEN 3333: Heat Transfer
CHEN 4352	Petrochemical Technology	3	CHEN 3494: Separation Process CHEN 3333: Heat Transfer
CHEN 4355	Quality Control	3	CHEN 3494: Separation Process CHEN 3333: Heat Transfer
CHEN 4360	Plant Safety Engineering	3	CHEN 3494: Separation Process CHEN 3333: Heat Transfer
CHEN 4344	Corrosion Engineering	3	CHEN 2312: Material Engineering CHEN 3333: Heat Transfer

NOTES:

- Completion of PRPM 0022 Pre-Calculus is required before entry into Chemical Engineering.
- This Program of Study applies to ONLY full time students. Minimum of 12 credit hours constitutes full time status.
- Student GPA determines maximum semester course load as per department advisement criteria.
- CHEN major courses may be offered only in the semester shown on this plan.
- CHEN major summer course offerings are not guaranteed.
- Internship experience may not be combined with any courses.

Dr. Faramarz Djavanroodi
Chair, Chemical Engineering

Dr. Jamal Nayfeh
Dean, College of Engineering

Dr. Muhammad Waqar Ashraf
Dean, College of Sciences and
Human Studies

Dr. Faisal Yousif Al Anezi
Vice President for Academic Affairs