

List of Chemical Engineering Electives

1. CHE 422 Properties of Fluids
2. CHE 430 Separation Processes
3. CHE 431 Membrane Processes Technology
4. CHE 432 Principles of Heat Exchanger Design
5. CHE 440 Catalysis & Catalytic Processes
6. CHE 449 Biochemical Engineering
7. CHE 453 Mathematical Methods in Chemical Engineering
8. CHE 455 Chemical Process Simulation
9. CHE 456 Industrial Process Control
10. CHE 461 Petroleum Refining
11. CHE 462 Petrochemical Industries
12. CHE 463 Polymer Technology
13. CHE 464 Refining and Petrochemicals Technology and Economics
14. CHE 465 Process Integration and Optimization
15. CHE 470 Process Air Pollution Control
16. CHE 471 Process Water Pollution Control
17. CHE 472 Corrosion
18. CHE 473 Desalination
19. CHE 480 Energy Technology
20. CHE 491 Materials Evaluation and Selection
21. CHE 498 Special Topics in Chemical Engineering I
22. CHE 499 Special Topics in Chemical Engineering II

List of Technical Electives for CHE Students

Course	Title	Prerequisite	Co-requisite	Comments
All CHE Electives	Any CHE Elective	As applicable	As applicable	All chemical engineering electives can be taken as technical electives
AE 410	Astronautics	PHYS102	none	
CE 201	Statics	PHYS101		
CE 330	Environmental Eng. Principles	CHEM 311 or CHEM 102		
CHEM 202	Organics Chemistry II	CHE201		4 credit hours
CHEM 204	Organic Chemistry II			
CHEM 236	Inorganic Chemistry I			
CHEM 312	Physical Chemistry III	CHEM311		
CHEM 313	Introduction to Computational Chemistry			
CHEM 324	Advanced Instrumental Chemical Analysis	CHEM323		
CHEM 327	Environmental Chemistry			
CHEM 331	Inorganic Chemistry	CHEM102		
CHEM 355	Industrial Catalysis	CHEM202		*
CHEM 363	Biochemistry			
CHEM 402	Structure and Mechanisms in Organic Chemistry	CHEM202		
CHEM 403	Synthetic Organic Chemistry	CHEM202		
CHEM 406	Spectroscopic Identification of Organic Compounds	CHEM202		
CHEM 417	Introduction To Statistical Thermodynamics	CHEM312		
CHEM 427	Quality Assurance in Chemical Laboratories			
CHEM 450	Polymer Chemistry	CHEM202		4 credit hours

CHEM 453	Chemistry of Petroleum Processes	CHEM202		
CHEM 456	Industrial Organic Chemistry	CHEM202		
CHEM 457	Homogeneous Catalysis in Industrial Processes	Permission of the Instructor		
EE 204	Fundamentals of Electrical Circuits (Non-EE students)	MATH 102, PHYS 102		
GEOL 201	Physical Geology	none		
GEOL 202	Applied Geosciences for Scientists and Engineers	none		
GEOL 303	Sustaining the Earth	Junior Standing		
GEOP 202	Introduction to Geophysics	MATH 102 and PHYS 102		
MATH 280	Introduction to Linear Algebra	none	MATH201	
MATH 301	Methods of Applied Mathematics	MATH 202 or MATH 260		
MATH 305	Development of Mathematics	MATH 102		
MATH 401	Methods of Applied Mathematics II	MATH 301		
MATH 430	Introduction to Complex Variables	MATH 201		
MATH 471	Numerical Analysis I	MATH 321 or SE 301		
MATH 472	Numerical Analysis II	MATH 321 or SE 301		
ME 201	Dynamics	CE201		
ME 424	Maintenance Engineering		STAT 319	
PETE 404	Production Facilities Design	CHE204		4 credit hours
PHYS 201	General Physics III	PHYS 102, MATH 102		4 credit hours
PHYS 212	Modern Physics	PHYS102		4 credit hours Not open for credit to students who have taken PHYS 201
PHYS 215	Introduction to Astronomy	PHYS 102		

PHYS 234	The Physics of How Things Work	PHYS 102		
PHYS 261	Energy	PHYS 102		
PHYS 301	Classical Mechanics I	MATH 202, PHYS 101		
PHYS 302	Classical Mechanics II	PHYS 301		
PHYS 371	Methods of Theoretical Physics	MATH 202		
PHYS 373	Introduction to Computational Physics	PHYS 212, ICS 101 or ICS 102 or ICS 103		
SE 443	Human Factors Engineering	Junior Standing		
SE 465	Industrial Safety	Junior Standing		

Suggested course to be included to the courses list,

Course	Title	Prerequisite	Co-requisite	Comments
SE 401	Computer control systems	SE 302 or CHE401 or equivalent		

* Student(s) who is taking *CHEM 355* course must not take *CHE 440* and vice versa

List of General Studies Electives for CHE Students

1. GS 221 Work & Society
2. GS 318 World Civilizations
3. GS 321 Principles of Human Behavior
4. GS 355 Cultural Anthropology
5. GS 420 Personality Psychology
6. GS 423 International Relations
7. GS 434 Mass Media & Society
8. GS 447 Globalization