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CHEMICAL ENGINEERING -BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

The BS Chemical Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Requirements (Total Credits 124)

In addition to satisfying the requirements of New Mexico State University and the College of Engineering, CHME majors must pass departmental courses with a grade of C- or better.

Students having completed MATH 1521 may enroll in CHME 101 and CHME 201 simultaneously. CHME majors must have completed CHME 201 Energy Balances & Basic Thermodynamics prior to taking any 400-level CHME elective courses.

Degree requirements can also be found summarized in flow diagrams found on the CHME website (https://chme.nmsu.edu/academics/ undergrad/chme-flow-diagrams/).

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 124 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Total Credits

Prefix	Title	Credits	
General Education			
Area I: Communications	s		
English Composition - L	evel 1		
ENGL 1110G	Composition I 1	4	
English Composition - L	evel 2		
ENGL 2210G	Professional and Technical Communication Honors	3	
Oral Communication			
COMM 1115G	Introduction to Communication	3	
Area II: Mathematics			
MATH 1511G	Calculus and Analytic Geometry I ²	4	
Area III/IV: Laboratory S	Sciences and Social/Behavioral Sciences	11	
PHYS 1310G	Calculus -Based Physics I		
& PHYS 1310L	and Calculus -Based Physics I Lab		
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab		
Area IV: Social/Beh	avioral Sciences Course (3 credits) 1		
Area V: Humanities ¹		3	
Area VI: Creative and Fine Arts ¹			
General Education Elec	tive		
MATH 1521G	Calculus and Analytic Geometry II	4	
Viewing a Wider World ³			
Departmental/College Requirements			
CHME 101	Introduction to Chemical Engineering Calculations	2	
CHME 102	Material Balances	2	
CHME 201	Energy Balances & Basic Thermodynamics	3	

CHME 303 Chemical Engineering Thermodynamics 4 CHME 305 Transport Operations I: Fluid Flow 3 CHME 306 Transport Operations II: Heat and Mass Transfer CHME 307 Transport Operations III: Staged Operations 3 CHME 323 L Transport Operations and Instrumentation Laboratory CHME 352 L Simulation of Unit Operations 3 CHME 352 L Simulation of Unit Operations 3 CHME 361 Engineering Materials 3 CHME 392 Numerical Methods in Engineering 3 CHME 412 Process Dynamics and Control 3 CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215 General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors Or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 314 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II Lecture and Laboratory for CHEM 315 Organic Chemistry II Lecture and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic Chemistry II Secure and Laboratory for CHEM 315 Organic			
CHME 306 Transport Operations II: Heat and Mass Transfer CHME 307 Transport Operations III: Staged Operations CHME 323 L Transport Operations and Instrumentation Laboratory CHME 352 L Simulation of Unit Operations CHME 352 L Simulation of Unit Operations CHME 361 Engineering Materials CHME 362 Numerical Methods in Engineering 3 CHME 412 Process Dynamics and Control 3 CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation CHME 455 Chemical Plant Design 3 CHME 455 L Chemical Plant Simulation 1 CHME 1250 Chemical Plant Simulation 3 CHME 455 L Chemical Plant Simulation 3 CHME 1250 Calculus III 3 MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEM 315 Organic Chemistry II CHEM 315 Organic Chemistry I Bergineering I E 311 Engineering Data Analysis 1 E 365 Quality Control 3 Second Language: (not required)	CHME 303	Chemical Engineering Thermodynamics	4
Transfer	CHME 305	Transport Operations I: Fluid Flow	3
CHME 323 L Transport Operations and Instrumentation Laboratory CHME 352 L Simulation of Unit Operations 2 CHME 361 Engineering Materials 3 CHME 392 Numerical Methods in Engineering 3 CHME 412 Process Dynamics and Control 3 CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic 2 Evaluation 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME 456 Chemical Plant Simulation 1 CHME 457 Chemical Plant Simulation 1 CHME 458 Calculus III 3 MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1225G General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 315 Organic Chemistry II Scuture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II Scuture and Laboratory for CHEM Majors CHEM 315 Organic Chemistry II Scuture and Laboratory for CHEM Majors CHEM 316 Organic Chemistry II Scuture and Laboratory for CHEM Majors CHEM 317 Organic Chemistry II Scuture and Laboratory for CHEM Majors CHEM 318 Organic Chemistry II Scuture and Laboratory for CHEM Majors CHEM 319 Organic Chemistry II Scuture and Laboratory for CHEM Majors CHEM 311 Engineering Data Analysis 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	CHME 306	·	4
Laboratory CHME 352 L Simulation of Unit Operations 2 CHME 361 Engineering Materials 3 CHME 392 Numerical Methods in Engineering 3 CHME 412 Process Dynamics and Control 3 CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation 4 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Design 3 CHME 455 L Chemical Plant Simulation 1 CHME 455 L Chemical Plant Simulation 1 CHME 1250 Calculus III 3 MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science 3 CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors 6 Or CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors 7 Or CHEM 1225G General Chemistry II Lecture and Laboratory for CHEM Majors 7 Or CHEM 1225G General Chemistry II Lecture and Laboratory for CHEM Majors 7 Or CHEM 1225G General Chemistry II Lecture and Laboratory for CHEM Majors 7 Or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors 7 CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors 7 CHEM 314 Organic Chemistry II Secture and Laboratory 6 CHEM 315 Organic Chemistry II Secture 3 CHEM 316 Organic Chemistry II 3 CHEM 317 Organic Chemistry II 3 CHEM 318 Physical Chemistry II 3 CHEM 319 Corganic Chemistry II 3 CHEM 310 Engineering Data Analysis 3 CHEM 311 Engineering Data Analysis 3 CHEM 315 Ouglity Control 3 Second Language: (not required)	CHME 307	Transport Operations III: Staged Operations	3
CHME 361 Engineering Materials 3 CHME 392 Numerical Methods in Engineering 3 CHME 392 Numerical Methods in Engineering 3 CHME 412 Process Dynamics and Control 3 CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors Or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEM 315 Organic Chemistry II Secure 3 CHEM 315 Organic Chemistry II Secure 3 CHEM 316 Organic Chemistry II Secure 3 CHEM 317 Organic Chemistry II Secure 3 CHEM 318 Physical Chemistry II Secure 3 CHEM 319 CHEM 310 CHEM 310 CHEMISTRY II Secure 3 CHEM 311 Engineering Data Analysis 3 CHEM 311 Engineering Data Analysis 3 CHEM 315 Quality Control 3 CHEM 316 CHEMISTRY II Second Language: (not required)	CHME 323 L	·	2
CHME 392 Numerical Methods in Engineering 3 CHME 412 Process Dynamics and Control 3 CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors Or CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors Or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEMISTRY I	CHME 352 L	Simulation of Unit Operations	2
CHME 412 Process Dynamics and Control 3 CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation 5 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME 455 Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 1226 General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II Lecture and Laboratory 7 CHEM 315 Organic Chemistry II 3 CHEM 315 Organic Chemistry II 3 CHEM 315 Organic Chemistry I Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	CHME 361	Engineering Materials	3
CHME 423 L Unit Operations Laboratory 2 CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME 455 L Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 315 Organic Chemistry II Secture and Laboratory for CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I Bergineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	CHME 392	Numerical Methods in Engineering	3
CHME 441 Chemical Kinetics and Reactor Engineering 3 CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Design 3 CHME 455 L Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II Secture and Laboratory for CHEM 315 Organic Chemistry II Secture and Laboratory 3 CHEM 315 Organic Chemistry II Secture and Laboratory 3 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	CHME 412	Process Dynamics and Control	3
CHME 448 Industrial Safety 3 CHME 452 Chemical Process Design & Economic Evaluation 3 CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME 455 L Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors Or CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors Or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors Or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEM 315 Organic Chemistry I 3 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	CHME 423 L	Unit Operations Laboratory	2
CHME 452 Chemical Process Design & Economic Evaluation CHME 455 Chemical Plant Design 3 CHME 455 Chemical Plant Simulation 1 CHME 455 Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEM 315 Organic Chemistry I 3 CHEM 433 Physical Chemistry I 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHME 441	Chemical Kinetics and Reactor Engineering	3
Evaluation CHME 455 Chemical Plant Design 3 CHME 455 L Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 315 Organic Chemistry II 3 CHEM 315 Organic Chemistry II 3 CHEM 433 Physical Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHME 448	Industrial Safety	3
CHME 455 L Chemical Plant Simulation 1 CHME Electives 4 6 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEM 315 Organic Chemistry II CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	CHME 452	<u>-</u>	3
CHME Electives 4 Non-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEM 315 Organic Chemistry II CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHME 455	Chemical Plant Design	3
Mon-Departmental Requirements Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors or CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II CHEM 315 Organic Chemistry II CHEM 433 Physical Chemistry Laboratory 2 CHEM 433 Physical Chemistry I Engineering I E 311 Engineering Data Analysis 3 Second Language: (not required)	CHME 455 L	Chemical Plant Simulation	1
Mathematics MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors 4 or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors 4 CHEM 1225G General Chemistry II Lecture and Laboratory for CHEM Majors 4 or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors 3 CHEM 313 Organic Chemistry I 3 CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHME Electives ⁴		6
MATH 2530G Calculus III 3 MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 3126 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry II 3 CHEM 433 Physical Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	Non-Departmental Rec	uirements	
MATH 3160 Introduction to Ordinary Differential Equations 3 Natural Science CHEM 1215G General Chemistry Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry Lecture and Laboratory for STEM Majors or CHEM 313 Organic Chemistry Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry 3 CHEM 314 Organic Chemistry 3 CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	Mathematics		
Natural Science CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry II 3 CHEM 433 Physical Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	MATH 2530G	Calculus III	3
CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 Second Language: (not required)	MATH 3160	Introduction to Ordinary Differential Equations	3
STEM Majors or CHEM 1216 General Chemistry I Lecture and Laboratory for CHEM Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry II Lecture and Laboratory for CHEM Majors CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry II 3 CHEM 433 Physical Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	Natural Science		
Majors CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry I 3 CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry II 3 CHEM 433 Physical Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHEM 1215G		4
for STEM Majors or CHEM 1226 General Chemistry II Lecture and Laboratory for CHEM Majors CHEM 313 Organic Chemistry I 3 CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 IE 365 Quality Control 3 Second Language: (not required)	or CHEM 1216		
Majors CHEM 313 Organic Chemistry I 3 CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required) 3	CHEM 1225G		4
CHEM 314 Organic Chemistry II 3 CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering IE 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required) 3	or CHEM 1226		
CHEM 315 Organic Chemistry Laboratory 2 CHEM 433 Physical Chemistry I 3 Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHEM 313	Organic Chemistry I	3
CHEM 433 Physical Chemistry I 3 Engineering 1 E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHEM 314	Organic Chemistry II	3
Engineering I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHEM 315	Organic Chemistry Laboratory	2
I E 311 Engineering Data Analysis 3 I E 365 Quality Control 3 Second Language: (not required)	CHEM 433	Physical Chemistry I	3
I E 365 Quality Control 3 Second Language: (not required)	Engineering		
Second Language: (not required)	IE311	Engineering Data Analysis	3
	I E 365	Quality Control	3
Electives, to bring the total credits to 124 0	Second Language: (no	t required)	
	Electives, to bring the	total credits to 124	0

- ¹ See the General Education (https://catalogs.nmsu.edu/nmsu/generaleducation-viewing-wider-world/) section of the catalog for a full list of
- MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G Calculus and Analytic Geometry I first.
- See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/ general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses Also see the 9-credit hour rule at the bottom of the page. CHMEs meet the 9-credit hour rule through the sequence CHEM 313/314/433, and thus only need to complete 3 credits of VWW.
- chme.nmsu.edu/academics/syllabi/#CHME_Elective_Courses (https:// chme.nmsu.edu/academics/Syllabi.html#CHME_Elective_Courses)

First Year

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and english. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Fall		Credits
CHME 101	Introduction to Chemical Engineering	2
OTHER TOT	Calculations	
CHEM 1215G	General Chemistry I Lecture and Laboratory for	4
or CHEM 1216	STEM Majors	
	or General Chemistry I Lecture and Laboratory for CHEM Majors	
MATH 1511G	Calculus and Analytic Geometry I ¹	4
ENGL 1110G	Composition I	4
Area VI: Creative and F	ine Arts Course ²	3
	Credits	17
Spring		
CHME 102	Material Balances	2
CHEM 1225G	General Chemistry II Lecture and Laboratory	4
or CHEM 1226	for STEM Majors	
	or General Chemistry II Lecture and	
	Laboratory for CHEM Majors	
MATH 1521G	Calculus and Analytic Geometry II	4
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	4
COMM 1115G	Introduction to Communication	3
COMMITTING	Credits	
01 V	Credits	17
Second Year		
Fall	5 D. O.D.; T	
CHME 201	Energy Balances & Basic Thermodynamics	3
CHEM 313	Organic Chemistry I	3
MATH 2530G	Calculus III	3
PHYS 1320G & PHYS 1320L	Calculus -Based Physics II and Calculus -Based Physics II Lab	4
ENGL 2210G	Professional and Technical Communication	3
LINGL 2210G	Honors	3
	Credits	16
Spring		
CHME 303	Chemical Engineering Thermodynamics	4
CHME 305	Transport Operations I: Fluid Flow	3
I E 311	Engineering Data Analysis	3
CHEM 314	Organic Chemistry II	3
MATH 3160	Introduction to Ordinary Differential Equations	3
	Credits	16
Third Year		
Fall		
CHME 306	Transport Operations II: Heat and Mass Transfer	4
CHME 323 L	Transport Operations and Instrumentation Laboratory ⁵	2
CHME 361	Engineering Materials	3
CHME 392	Numerical Methods in Engineering	3
CHEM 433	Physical Chemistry I	3
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CHEM 315	Organic Chemistry Laboratory	2
	Credits	17
Spring		
CHME 307	Transport Operations III: Staged Operations	3
CHME 352 L	Simulation of Unit Operations	2
CHME 441	Chemical Kinetics and Reactor Engineering	3
Area IV: Social/Bel	navioral Sciences Course ²	3
CHME Elective 4		3
	Credits	14
Fourth Year		
Fall		
CHME 412	Process Dynamics and Control	3
CHME 423 L	Unit Operations Laboratory ⁵	2
CHME 448	Industrial Safety	3
CHME 452	Chemical Process Design & Economic	3
	Evaluation	
I E 365	Quality Control	3
	Credits	14
Spring		
CHME 455	Chemical Plant Design	3
CHME 455 L	Chemical Plant Simulation	1
CHME Elective ⁴		3
Area V: Humanitites Course ²		3
Viewing a Wider World Course ³		3
	Credits	13
	Total Credits	124

- MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G Calculus and Analytic Geometry I first.
- ² See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses. For Area IV,V, and VI courses, students may take them at any time their schedule allows.
- See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses

 Also see the 9-credit hour rule at the bottom of the page. CHMEs meet the 9-credit hour rule through the sequence CHEM 313/314/433, and thus only need to complete 3 credits of VWW.
- chme.nmsu.edu/academics/syllabi/#CHME_Elective_Courses (https://chme.nmsu.edu/academics/Syllabi.html#CHME_Elective_Courses)
- ⁵ CHME 323L and CHME 423L are generally offered fall and spring semesters. Students can take them either semester.