جامعة ظفار
Dhofar University
Vision for the future

Dhofar University

College of Engineering

Department of Chemical Engineering

Bachelor of Science in Chemical Engineering
Plan of Study

September 2025

Bachelor Study Plan

1- Program Statistics by Course Category

Course Category	No. of Courses	Credit Hours	Percentage of Total Credit Hours
University Requirements	9	27	19.57%
College Requirements	11	30	21.74%
Program Major Requirements	26	66	47.82%
Program Elective Courses	6	12	8.6%
General Elective	1	3	2.17%
Total	**53**	**138**	

2- Classification of Requirements

2.1 University Requirements

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
ARAB 101	Academic Writing in Arabic	3	FPE 103C, FPEL 100	-
ENGL 101	Basic Academic English	3	FPE 103C	-
ENGL 102E	English for Engineering and Sciences I	3	ENGL 101	-
ENGL 203E	English for Engineering and Sciences II	3	ENGL 102E, ENGL 102C	-
ENGL 204	Advanced English for Academic Purposes and Research	3	ENGL 203E	-
ENGL 305	Advanced English Language and Communication Skills	3	ENGL 204	-
ENTR 200	Entrepreneurship: Innovation and Creativity	3	ENGL 203E	-
MATH 199	Calculus I	3	FPE 103C, FPM 101A, FPM 102B	-
SOCS 102	Omani Society	3	FPE 103C, FPEL 100	-
Total Credits		**27**		

2.2 College Requirements

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
EECE 130	Computers and Programming I	3	FPE 103C, FPM 102B, FPT 102B	-
ENGR 100	Introduction to Engineering	3	FPE 103C, FPM 102B, FPT 102B	-
ENGR 105	Engineering Graphics	2	FPE 103C	-
ENGR 110	Engineering Workshop	1	FPE 103C, FPM 101A, FPM 102B	-
ENGR 300	Engineering Economy	3	ENGR 100, MATH 199	-
MATH 200	Calculus II	3	MATH 199	-
MATH 205	Calculus III	3	MATH 200	-
MATH 210	Differential Equations	3	MATH 200	-
MATH 250E	Probability and Statistics	3	MATH 200	MATH 200
MATH 335	Mathematics for Science and Engineering	3	MATH 205, MATH 210	-
PHYS 170	Fundamentals of Physics I	3	MATH 199, MATH 103	MATH 199
Total Credits		**30**		

2.3 Program Major (Compulsory) Requirements

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
CHEM 140	Chemistry I	3	FPE 103C, FPM 102B, FPT 102B	
CHEM 140L	Introductory Chemistry Laboratory	1	CHEM 140	CHEM 140
CHEM 180	Chemistry II	3	CHEM 140	
CHEM 210	Organic Chemistry I	3	CHEM 180	
CHEM 250	Organic Chemistry II	3	CHEM 210	
CHEM 250L	Organic Chemistry Laboratory	1	CHEM 250	CHEM 250

CHEM 260	Analytical Chemistry	3	CHEM 180	
CHEM 370	Physical Chemistry for Engineers	3	CHEM 180, MATH 200	
CHEE 201	Principles of Chemical Engineering	3	CHEM 140, MATH 199	
CHEE 208	Instrumentation	3	PHYS 170, CHEM 180	
CHEE 270	Fluid Mechanics for Chemical Engineers	3	PHYS 170, MATH 200	
CHEE 270L	Fluid Mechanics Laboratory	1	CHEE 270	CHEE 270
CHEE 275	Thermodynamics for Chemical Engineers	3	MATH 200, CHEM 140	
CHEE 280	Mass Transfer	3	CHEE 201, MATH 200	
CHEE 300	Computational Methods in Chemical Engineering	3	EECE 130, MATH 210	
CHEE 310	Reactive Process Engineering	3	CHEE 275, CHEE 201	
CHEE 330	Materials Science	3	PHYS 170, CHEM 180	
CHEE 340	Introduction to Biotechnology	3	CHEM 250	
CHEE 380	Heat Transfer	3	CHEE 270, MATH 210	
CHEE 370	Chemical Process Safety and Hazards Management	3	CHEE 310	
CHEE 410	Separation Processes	3	CHEE 280, CHEE 275, CHEE 310	
CHEE 420	Chemical Engineering Process Design	3	CHEE 310, CHEE 410	
CHEE 470	Chemical Process Dynamics and Control	3	MATH 210, CHEE 300, CHEE 420	
CHEE 401	Final Year Project I	0	Senior Standing (Completed 90+ Crs)	
CHEE 402	Final Year Project II	3	CHEE 401	

CHEE 400	Practical Training	0	Senior Standing (Completed 90+ Crs)	
Total Credits		**66**		

2.4a Program Elective Courses

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
CHEE 450	Materials Engineering	3	CHEE 330, CHEE 430	
CHEE 455	Introduction to Nanotechnology	3	CHEE 330, CHEE 430	
CHEE 460	Computational Engineering	3	CHEE 300	
CHEE 465	Fundamentals of Natural Gas Processing	3	CHEE 370	
CHEE 475	Chemical Reactor Design	3	CHEE 300, CHEE 310	
CHEE 480	Biochemical Engineering	3	CHEE 340	
CHEE 485	Fuel Cell Technology	3	CHEE 275, CHEE 330	
CHEE 487	Polymer Engineering	3	CHEM 250	
CHEE 488	Instrumentation and Process Control	3	CHEE 470	
CHEE 489	Pharmaceutical Biotechnology	3	CHEE 340	
CHEE 490	Renewable Energy	3	CHEE 275	
CHEE 495	Wastewater Treatment	3	CHEE 330	
Total Credits		**9**		

2.4b Program Elective Laboratories

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
CHEE 311L	Reactive Process Engineering Laboratory	1	CHEE 310	
CHEE 341L	Biotechnology Laboratory	1	CHEE 340	
CHEE 411L	Separation Processes Laboratory	1	CHEE 410	
CHEE 421L	Chemical Engineering Process Design Laboratory	1	CHEE 420	
CHEE 476L	Chemical Reactor Design Laboratory	1	CHEE 475	
CHEE 486L	Fuel Cell Laboratory	1	CHEE 485	
CHEE 487L	Polymer Engineering Laboratory	1	CHEE 487	
CHEE 311L	Reactive Process Engineering Laboratory	1	CHEE 310	

Total Credits	**3**		

2.5 General Elective Courses

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
XXX 000	General Elective	3	As per course	-
Total Credits		**3**		

3- Plan of Study

Year 1				
Course Code	**Course Title**	**Credit Hours**	**Prerequisite**	**University/ College/Major/Elective requirements**
	Fall			
SOCS 102	Omani Society	3	FPE 103C, FPEL 100	U
ENGL 101	Basic Academic English I	3	FPE 103C	U
MATH 199	Calculus I	3	FPE 103C, FPM 101A, FPM 102B	U
CHEM 140	Chemistry I	3	FP	M
CHEM140L	Introductory Chemistry Laboratory	1	CHEM 140	M
ENGR 105	Engineering Graphics	2	FPE 103C	C
Total Credits		**15**		
	Spring			
EECE 130	Computers and Programming I	3	FPE 103C, FPM 102B, FPT 102B	C
CHEM 180	Chemistry II	3	CHEM 140	M
ENGL 102E	English for Engineering and Sciences I	3	ENGL 101	U

ENGR 100	Introduction to Engineering	3	FPE 103C, FPM 102B, FPT 102B	C
MATH 200	Calculus II	3	MATH 199	C
ENGR 110	Engineering Workshop	1	FPE 103C, FPM 101A, FPM 102B	C
Total Credits		**16**		
	Summer			
ENGL 203E	English for Engineering and Sciences II	3	ENGL 102E, ENGL 102C	U
MATH 250E	Probability and Statistics	3	MATH 200	C
Total Credits		**6**		

Year 2				
Course Code	**Course Title**	**Credit Hours**	**Prerequisite**	**University/ College/Major/Elective requirements**
	Fall			
CHEE 270	Fluid Mechanics for Chemical Engineers	3	PHYS 170, MATH 200	M
CHEM 260	Analytical Chemistry	3	CHEM 180	M
PHYS 170	Fundamentals of Physics I	3	MATH 199, MATH 103	C
CHEE 275	Thermodynamics for Chemical Engineers	3	MATH 200, CHEM 140	M
CHEE 201	Principles of Chemical Engineering	3	CHEM 140, MATH 199	M
CHEM 210	Organic Chemistry I	3	CHEM 180	M
Total Credits		**18**		
	Spring			
CHEE 270L	Fluid Mechanics Laboratory	1	CHEE 270	M
ENTR 200	Introduction to Entrepreneurship	3	ENGL 203E	U
CHEE 208	Instrumentation	3	PHYS 170, CHEM 180	M

CHEM 370	Physical Chemistry for Engineers	3	CHEM 180, MATH 200	M
CHEE 280	Mass Transfer	3	CHEE 201, MATH 200	M
CHEM 250	Organic Chemistry II	3	CHEM 210	M
CHEM 250L	Organic Chemistry Laboratory	1	CHEM 250	M
Total Credits		**17**		
	Summer			
MATH 210	Differential Equations	3	MATH 200	C
MATH 205	Calculus III	3	MATH 200	C
Total Credits		**6**		

Year 3				
Course Code	**Course Title**	**Credit Hours**	**Prerequisite**	**University/ College/Major/Elective requirements**
	Fall			
CHEE 300	Computational Methods in Chemical Engineering	3	EECE 130, MATH 210	M
CHEE 380	Heat Transfer	3	CHEE 270, MATH 210	M
MATH 335	Mathematics for Science and Engineering	3	MATH 205, MATH 210	C
ENGL 204	Advanced English for Academic Purposes and Research	3	ENGL 203E	U
CHEE 330	Materials Science	3	PHYS 170, CHEM 180	M
CHEE 340	Introduction to Biotechnology	3	CHEM 250	M
Total Credits		**18**		
	Spring			
CHEE 310	Reactive Process Engineering	3	CHEE 275, CHEE 201	M
ENGR 300	Engineering Economy	3	ENGR 100, MATH 199	C

CHEE 470	Chemical Process Dynamics and Control	3	MATH 210, CHEE 300, CHEE 420	M
ENGL 305	Advanced English Language and Communication Skills	3	ENGL 204	U
CHEE XXX	Major Elective Laboratory -1	1	As per selected lab	E
CHEE XXX	Major Elective Laboratory -2	1	As per selected lab	E
CHEE XXX	Major Elective-1	3	As per selected elective	E
Total Credits		**17**		
Summer				
CHEE 400 Practical Training		0		M
Total Credits		**0**		

Year 4				
Course Code	**Course Title**	**Credit Hours**	**Prerequisite**	**University/ College/Major/Elective requirements**
Fall				
CHEE 401	Final Year Project I	0	Senior Standing (Completed 90+ Crs)	M
CHEE 410	Separation Process Engineering	3	CHEE 280, CHEE 275, CHEE 310	M
CHEE 420	Chemical Engineering Process Design	3	CHEE 310, CHEE 410	M
CHEE XXX	Major Elective-2	3	As per selected elective	E
ARAB 101	Academic Writing in Arabic	3	FPE 103C, FPEL 100	U
CHEE 370	Chemical Process Safety and Hazards Management	3	CHEE 310	M
Total Credits		**15**		
Spring				

CHEE 402	Final Year Project II	3	CHEE 401	M
CHEE XXX	Major Elective-3	3	As per selected elective	E
XXX 000	General Elective	3	As per selected course	E
CHEE XXX	Major Elective Laboratory -3	1	As per selected lab	E
Total Credits		**10**		

Total Program Credit Hours 138