

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

EFFECTIVE ACADEMIC YEAR 2018-2019

(Updated Program of Study as of Academic Year 2020-2021)

COURSE CODE	COURSE TITLE	HOURS		UNITS	PRE-REQUISITE	CO-REQUISITE
		LEC	LAB			
FIRST YEAR						
FIRST SEMESTER		18	6	25		
CHE181	Orientation to ChE	0	3	1	-	-
CHEM131	Chemistry for Engineers, lec	3	0	3	-	CHEM181
CHEM181	Chemistry for Engineers, lab	0	3	1	-	CHEM131
MATH031	Mathematics in the Modern World	3	0	3		
MATH137	Engineering Calculus 1	3	0	3		
STS031	Science, Technology and Society	3	0	3		
PSYCH031	Understanding the Self	3	0	3		
SOCSCI032	The Contemporary World	3	0	3		
PE103	Movement Enhancement			2		
NSTP111	National Service Training Program 1			3		
SECOND SEMESTER		16	9	24		
CHEM132	Analytical Chemistry, lec	4	0	4	CHEM131/181	CHEM182
CHEM182	Analytical Chemistry, lab	0	3	1	CHEM131/181	CHEM132
MATH138	Engineering Calculus 2	3	0	3	MATH137	
PHYS132	Physics for Engineers, lec	3	0	3	MATH137	PHYS182, MATH138
PHYS182	Physics for Engineers, lab	0	3	1	MATH137	PHYS132, MATH138
ES084	Computer Programming 1	0	3	1		
ENGL031	Purposive Communication	3	0	3		
HUM031	Art Appreciation	3	0	3		
PE104	Fitness Exercises			2	PE103	
NSTP112	National Service Training Program 2			3	NSTP111	
SECOND YEAR						
FIRST SEMESTER		19	9	24		
CHE261	Chemical Engineering Calculations	3	3	4	CHEM132/182	
CHEM231	Organic Chemistry, lec	4	0	4	CHEM132/182	CHEM281
CHEM281	Organic Chemistry, lab	0	3	1	CHEM132/182	CHEM231
ES031	Engineering Data Analysis	3	0	3	MATH137	
ES033	Engineering Mechanics	3	0	3	PHYS132/182	
ES085	Computer Programming 2	0	3	1	ES084	
MATH237	Differential Equations	3	0	3	MATH138	
SOCSCI031	Readings in Philippine History	3	0	3		
PE205	Physical Activities Towards Health and Fitness I			2	PE103	
SECOND SEMESTER		19	9	24		
CHE232	Physical Chemistry for Engineers 1, lec	2	0	2	CHEM132/182, MATH138	CHE282
CHE282	Physical Chemistry for Engineers 1, lab	0	3	1	CHEM132/182, MATH138	CHE232
CHE234	Advanced Engineering Mathematics in ChE	3	0	3	MATH237	
CHE262	Momentum Transfer	2	3	3	CHE261, MATH237	
ES037	Materials Science and Engineering	3	0	3	CHEM231/281	
ES083	Computer-Aided Design and Drafting	0	3	1		
PHILO031	Ethics	3	0	3		
RIZAL031	The Life and Works of Rizal	3	0	3		
ENGL014	Technical Writing/ Communication	3	0	3		
PE206	Physical Activities Towards Health and Fitness II			2	PE103	
THIRD YEAR						
FIRST SEMESTER		18	18	24		
CHE331	Physical Chemistry for Engineers 2, lec	2	0	2	CHE232/282	CHE381
CHE381	Physical Chemistry for Engineers 2, lab	0	3	1	CHE232/282	CHE331
CHE361	Heat and Mass Transfer	3	3	4	CHE262	
CHE363	Chemical Engineering Thermodynamics	2	3	3	CHE232/282, CHE261	
CHE365	ChE Research 1	1	3	2	CHE232, CHE261, ENGL031, ES031	CHE331, CHE381
CHE383	Computer Applications in ChE	0	3	1	ES085	CHE361

EE333	Basic Electrical & Electronics Engineering, lec	2	0	2	PHYS132/182	EE387
EE387	Basic Electrical & Electronics Engineering, lab	0	3	1	PHYS132/182	EE333
ES035	Fundamentals of Deformable Bodies	2	0	2	ES033	
ES036	Environmental Science and Engineering	3	0	3	CHEM131/181	
GE-CHE1	General Education Elective 1	3	0	3		
SECOND SEMESTER		15	24	23		
CHE332	Chemical Process Industries	3	0	3	CHEM231/281, CHE261	
CHE362	Chemical Reaction Engineering	3	3	4	CHE331/381, CHE232, CHE361	CHE368
CHE382	Chemical Engineering Lab 1	0	3	1	CHE262, CHE361	
CHE364	Particle Technology	2	3	3	CHE262	
CHE366	Solution Thermodynamics	2	3	3	CHE234, CHE363, CHE383	
CHE368	Separation Processess	2	3	3	CHE361, CHE363	CHE366
CHE384	ChE Research 2	0	3	1	CHE365	
CHECC382	ChE Comprehensive Evaluation 1	0	6	2	CHE234, ES035	ES032
ES032	Engineering Economics	3	0	3	ES031	
SUMMER TERM		0	6	2		
CHE480	Chemical Engineering Immersion (240 hours)	0	6	2	Fourth Year Standing, CHE332	
FOURTH YEAR						
FIRST SEMESTER		18	15	23		
CHE431	Biochemical Engineering	3	0	3	CHE362, CHEM231/281	
CHE433	Chemical Engineering Laws and Ethics	1	0	1	Fourth Year Standing, PHILO031	
CHE435	Process Safety	1	0	1	Fourth Year Standing	
CHE461	Chemical Engineering Design 1	1	3	2	CHE362, CHE364, CHE368, ES035	
CHE481	Chemical Engineering Lab 2	0	3	1	CHE368, CHE382	
CHE483	Chemical Process Modeling & Simulation	0	3	1	CHE383, CHE368	
CHECC481	ChE Comprehensive Evaluation 2	0	6	2	CHE331/381, ES036	CHE431
CHETS431	Track Specialization 1	3	0	3	Fourth Year Standing	
ES034	Engineering Management	3	0	3	ES032	
GE-CHE2	General Education Elective 2	3	0	3		
GE-CHE3	General Education Elective 3	3	0	3		
SECOND SEMESTER		16	18	22		
CHE432	Industrial Waste Management and Control	3	0	3	ES036, CHE364	
CHE462	Chemical Engineering Design 2	2	3	3	CHE461, ES032	CHE464
CHE464	Process Dynamics and Control	2	3	3	CHE234, CHE481	
CHE482	Plant Inspections and Seminars	0	3	1	CHE362, CHE368, CHE332, CHE435	
CHE484	Chemical Process Lab	0	3	1	CHE332	
CHECC482	ChE Comprehensive Evaluation 3	0	6	2	CHE368, CHE362, CHE433	CHE464, CHE462
CHETS432	Track Specialization 2	3	0	3	Fourth Year Standing	
CHETS434	Track Specialization 3	3	0	3	Fourth Year Standing	
ES038	Technopreneurship	3	0	3	ES034	
GRAND TOTAL		139	114	191		

TRACK SPECIALIZATIONS						
Environmental Management		Materials Science and Engineering				
Air Pollution Control		Microelectronic Materials for ChE				
Solid and Hazardous Waste Management		Nanotechnology				
Waste and Wastewater Treatment		Packaging Materials				
Food Technology		Petrochemical Engineering				
Food Processing Technologies		Introduction to Petroleum Engineering				
Food Safety		Polymer Engineering				

Food Packaging Technologies		Plastics Technology				
Energy Engineering						
Green Technology						
Energy Management						
Renewable Energy Technologies						
RECOMMENDED GENERAL EDUCATION ELECTIVES						
ENGL033	Conversational English with Public Speaking	3	0	3		
SSP031	Creative Thinking Tools	3	0	3		
SSP032	Sustainability Development and Global Citizenship	3	0	3		