



Covenant University

B.Eng. Degree Programme in
Chemical Engineering

Course Learning Outcomes (CLO)

Course Learning Outcomes (CLOs)

Course Learning Outcomes Mapped with Programme Outcomes

Program Name: Chemical Engineering

Programme-Specific Course	Programme Specific Curricular Criteria											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Fundamental Core Courses												
CHE211: Introduction to Chemical Engineering I	*	*				*						
CHE221: Introduction to Chemical Engineering II	*	*	*				*					
CHE331: Chemical Process Engineering Analysis I	*	*	*	*	*							
CHE312: Chemical Engineering Laboratory I				*	*				*	*		
CHE333: Chemical Engineering Transport Phenomena I	*	*			*							
CHE315: Chemical Reaction Kinetics	*	*	*		*							
CHE334: Process Modelling and Simulation		*	*	*	*							
CHE335: Separation Processes I	*	*	*	*	*							
CHE336: Process Instrumentation	*	*	*		*							
CHE340: Separation Processes II	*	*	*	*	*							
CHE341: Particle Technology	*	*	*	*	*							
CHE342: Chemical Engineering Laboratory II		*	*	*	*				*	*		*
CHE324: Introduction to Biochemical Engineering	*	*		*	*		*					

Programme-Specific Course	Programme Specific Curricular Criteria											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CHE345: Chemical Engineering Thermodynamics I	*	*		*		*						
CHE346: Chemical Reaction Engineering I	*	*	*	*	*							
CHE418: Chemical Process Engineering Analysis II		*		*	*							
CHE432: Separation Processes III	*	*		*	*							
CHE437: Chemical Engineering Laboratory III	*	*	*	*	*							
CHE433: Transport Phenomena II	*	*		*	*							
CHE434: Fundamentals of Plant Design I			*	*	*		*		*	*	*	
CHE435: Chemical Engineering Process Thermodynamics II	*	*		*	*	*						
CHE436: Reaction Engineering II	*	*	*	*	*							
CHE417: Polymer Process Engineering	*	*	*			*	*	*				
CHE531: Biochemical Engineering Processes	*	*		*	*		*		*			
CHE532: Process Dynamics and Control	*	*		*	*		*				*	*
CHE533: Process Design in Chemical Engineering	*	*	*	*	*	*	*	*	*	*	*	*
CHE534: Environmental Engineering		*				*	*		*	*		
CHE535: Loss Prevention in Process Industry	*	*				*	*		*	*		
CHE527: Sugar Technology	*	*		*	*	*	*	*				*

Programme-Specific Course	Programme Specific Curricular Criteria											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CHE530: Pulp and Paper Technology	*	*				*	*					
CHE538: Technology of Fossil Processing	*	*			*	*						
CHE525: Polymer Science and Technology	*	*	*			*	*					
CHE544: Chemical Engineering Process Optimization	*	*	*						*		*	
CHE543: Process Design in Chemical Engineering II			*	*	*				*	*	*	*
CHE541: Fundamentals of Plant Design II	*	*	*	*	*	*			*	*	*	*
CHE547 Cement and Cement Technology					*			*				*
CHE548: Detergent Technology		*					*	*	*			
CHE549: Chemical Engineering Research Project II	*	*	*	*	*	*			*	*	*	*
CHE542: Reservoir Engineering	*	*	*	*	*		*	*			*	
Engineering Tech Core												
GEC 117, Technical Drawing	•		•									
CIT 111, Microsoft Office Specialist on Microsoft Office 2013 in WORD	•	•	•	•	•	•						
CIT 121, Microsoft Office Specialist on Microsoft Office 2013 in EXCELC	•	•	•	•								
CST 121, Computer Applications and Library Studies II	•				•	•				•		
GEC 211, Fundamentals of Electrical Engineering I	•	•										
GEC 212, Engineering Graphics	•	•	•	•								
GEC 213, Material Science in Engineering	•	•	•	•								
GEC 214, Applied Mechanics	•	•			•							•
GEC 215, Applied Computer Programming I		•	•						•			
GEC 216, General Engineering Laboratory I	•	•	•	•								

Programme-Specific Course	Programme Specific Curricular Criteria											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	P09	PO10	PO11	PO12
GEC 217, Engineer-In-Society						•		•		•		
GEC 218, Workshop Technology	•	•	•	•								
GEC 219, Applied Mechanics Practical	•	•										
CIT 213, Autodesk Certified User - AutoCAD	•	•	•	•	•	•						
GEC220 Engineering Mathematics II	*	*	*	*								
GEC 221, Thermodynamics	•	•	•									
GEC 222, Computer Aided Design & Manufacture	•	•	•	•	•	•						
GEC 223, Fluid Mechanics I	•	•	•	•								
GEC 224, Strength of Materials	•	•	•									
GEC 225, Applied Computer Programming II		•	•						•			
GEC 226, General Engineering Laboratory II	•	•	•	•								
GEC 228, Fundamentals of Electrical Engineering II	•	•	•									
CIT 222, AUTodesk Certified Professional – AutoCAD	•	•	•	•	•	•						
GEC 320, Numerical Methods	•	•	•	•								
GEC 324, Technical Communication	•	•						•				•
CIT 414, Aspen Plus and Aspen HYSYS	•	•	•	•	•	•						
GEC 229, Student Workshop Experience Programme SIWES I (SWEP)	•	•				•						
GEC 329, Student Industrial Work Experience scheme (SIWES II)	•	•	•	•	•							
GEC 429, Student Industrial Work Experience scheme SIWES III (IT)	•	•	•	•	•							
GEC 229, Student Workshop Experience Programme SIWES I (SWEP)	•	•	•	•	•							
GEC 229, Student Workshop Experience Programme (SWEP)	•	•	•	•	•							

Mathematics												
MAT 111, Algebra	•	•	•	•							•	
MAT 112, Trigonometry and Geometry	•	•	•									
MAT 121, Calculus	•	•	•									
MAT 122, Vector Algebra	•	•	•									
GEC 210, Engineering Mathematics I	•	•	•	•								
GEC 220, Engineering Mathematics II	•	•	•	•								
GEC 310, Engineering Mathematics III	•	•	•	•								

Science												
PHY 111, Mechanics and Properties of Matter	•	•	•									
PHY 112, Heat, Sound and Optics	•	•	•									
PHY 119, Physics Practical I	•	•		•				•				
CHM 111, General Physical Chemistry	•	•		•				•				
PHY 121, Electricity and Magnetism	•		•									
PHY 122, Atomic and Nuclear Physics	•	•	•	•				•				
PHY 129, Physics Practical II	•	•		•				•				
CHM 122, General Inorganic Chemistry	•	•		•				•				
CHM 123, General Organic Chemistry	•	•		•				•				
CHM 129, General Chemistry Practical II	•	•		•				•				
Entrepreneurial and General Development												
EDS 111, Entrepreneurial Development Studies I	•							•			•	•
GST 111, Communication in English I	•	•		•			•	•	•	•		•
EDS 121, Entrepreneurial Development Studies II	•							•			•	•
GST 121, Communication in English II	•	•		•			•	•	•	•		•
GST 122, Communication in French												•
EDS 211, Entrepreneurial Development Studies III	•							•			•	•
EDS 221, Entrepreneurial Development Studies IV	•							•			•	•
GST 211, Logic, Philosophy and Human Existence							•	•				•

GST 221, Nigerian People and Culture											•		•
GST 222, Peace Studies and Conflict Resolution											•		•
EDS 311, Entrepreneurial Studies V	•								•			•	•
GST 311, History and Philosophy of Science											•		•
EDS 321, Entrepreneurial Studies VI	•								•			•	•
GEC 321, Engineering Economics	•	•	•				•		•			•	
GEC 410, Engineering Statistics	•	•	•				•		•			•	
EDS 411, Entrepreneurial Studies VII	•								•			•	•
GEC 517, Engineering Law	•						•		•			•	
EDS 511, Cost Engineering	•	•	•				•		•			•	
GEC 527, Engineering Management	•	•	•				•		•			•	
EDS 521, Engineering Valuation	•	•	•				•		•			•	