Cleveland State University

Bachelor of Chemical Engineering

Name _____ I.D. No._____

Curriculum Sheet (Effective Fall 2025)

First Year

Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
INQ 170 Engineering Launch*	3		IL	ESC 102 Technical Writing & Prof. Comm.	3		RPW
ENG 101 Writing I	3		FYV	MTH 182 Calculus II	4		QFR
MTH 181 Calculus I	4		QFR	PHY 241 University Physics I	5		SI
CHM 261 General Chemistry I	3		SI	CHM 262 General Chemistry I	3		SI
CHM 266 General Chemistry Lab I	1		SI	CHM 267 General Chemistry Lab I	1		SI
Semester Total	14			Semester Total	16		

Second Year

Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
PHY 242 University Physics II	5		SI	CHE 300 Chemical Engineering Principles	4		
ESC 152 Programming with MATLAB	3			ESC 301 Fluid Mechanics	3		
ESC 250 Differential Equations	3			ESC 350 Linear Algebra	3		
ESC 321 Engineering Thermodynamics	3			MTH 283 Multivariable Calculus for Engrs	2		
Society & Human Behavior Elective	3		SHB	CHM 331 Organic Chemistry I	3		
ESC 130 Engr/Comp Sci Career Preparation	1			CHM 336 Organic Chemistry Lab I	1		
Semester Total	18			Semester Total	16		

Third Year

Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
CHE 302 Chem. Engr. Thermodynamics	4			CHE 404 Chemical Reactor Design	4		WAC
CHE 306 Transport Phenomena	4			CHE 408 Separation Processes	4		
CHE 307 Chemical Engineering Methods	3		WAC	ESC 310 Engineering Statistics	3		
ESC 270 Materials Science	3			ESC 282 Engineering Economy	3		
PHL 215 Engineering Ethics	3		HCC	Global Human Perspectives Elective	3		GHP
	17				17		

Fourth Year

Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
CHE 430 Process Control	4			CHE 420 Senior Chemical Engineering Lab	4		
CHE 440 Process Design I	3		WAC	CHE 441 Process Design II	3		
CHE 448 Chemical Process Safety	3			Technical Elective**	3		
Technical Elective**	3			Technical Elective**	2		
African-American History & Culture Elective	3		AAHC	Diversity in Society Elective	3		DIS
Semester Total	16			Semester Total	15		

Degree Total hours: 129

Core Curriculum Key:

GHP = Global Human Perspectives (one course)
IL = Inquiry Launch (one course)*
FYV = Finding Your Voice (one course, C or better required)
SHB = Society & Human Behavior (one course)
SI = Scientific Inquiry (two courses, one lab credit)
GHP = Global Human Perspectives (one course)
DDL = Data & Digital Literacy (one course, can be satisfied by a second FQR course)
QFR = Quantitative & Formal Reasoning (one course)
RPW = Research & Professional Writing (one course, C or better required)
HCC = Human Culture & Creativity (one course)
WAC/SPAC = Writing/Speaking Across the Curriculum Req (2 courses, one in the major)
AAHC = African-American History & Culture (one course)
DiS = Diversity in Society (one course)

*INQ 170 is required for all engineering, technology, and computer science majors, and meets the Core Curriculum requirement for Inquiry Launch. ESC 120 is required in place of INQ 170 in the following cases: (a) transfer students; however, those who have had co-op experience in engineering/computer science and/or have transferred 12 credits of engineering/computer science courses can petition to waive ESC 120; (b) students who, as freshmen at CSU, started in another major and completed an Inquiry Launch course different from INQ 170; (c) Honors students who take the Honors Inquiry Launch course. Neither INQ 170 nor ESC 120 is required for transfer students with an Associates of Applied Science degree.
** Students who complete cooperative education credit hours (ESC 300/400) may use up to three of these credit hours to replace one technical elective.
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