

Cleveland State University
BS Biomedical 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
BIO 200 Introductory Biology I	3		SI	CHM 261 General Chemistry I	3		SI
BIO 201 Introductory Biology Lab I	1		SI	CHM 266 General Chemistry Lab I	1		SI
MCE 180 Computer Aided Design I	2			MCE 181 Computer Aided Design II	2		
Semester Total	16			Semester Total	18		

Second Year							
Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
PHY 242 University Physics II	5		SI	BME 300 Introduction to Biomedical Engr.	3		
ESC 152 Programming with MATLAB	3			ESC 201 Statics	3		
ESC 250 Differential Equations	3			BIO 266 Human Anatomy & Physiology I	3		
CHM 262 General Chemistry II	3		SI	BIO 267 Human Anatomy & Physiology Lab I	1		
CHM 267 General Chemistry Lab II	1		SI	CHM 331 Organic Chemistry I	3		
ESC 130 Engr/Comp Sci Career Preparation	1			CHM 336 Organic Chemistry Lab I	1		
				ESC 310 Engineering Statistics	3		
Semester Total	16			Semester Total	17		

Third Year							
Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
BME 302 Biofluids/Biotransport	3			BME 306 Systems Physiology	3		
BME 304 Cell & Tissue Biology	3			ESC 315 Electrical Engineering Concepts	3		
ESC 211 Strength of Materials	3			BME 390 Clinical Experience	1		WAC
ESC 270 Materials Science	3			Society & Human Behavior Elective	3		SHB
ESC 282 Engineering Economy	3			Global Human Perspectives Elective	3		GHP
				BME 455 Biomaterials	3		
Semester Total	15			Semester Total	16		

Fourth Year							
Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
PHL 215 Engineering Ethics	3		HCC	BME 430 Biomed Signals & Instrumentation	3		
BME 440 BME Senior Design I	3		WAC	BME 441 BME Senior Design II	3		
BME 451 Biomechanics	3			BME Technical Elective	3		
BME Technical Elective	3			BME Technical Elective	3		
African-American History & Culture Elective	3		AAHC	Diversity in Society Elective	3		DIS
Semester Total	15			Semester Total	15		

Degree Total hours: 128

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 QFR 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)

**Students transferring in >xx ch, or who have already completed an Inquiry Launch course at CSU, will instead take ESC 120 (2 credits).

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MTH 181 Calculus I	4		QFR	PHY 241 University Physics I	5		SI
BIO 200 Introductory Biology I	3		SI	CHM 261 General Chemistry I	3		SI
BIO 201 Introductory Biology Lab I	1		SI	CHM 266 General Chemistry Lab I	1		SI
MCE 180 Computer Aided Design I	2			MCE 181 Computer Aided Design II	2		
Semester Total	16			Semester Total	18		

Second Year							
Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
PHY 242 University Physics II	5		SI	BME 300 Introduction to Biomedical Engr.	3		
BIO 202 Introductory Biology II	3		SI	Society & Human Behavior Elective (Psychology)	3		SHB
BIO 203 Introductory Biology Lab II	1		SI	BIO 266 Human Anatomy & Physiology I	3		
CHM 262 General Chemistry II	3		SI	BIO 267 Human Anatomy & Physiology Lab I	1		
CHM 267 General Chemistry Lab II	1		SI	CHM 331 Organic Chemistry I	3		
ESC 130 Engr/Comp Sci Career Preparation	1			CHM 336 Organic Chemistry Lab I	1		
ESC 250 Differential Equations	3			ESC 310 Engineering Statistics	3		
Semester Total	17			Semester Total	17		

Third Year							
Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
BME 302 Biofluids/Biotransport	3			BME 306 Systems Physiology	3		
BME 304 Cell & Tissue Biology	3			ESC 315 Electrical Engineering Concepts	3		
ESC 152 Programming with MATLAB	3			BME 390 Clinical Experience	1		WAC
ESC 270 Materials Science	3			ESC 282 Engineering Economy	3		
BIO 306 Biochemistry I	3			BIO 310 Genetics	3		
BIO 307 Biochemistry I Recitation	1			BIO 311 Genetics Recitation	1		
Semester Total	16			Semester Total	14		

Fourth Year							
Fall Semester	Credits	Grade	Core	Spring Semester	Credits	Grade	Core
PHL 215 Technology Ethics	3		HCC	BME 430 Biomed Signals & Instrumentation	3		
BME 440 BME Senior Design I	3		WAC	BME 441 BME Senior Design II	3		
BME 495 Biomedical Engineering Research	3			Global Human Perspectives Elective	3		GHP
BME Technical Elective	3			BME Technical Elective	3		
African-American History & Culture Elective	3		AAHC	Diversity in Society Elective	3		DIS
Semester Total	15			Semester Total	15		

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