Cleveland State University

BS Biomedical Engineering

General Track

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 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)

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.

Last Updated November 13, 2024

Cleveland State University

BS Biomedical Engineering

Pre-Med Track

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		
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		

Degree Total hours: 128

Core Curriculum Key:

GHP = Global Human Perspectives (one course)
IL = Inquiry Launch (one course)*
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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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