Cleveland State University – Washkewicz College of Engineering
Bachelor of Electrical Engineering (BEE)
Effective Fall 2025
BEE Degree Map for students immediately eligible for College Writing I, General Chemistry I, and Calculus I

First Year

Fall Semester	Credits	Major	CC	Spring Semester	Credits	Major	CC
ENG 100/101 Intensive Writing **OR** College Writing I	3		FYV	ESC 102/ENG 102 Tech. Writing **OR** College Writing II	3		RPW
MTH 181 Calculus I	4	X	FQR	MTH 182 Calculus II	4	X	DDL/FQR
CHM 261 General Chemistry I	3	X	SI	PHY 241 University Physics I	5	X	SI/SIL
CHM 266 General Chemistry I Lab	1	X	SI	ESC 151 C Programming	3	X	
INQ 170 Inquiry Launch to Engineering*	3	X	IL				
Society and Human Behavior (A&H)	3		SHB				
Semester Total	**17**			**Semester Total**	**15**		

Second Year

Fall Semester	Credits	Major	CC	Spring Semester	Credits	Major	CC
PHY 242 University Physics II	5	X	SI/SIL	EEC 311 Electric Circuits II	4	X	
MTH 283 Multivariable Calculus for Engineers	2	X		EEC 312 Circuits Lab	2	X	
MTH 284 Matrices	2	X		EEC 313 Electronics I	3	X	
EEC 310 Electric Circuits I	4	X		EEC 318 Signals & Systems	3	X	
ESC 250 Differential Equations for Engineers	3	X		PHL 215 Engineering Ethics	3	X	HCC
ESC 130 Engr & Comp Sci Career Prep **	1						
Semester Total	**17**			**Semester Total**	**15**		

Third Year

Fall Semester	Credits	Major	CC	Spring Semester	Credits	Major	CC
EEC 314 Electronics II	3	X		EEC Technical Elective	3	X	
EEC 315 Electronics Lab	2	X		EEC 384 Digital Systems Lab	2	X	
EEC 361 Electromechanical Energy Conversion	3	X		EEC 440 Control Systems	3	X	
EEC 383 Digital Systems	3	X		EEC 441 Control Systems and Lab	2	X	
EEC 414 Technical Communication	2	X	WAC	EEC 460 Engineering Electromagnetics	4	X	
African-American History and Culture	3		AAHC	ESC 310 Statistics & Probability	3	X	
Semester Total	**16**			**Semester Total**	**17**		

Fourth Year

Fall Semester	Credits	Major	CC	Spring Semester	Credits	Major	CC
EEC 450 Communications	3	X		EEC 494 Senior Design II	3	X	CAP
EEC 451 Communications Lab	2	X		EEC Technical Elective	3	X	
EEC 470 Power Electronics I	3	X		EEC Technical Elective	3	X	
EEC 471 Power Electronics Lab	2	X		ESC 282 Engineering Economy	3	X	
EEC 493 Senior Design I	2	X	WAC	Diversity in Society	3		DS
Global Human Perspectives (A&H)	3		GHB				
Semester Total	**15**			**Semester Total**	**15**		

Degree Total Hours: 126 (or 127 with ESC 130)

Assumption: University Requirement of Foreign Language has been met by either successfully completing two (2) years of the same language in high school; or two (2) semesters of the same language in college; or passing CSU's language placement test in reading, writing, and speaking of a second language other than English.

College/Program Notes: The plan above is a suggested guide to ensure that all Core Curriculum, College, University, and Major requirements are met within 4 years of study. Students may deviate from the suggested placement of Core Curriculum courses, although the FYP, RPW, FQR and DDL requirements should be completed during the first year of study. General Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 126 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). For information about acquiring a Math Minor by substituting **ESC 250** Differential Equations with **MTH 286** Differential Equations, email: impt.engr.info@csuohio.edu. C or better is required for ENG 100/101, ESC 102/ENG 102, MTH 181&181, CHM 261&266 and PHY 241.

* 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.

** ESC 130 is highly recommended but not required.

Core Curriculum Key + Notes		
AAHC = African-American History and Culture	**CAP** = Capstone Requirement	**DDL**= Data & Digital Literacy
DS = Diverse Society	**FQR** = Formal & Quantitative Literacy	**FYV** = Finding Your Voice
GHP= Global Human Perspectives	**HCC** = Human Culture and Creativity	**IL** = Inquiry Launch
RPW = Research & Professional Writing	**SHB** = Society & Human Behavior	**SI** = Scientific Inquiry
SIL = Scientific Investigations Lab	**WAC** = Writing Across the Curriculum Req	

Cleveland State University – Washkewicz College of Engineering

Bachelor of Electrical Engineering (BEE)

Effective Fall 2025

BEE Co-op Degree Map for students immediately eligible for College Writing I, General Chemistry I, and Calculus I

First Year

Fall Semester	Cr.	Type	Spring Semester	Cr.	Type	Summer Semester	Cr.	Type
ENG 100 or ENG 101 Writing	3	FYV	ENG 102 or ESC 102 Writing	3	RPW			
MTH 181 Calculus I	4	FQR	MTH 182 Calculus II	4	DDL/FQR			
CHM 261 General Chemistry I	3	SI	PHY 241 University Physics I	5	SI/SIL			
CHM 266 General Chemistry I Lab	1	SI	ESC 151 C Programming	3				
INQ 170 Inquiry Launch to Engr.*	1	IL						
Semester Total	***14***		***Semester Total***	***15***		***Semester Total***		

Second Year

Fall Semester	Cr.	Type	Spring Semester	Cr.	Type	Summer Semester	Cr.	Type
PHY 242 University Physics II	5	SI/SIL	EEC 311 Electric Circuits II	4		ESC 300/400 Fenn Co-op Educ Exper	1	
MTH 283 Multivar. Calculus for Engr.	2		EEC 312 Circuits Lab	2				
MTH 284 Matrices	2		EEC 313 Electronics I	3				
EEC 310 Electric Circuits I	4		EEC 318 Signals & Systems	3				
ESC 250 Diff. Equations for Engineers	3		PHL 215 Engineering Ethics	3	HCC			
			ESC 130 Engr & Comp Sci Career Prep	1				
Semester Total	***16***		***Semester Total***	***16***		***Semester Total***		

Third Year

Fall Semester	Cr.	Type	Spring Semester	Cr.	Type	Summer Semester	Cr.	Type
EEC 314 Electronics II	3		ESC 300/400 Fenn Co-op Educ Exper	1		Global Human Perspectives (A&H)	3	GHB
EEC 315 Electronics Lab	2					Society and Human Behavior (A&H)	3	SHB
EEC 361 Electromech. Energy Conv.	3							
EEC 383 Digital Systems	3							
EEC 414 Technical Communication	2	WAC						
African-American History and Culture	3	AAHC						
Semester Total	***16***		***Semester Total***			***Semester Total***	***6***	

Fourth Year

Fall Semester	Cr.	Type	Spring Semester	Cr.	Type	Summer Semester	Cr.	Type
ESC 300/400 Fenn Co-op Educ Exper	1		EEC Technical Elective	3		ESC 300 or ESC 400 Co-Op	1	
			EEC 384 Digital Systems Lab	2				
			EEC 440 Control Systems	3				
			EEC 441 Control Systems and Lab	2				
			EEC 460 Engr. Electromagnetics	4				
			ESC 310 Statistics & Probability	3				
Semester Total			***Semester Total***	***17***		***Semester Total***		

Fifth Year

Fall Semester	Cr.	Type	Spring Semester	Cr.	Type	Summer Semester	Cr.	Type
EEC 450 Communications	3		EEC 494 Senior Design II	3	CAP			
EEC 451 Communications Lab	2		EEC Technical Elective	3				
EEC 470 Power Electronics I	3		EEC Technical Elective**	3				
EEC 471 Power Electronics Lab	2		ESC 282 Engineering Economy	3				
EEC 493 Senior Design I	2	WAC						
Diversity in Society	3	DS						
Semester Total	***15***		***Semester Total***	***12***		***Semester Total***		

Degree Total Hours: 127 (excludes ESC 300/400)

Assumption: University Requirement of Foreign Language has been met by either successfully completing two (2) years of the same language in high school; or two (2) semesters of the same language in college; or passing CSU's language placement test in reading, writing, and speaking of a second language other than English.

College/Program Notes: The plan above is a suggested guide to ensure that all Core Curriculum, College, University, and Major requirements are met within 5 years of study. Students may deviate from the suggested placement of Core Curriculum courses, although the FYP, RPW, FQR and DDL requirements should be completed during the first year of study. General Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 126 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). For information about acquiring a Math Minor by substituting **ESC 250** Differential Equations with **MTH 286** Differential Equations, email: impt.engr.info@csuohio.edu. C or better is required for ENG 100/101, ESC 102/ENG 102, MTH 181&181, CHM 261&266 and PHY 241.

* 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 3 credit hours of ESC 300/400 (three semesters of co-op rotations) can substitute 3 credit hours of Electrical Engineering Technical Electives with the three ESC 300/400 courses.

Core Curriculum Key + Notes		
AAHC = African-American History and Culture	**CAP** = Capstone Requirement	**DDL**= Data & Digital Literacy
DS = Diverse Society	**FQR** = Formal & Quantitative Literacy	**FYV** = Finding Your Voice
GHP= Global Human Perspectives	**HCC** = Human Culture and Creativity	**IL** = Inquiry Launch
RPW = Research & Professional Writing	**SHB** = Society & Human Behavior	**SI** = Scientific Inquiry
SIL = Scientific Investigations Lab	**WAC** = Writing Across the Curriculum Req	