

Cleveland State University
Washkewicz College of Engineering
Bachelor of Electrical Engineering (BEE)
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								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								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 Engineering Co-op Orientation**	1												
Semester Total	17			Semester Total	15								

Third Year													
Fall Semester				Credits	Major	CC	Spring Semester						
Credits	Major	CC								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								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.

* ESC 120, instead, is required in the following cases: (a) for students with an Associate of Science degree; (b) for transfer students with over 60 credits completed before transferring to CSU (those who have had co-op experience in engineering/computer science and/or 12 credits of engineering/computer science courses can petition to waive ESC 120); and (c) students who, as freshmen at CSU started in another major and completed an Inquiry Launch course different from INQ 170 or Honors students who take the Honors Inquiry Launch course.

** 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	

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Cleveland State University
Washkewicz College of Engineering
 Bachelor of Electrical Engineering (BEE Co-op)
 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 or ESC 400 Co-Op	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. Co-op Orientation	1				
Semester Total	16		Semester Total	16		Semester Total	1	

Third Year								
Fall Semester	Cr.	Type	Spring Semester	Cr.	Type	Summer Semester	Cr.	Type
EEC 314 Electronics II	3		ESC 300 or ESC 400 Co-Op	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	1		Semester Total	6	

Fourth Year								
Fall Semester	Cr.	Type	Spring Semester	Cr.	Type	Summer Semester	Cr.	Type
ESC 300 or ESC 400 Co-Op	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	1		Semester Total	17		Semester Total	1	

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: 126 (excluding ESC 130 and ESC 300/400)

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