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Updated May 2025

Bachelor of ELECTRICAL ENGINEERING (EE)

4-Year Recommended Course Sequence with *Calculus Entry*

Click on the Course Name to access the course in the Undergraduate Catalog 24-25

Fall Semester 1	Spring Semester 2	Fall Semester 3	Spring Semester 4	Fall Semester 5	Spring Semester 6	Fall Semester 7	Spring Semester 8
★ INQ 170 [3] Inquiry Launch to Engineering	ESC 151 [3] C Programming	EEC 310 [4] Electric Circuits I (*INQ 170, *ESC 250 or *MTH 286, *MTH 284, *PHY 242)	EEC 313 [3] Electronics I (EEC 310)	EEC 383 [3] Digital Systems (*EEC 310 or *PHY 242)	EEC 441 [2] Control Systems Laboratory (*EEC 440)	EEC 493 [2] Senior Design I (*EEC 440 or *EEC 450 or *EEC 470)	EEC 494 [3] Senior Design II (EEC 493)
CHM 261 [3] Gen. Chem. I CHM 266 [1] Gen. Chem. Lab	PHY 241 [5] Physics I (MTH 181)	PHY 242 [5] Physics II (PHY 241, MTH 182)	EEC 311 [4] Circuits II (EEC 310- C or better)	EEC 314 [3] Electronics II (EEC 311, EEC 313, *EEC 315)	EEC 460 [4] Engr. Electro-magnetics (PHY 242, EEC 361)	EEC 450 [3] Communications (ESC 310, EEC 313, EEC 318)	**EEC/CIS Tech Elective [3] 300-400 Level 
MTH 181 [4] Calculus I	MTH 182 [4] Calculus II (MTH 181)	**ESC 130 [1] Engineering & Computer Science Career Preparation	EEC 312 [2] Electric Circuits Lab (*EEC 310)	EEC 315 [2] Electronics Lab (EEC 312, *EEC 313)	**EEC/CIS Tech Elective [3] 300-400 Level 	EEC 451 [2] Comm. Lab (EEC 315 or EEC 316, *EEC 450)	**EEC/CIS Tech Elective [3] 300-400 Level 
ENG 100 [3] Intensive Writing or ENG 101 [3] College Writing I	ESC 102 [3] Technical Writing (Preferred) (ENG 101) OR ENG 102 [3] College Writing II (ENG 101)	ESC 250 [3] Diff EQ for Eng. (MTH 182) OR MTH 286 [3] Intro. to Diff EQ (MTH 182- C or better)	EEC 318 [3] Signals & Systems (*EEC 311)	African American History and Culture [3]	EEC 384 [2] Digital Systems Lab (EEC 383)	EEC 470 [3] Power Electronics I (EEC 314, EEC 318, EEC 361)	Diversity in Society [3]
Society and Human Behavior [3]		MTH 283 [2] Multivariable Calculus (MTH 182- C or better)	PHL 215 [3] Technology Ethics (ENG 102 or ESC 102)	EEC 414 [2] Technical Communication (PHL 215)	EEC 440 [3] Control Systems (EEC 315, EEC 318)	EEC 471 [2] Power Electro. & Lab (EEC 470)	ESC 282 [3] Engineering Economy (MTH 182)
		MTH 284 [2] Matrices for Engineers (MTH 182- C or better)		EEC 361 [3] Electromechanical Energy Conversion (EEC 311, MTH 283)	ESC 310 [3] Statistics & Prob. (MTH 182) OR STA 323 [3] Statistical Methods (MTH 182- C or better)	Global Human Perspectives [3]	
17 Total Credit Hours	15 Total Credit Hours	17 Total Credit Hours	15 Total Credit Hours	16 Total Credit Hours	17 Total Credit Hours	15 Total Credit Hours	15 Total Credit Hours
Total Credits for EE Degree: 126 (or 127 with **ESC 130)							

(Prerequisites) • (*Pre/co-requisite) • [# of Course Credits] • EEC XXX = Only Offered That Fall/Spring Semester

	Required EEC Courses **ESC 130 is Highly recommended, yet optional.
	Required Science Courses
	Required English Courses
	Required Writing Across the Curriculum (WAC) Courses

★ ESC 120 Intro to Engineering Design can replace INQ 170 for transfer students and students who completed an inquiry launch course other than INQ 170. Neither course is required for transfer students with an Associates of Applied Science degree.

	Required EEC Electives **3 semesters of co-op can replace one elective
	Required Math Courses
	Core Curriculum Electives

EASILY EARN A MATH MINOR AS AN EE MAJOR! [CLICK HERE TO LEARN HOW](#)
 500-level courses that satisfy Undergraduate and Master's degree credits

↓ [Scroll Down to View the Precalculus Entry 4-Year Plan Degree Chart](#)

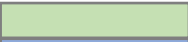
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Updated May 2025

Bachelor of ELECTRICAL ENGINEERING (EE)
4-Year Recommended Course Sequence with *Precalculus Entry*
[CLICK HERE](#) to access Course Catalog Descriptions

Fall Semester 1	Spring Semester 2	Summer Semester #1	Fall Semester 3	Spring Semester 4	Fall Semester 5	Spring Semester 6	Fall Semester 7	Spring Semester 8
★ INQ 170 [3] Inquiry Launch to Engineering	Global Human Perspectives [3]		PHY 241 [5] Physics I (MTH 181)	EEC 310 [4] Electric Circuits I (*INQ 170, *ESC 250 or *MTH 286, *MTH 284, *PHY 242)	EEC 313 [3] Electronics I (EEC 310)	EEC 440 [3] Control Systems (EEC 315, EEC 318)	EEC 493 [2] Senior Design I (*EEC 440 or *EEC 450 or *EEC 470)	EEC 494 [3] Senior Design II (EEC 493)
MTH 165 [3] Intensive Precalc I OR MTH 167 [3] Precalculus I	MTH 168 [3] Precalculus II (MTH 165 or MTH 167)		CHM 261 [3] Gen. Chem. I CHM 266 [1] Gen. Chem I Lab (MTH 168)	PHY 242 [5] Physics II (PHY 241, MTH 182)	EEC 312 [2] Circuits Lab (*EEC 310)	EEC 314 [3] Electronics II (EEC 311, EEC 313, *EEC 315)	EEC 470 [3] Power Electronics I (EEC 314, EEC 318, EEC 361)	EEC 460 [4] Engineering Electromagnetics (PHY 242, EEC 361)
ENG 100 [3] Intensive Writing or ENG 101 [3] College Writing I	ESC 102 [3] Technical Writing (Preferred) (ENG 101) OR ENG 102 [3] College Writing II (ENG 101)	PHL 215 [3] Technology Ethics (ENG 102 or ESC 102)	MTH 182 [4] Calculus II (MTH 181- C or better)	MTH 286 [3] Intro. to Diff EQ (MTH 182- C or better) OR ESC 250 [3] Diff EQ for Eng. (MTH 182- C or better)	EEC 311 [4] Circuits II (EEC 310- C or better)	EEC 361 [3] Electro-Mech Energy conv. (EEC 311, MTH 283)	EEC 471 [2] Power Electro. & Lab (EEC 470)	ESC 282 [3] Engr. Economy (MTH 182)
Society and Human Behavior [3]	Diversity in Society [3]		ESC 151 C Programming [3] (MTH 168)	MTH 283 [2] Multivariable Calculus (MTH 182- C or better)	EEC 383 [3] Digital Systems (*EEC 310, *PHY 242)	EEC 318 [3] Signals & Systems (*EEC 311)	EEC 450 [3] Communications (ESC 310, EEC 313, EEC 318)	EEC 384 [2] Digital Systems Lab (EEC 383)
African American History and Culture [3]		OPSTEM MTH 180 SUMMER CALCULUS I (Average B- or better in MTH 167&168) [4]	**ESC 130 [1] Engineering Co-op Orientation	MTH 284 [2] Matrices (MTH 182)	ESC 310 [3] Statistics & Prob. (MTH 182) OR STA 323 [3] Statistical Methods (MTH 182- C or better)	EEC 441 [2] Control Systems Lab (*EEC 440)	EEC 451 [2] Comm. Lab (EEC 315 or EEC 316, *EEC 450)	**EEC/CIS Tech Elective [3] 300-400 Level 
					EEC 414 [2] Writing in ECE (PHL 215)	EEC 315 [2] Electronics Lab (EEC 312, *EEC 313)	**EEC/CIS Tech Elective [3] 300-400 Level 	**EEC/CIS Tech Elective [3] 300-400 Level 
14 Total Credit Hours	13 Total Credit Hours	7 Total Credit Hours	15 Total Credit Hours	16 Total Credit Hours	17 Total Credit Hours	16 Total Credit Hours	15 Total Credit Hours	16 Total Credit Hours
Total Credits for EE Degree: 132 or 133 including ESC 130 Engineering Co-op Orientation								

(Prerequisites) • (*Pre/co-requisite) • [# of Course Credits] • EEC XXX = Only Offered That Fall/Spring Semester

-  Required EEC Courses **ESC 130 is highly recommended, yet optional
-  Required Science Courses
-  Required English Courses
-  Required Writing Across the Curriculum (WAC) Courses

-  Required EEC Electives **3 semesters of co-op can replace one elective
-  Required Math Courses
-  Core Curriculum Electives

EASILY EARN A MATH MINOR AS AN EE MAJOR! [CLICK HERE](#) TO LEARN HOW
 **500-level courses that satisfy Undergraduate and Master's degree credits**

★ **ESC 120** Intro to Engineering Design can replace **INQ 170** for transfer students and students who completed an inquiry launch course other than INQ 170. Neither course is required for transfer students with an Associates of Applied Science degree.

↓ **Scroll Down to View the Precalculus Entry 5-Year Plan Degree Chart** ↓

Begin to earn credits toward a Master's Degree while taking undergraduate courses!
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Bachelor of ELECTRICAL ENGINEERING (EE)

5-Year Recommended Course Sequence with *Precalculus Entry*

[CLICK HERE](#) to access Course Catalog Descriptions

Fall Semester 1	Spring Semester 2	Fall Semester 3	Spring Semester 4	Fall Semester 5	Spring Semester 6	Fall Semester 7	Spring Semester 8	Fall Semester 9	Spring Semester 10
★ INQ 170 [3] Inquiry Launch to Engineering	ESC 102 [3] Technical Writing (Preferred) (ENG 100 or ENG 101) or ENG 102 [3] College Writing II	CHM 261 [3] Gen. Chem. I CHM 266 [1] Gen. Chem I Lab (MTH 168)	PHY 241 [5] Physics I (MTH 181)	EEC 310 [4] Electric Circuits I (*INQ 170, *ESC 250 or *MTH 286, *MTH 284, *PHY 242)	MTH 283 [2] Multivariable Calculus for Eng. (MTH 182)	EEC 383 [3] Digital Systems (*EEC 310 or *PHY 242)	EEC 384 [2] Digital Systems Lab (EEC 383)	EEC 493 [2] Senior Design I (*EEC 440 or *EEC 450 or *EEC 470)	EEC 494 [3] Senior Design II (EEC 493)
MTH 165 [3] Intensive Precalc I OR MTH 167 [3] Precalculus I	MTH 168 [3] Precalculus II (MTH 165, MTH 167- C or better)	MTH 181 [4] Calculus I (MTH 168- C or better)	MTH 182 [4] Calculus II (MTH 181- C or better)	PHY 242 [5] Physics II (PHY 241, MTH 182)	EEC 313 [3] Electronics I (EEC 310)	EEC 315 [2] Electronics Lab (EEC 312, *EEC 313)	EEC 361 [3] Electro-Mech Energy conv. (EEC 311, MTH 283)	EEC 450/451 [5] Comm. & Lab (EEC 313, ESC 310, EEC 318)	EEC 460 [4] Engr. Electro-magnetics (PHY 242, EEC 361)
ENG 100 [3] Intensive Writing or ENG 101 [3] College Writing I	African American History and Culture [3]	PHL 215 [3] Technology Ethics (ENG 102 or ESC 102)	Diversity in Society [3]	ESC 250 [3] Diff EQ for Eng. (MTH 182) OR MTH 286 [3] Intro. to Diff EQ (MTH 182- C or better)	EEC 311 [4] Circuits II (EEC 310- C or better)	ESC 310 [3] Statistics and Probability (MTH 182) OR STA 323 [3] Statistical Methods (MTH 182)	EEC 318 [3] Signals & Systems (*EEC 311)	EEC 470/471 [5] Power & Electronics Lab (EEC 314, EEC 361, EEC 318)	**EEC/CIS Tech Elective [3] 300-400 Level
Society and Human Behavior [3]	Global Human Perspectives [3]	ESC 151 [3] C Programming (MTH 168)		MTH 284 [2] Matrices (MTH 182)	EEC 312 [2] Circuits Lab (*EEC 310)	EEC 314 [3] Electronics II (EEC 311, EEC 313, *EEC 315)	EEC 440 [3] Control Systems (EEC 315, EEC 318)	**EEC/CIS Tech Elective [3] 300-400 Level	**EEC/CIS Tech Elective [3] 300-400 Level
		**ESC 130 [1] Engineering Co-op Orientation			ESC 282 [3] Engineering Economy (MTH 182)	EEC 414 [2] Writing in ECE (PHL 215)	EEC 441 [2] Control Systems Lab (*EEC 440)		
12 Total Credit Hours	12 Total Credit Hours	15 Total Credit Hours	14 Total Credit Hours	14 Total Credit Hours	14 Total Credit Hours	13 Total Credit Hours	13 Total Credit Hours	15 Total Credit Hours	13 Total Credit Hours
Total Credits for EE Degree: 132 or 133 including ESC 130 Engineering Co-op Orientation									

(Prerequisites) • (*Pre/co-requisite) • [# of Course Credits] • EEC XXX = Only Offered That Fall/Spring Semester

	Required EEC Courses ** ESC 130 is Highly recommended, yet optional.
	Required Science Courses
	Required English Courses
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 [500-level courses that satisfy Undergraduate and Master's degree credits](#)

★ ESC 120 Intro to Engineering Design can replace INQ 170 for transfer students and students who completed an inquiry launch course other than INQ 170. Neither course is required for transfer students with an Associates of Applied Science degree.

↓ **Be Sure to Select a Course Listed Below that Qualifies for Two (2) General Ed. Electives** ↓

Updated March 2025

To eliminate one (1) of your General Education Requirements,
consider taking a course that qualifies as two (2) General Ed. Electives

Recommended Courses that Qualify as Two (2) General Ed. Electives

Course	Social Sciences (SS)	Arts & Humanities (AH)	Non-Western Social Sciences (ALAAME & NW-SS)
ANT 153 – Intro to African Cultures (FALL ONLY)	X		X
ANT 275 – Ancient Mysteries	X		X
COM 233 – Bollywood & Beyond	X		X
HIS 103 – Ancient World His to 1300 C.E.	X		X
HIS 104 – Modern World History	X		X
SOC 210 – Dev. Societies in Changing World	X		X
UST 206 – Megacities of Asia	X		X
ANT 103 – Rise/Fall of Civilizations		X	X
ANT 171 – Native Civilization of Americas		X	X
ARB 274 – Introduction to Middle East (SPRING ONLY)		X	X
ART 281 – Asian Art		X	X
ART 286 – African Art		X	X
HIS 165 – Intro to Latin American History (SPRING ONLY)		X	X
HIS 175 – Intro to African History		X	X
HIS 185 – Survey of Middle Eastern History		X	X
HIS 195 – Intro to East Asian History		X	X
MUS 263 – Black Music of Two Worlds		X	X
PHL 255 – Non-Western Philosophy		X	X
PHL 262 – Medieval Philosophy (SPRING ONLY)		X	X
REL 101 – Understanding Religion		X	X
REL 268 – Religion & Culture in Africa (FALL ONLY)		X	X

**Popular Introductory General Ed.
Courses for Engineering Students**

SOCIAL SCIENCES (SS)

[PSY 220 – Child Development \(SS\)](#)

[UST 200 – Cleveland: The City \(SS\)](#)

[COM 233 – Bollywood & Beyond \(SS & ALAAME\)](#)

[HIS 103 – Ancient World His. to 1300 C.E. \(SS & ALAAME\)](#)

ARTS & HUMANITIES (AH)

[MUS 161 – Roots of Rock & Soul \(AH\)](#)

[UST 201 – Building Cleveland \(AH\)](#)

[REL 101 – Understanding Religion \(AH & ALAAME\)](#)

[MUS 263 – Black Music of Two Worlds \(AH & ALAAME\)](#)

US DIVERSITY (US DIV)

[ANT 100 – Human Diversity \(US DIV\)](#)

[SOC 201 – Race/Class/Gender \(US DIV\)](#)

AFRICAN-AMERICAN (AFRICAN-AMER.)

[SWK 150 – The Black Experience \(African- Amer.\)](#)

[UST 202 – Cleveland: The Afr-Amer Exp. \(African-Amer.\)](#)