

Student ID: STUDENT ID

Student Name: STUDENT NAME

Academic Program: Electrical Engineering

Academic Plan: Electrical Engineering

Requirement: Fall Semester 2023-24

General Education (A&B) (8 Courses – 24 Credits)

A. Core: 6 Courses – 18 Credits		
Course	Grade	Prerequisites
I. Writing Courses (3 Courses)		
ENGL 100 – Academic English I	*	GEPT/TOEL Score/ENGL 098
ENGL 110 – English Composition I	*	GEPT/TOEFL Score/ENGL 100
ENGL 112 – English Composition II	*	GEPT/TOEFL Score/ENGL 110
II. Communication (1 Course)		
MCM 102 – Introduction to Public Speaking	*	ENGL 100/110/112
III. Technical Writing (1 Course)		
ENGL 202 – Technical Writing	*	ENGL 112 & CEA
IV. Arab Heritage and Cultural Diversity (1 Course)		
Arab Heritage & Cultural Diversity Offering		

B. Explore: 2 Courses – 6 Credits		
I. Social Sciences (1 Courses)		
ECON 101 – Principles of Microeconomics	*	MATH 111 or MATH 098
II. Humanities & Fine Arts (1 Courses)		
Humanities & Fine Arts Offering		

Mathematics & Natural Science (13 Course – 31 Credits)		
Must Complete All		
CHEM 110 – General Chemistry I	ELG-2301	ENGL 098 & (CHEM 110L coreq) & (CS or CEA)
PHYS 110 – Physics I	*	(MATH 098/GMPT Score) & PHYS 110L co-req
CHEM 110L – General Chemistry I Laboratory	*	CHEM 110 co-req
PHYS 110L – Physics I Laboratory	*	PHYS 110 co-req
PHYS 112 – Physics II	*	PHYS 112L co-req & 110 & 110L & MATH 131
PHYS 112L – Physics II Lab	*	PHYS 112 co-req
CHEM 115L – Introduction to Laboratory Safety and Hazardous Materials	*	CHEM 110L & Passed ENGL Foundation
MATH 131 – Analytic Geometry and Calculus I	*	MATH 098 GMPT Score
MATH 132 – Analytic Geometry and Calculus II	*	MATH 131
MATH 140 – Elementary Linear Algebra	*	MATH 098 or 130 or GMPT Score
MATH 221 – Applied Statistics	*	MATH 131
MATH 231 – Analytic Geometry & Calculus III	*	MATH 132
MATH 232 – Introduction to Differential Equations	*	MATH 132

Engineering Breadth Courses (7 Courses – 17 Credits)		
Must Complete All		
ENGG 101 – Study & Careers in Engineering	ELG-2301	ENGL 098/100/110/112
ENGG 102 – Engineering Design with Computer Applications	*	ENGG 101
ENGG 105 – Engineering Mechanics, Statics	*	PHYS 110 & MATH 231
CSC 122 – Computational Problem Solving	*	ENGL 098/100/110/112 & (CS or CEA Majors)
CSC 125 – Object Oriented Programming I	*	CSC 122
ELEN 251 – Circuits I	*	MATH 132 & ELEN 251L co-req
ELEN 251L – Circuits I Lab	*	ELEN 251 co-req

Major Core Requirements (23 Courses – 47 Credits) (A&B&C)		
A – 21 Courses		
ELEN 221 – Introduction to Electronic Devices	*	ELEN 251 & 251L & 221L co-req & PHYS 112

ELEN 221L – Introduction to Electronic Devices Lab	*	ELEN 251 & 251L & PHYS 112
COEN 230 – Digital Systems	*	CSC 125
COEN 230L – Digital Systems Lab	*	CSC 125 & COEN 230 co-req
ELEN 253 – Circuits II	*	ELEN 251 & MATH 231
ELEN 331 – Linear Control Systems	*	ELEN 253 & MATH 232 & ELEN 331L co-req
ELEN 331L – Linear Control Systems Lab	*	ELEN 253 & 331 co-req & MATH 232
ELEN 343 – Digital Communication I	*	ELEN 253 & 343L co-req
ELEN 343L – Digital Communication I Lab	*	ELEN 253 & 343 co-req
ELEN 353 – Electronics I	*	ELEN 221 & 221L & 253 & 353L co-req & CSC 300
ELEN 353L – Electronics I Lab	*	ELEN 221 & 221L & 253 & 353 co-req & CSC 300
ELEN 371 – Electromagnetics	*	ELEN 253 & PHYS 112 & MATH 232
ELEN 332 – Introduction to Robotics	*	ELEN 331
ELEN 332L – Robotics Lab	*	ELEN 331 & ELEN 406 co-req
ELEN 390 – Electrical Engineering Internship	*	Senior Standing
ELEN 404 – Renewable and Sustainable Energy Systems	*	
ELEN 404L – Renewable and Sustainable Energy System Lab	*	ELEN 404 co-req
ELEN 471 – Antennas and Microwave Engineering	*	ELEN 371
ELEN 471 – Antennas and Microwave Engineering Lab	*	ELEN 371 & ELEN 471 co-req
ELEN 491 – Senior Project I	*	ECON 101, ENGL 112, Senior Standing
ELEN 492 – Senior Project II	*	ELEN 491 & MATH 221 & MCM 102
B – Power Elective 1 Course		
ELEN 312 – Power Systems Design and Analysis	*	
ELEN 311 – Electromechanics	*	
C – Power Elective Lab 1 Course		
ELEN 312L – Power Systems Design Lab	*	
ELEN 311L – Electromechanics Lab	*	

Major Electives (3 Courses – 9 Credits) (A&B&C)		
A- 1 Course		
ELEN 311 – Electromechanics	*	
ELEN 312 – Power Systems Design and Analysis	*	
ELEN 334 – Basic Programmable Logic Controllers	*	
ELEN 341 – Digital Signal Processing	*	ELEN 253
B- 1 Course		
ELEN 434 – Advanced PLC	*	
ELEN 443 – Communication Systems II	*	
ELEN 452 – Power Electronics	*	
ELEN 454 – Power Systems Engineering	*	
C- 1 Course		
Any course COEN 300 or 400 Level approved by Department		

	UNITS	COURSES
University Requirements	128	54
Earned Credits	0	0
Transferred Credits	0	0
Satisfactory Credits	0	0
Total Credits	0	0
Needed	128	54



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General Education Requirements

Students are required to complete 24 credits of General Education Requirements. 18 credits from the CORE & 6 credits from EXPLORE area.

1. Core Writing Offering
Students placed in advance level of English can substitute ENGL 100/110 with any advance ENGL or MCM course.
2. Arab Heritage & Cultural Diversity Offerings
Any course with code ARAB, HIST, GSM, ISTD or any of the following courses: ANTH 212, FREN 122, 270, 280, GRMN 122, 380, SPAN 122, 270, 380, PHIL 185, PHIL 109, MUSC 109, SOC 120
3. Social Science Offerings
Any course with code ANTH, ECON, GEOG, HIST, MCM, POLI, PSYC, SOC.
4. Humanities & Fine Arts Offerings
Any course with code ARAB, ART, CHIN, ENGL, FREN, GRMN, HIST, MUSC, PHIL, SPAN, THTR, ISTD.