

REQUIREMENT SHEET

UNDERGRADUATE MAJOR: *BS Electrical Engineering*
2021/22

CREDITS REQUIRED IN MAJOR: 128.5

A grade of D- or higher is required in all courses for the major.

FOUNDATION/REQUIRED MAJOR COURSES

COURSE NUMBER	COURSE NAME	CREDIT S	PREREQUISITES	OFFERED	Online
Eng 100	Writing I: Writing, Reading, & Inquiry	3	FY Student	Fall, Spring	Yes
Eng 102	Academic Writing 2	3	Eng 100	Fall, Spring	Yes
ITP 210	Technical Writing Level 3	3	Eng 100 and Eng 102	Fall, Spring, Summer	Yes
CHY 113	Principles of Chemistry I	3	Mat 108, 140, 152 or concurrent	Fall, Spring	No
CHY 114	Principles of Chemistry Lab I	1.5	Co-req with CHY 113	Fall, Spring	No
PHY 121	General Physics I	4	Co-req Mat 152	Fall, Spring, Summer	No
PHY 114	Physics Lab I	1	Co-req Phy 121	Fall, Spring, Summer	No
PHY 123	General Physics 2	4	C or higher in Phy 121	Fall, Spring, summer	No
PHY 116	General Physics 2 Lab	1	Co-req Phy 123	Fall, Spring, Summer	No
Mat 152	Calculus A	4	Mat 140 or approp score on college level exam	Fall, Spring, Summer	Yes
Mat 145	Discrete Math I	3	Mat 108 or 140 or 152	Fall, Spring, Summer	Yes
Mat 153	Calculus B	4	Mat 152	Fall, Spring, Summer	Yes
Mat 252	Calculus C	4	Mat 153	Fall, Spring, Summer	No
Mat 380	Theory of Probability & Stats	3	Mat 153	Spring, Summer	Yes
ELE 216	Circuits I: Steady-State Analysis	3	Mat 153, Phy 123	Fall, Spring at SMCC	No
ELE 217	Circuits 2: System Dynamics	3	ELE 216, Co-req EGN 248, ITP 210	Spring, Summer	No
ELE 219	Circuits 2 Lab	1	Co-req ELE 217	Spring, Summer	No

EGN 160 or COS 160	Intro to Programming C or Java	3	EGN 160 None COS 160 Grade C or higher in Mat 108	Fall Fall, Spring	No Yes
COS 170	Java lab	1	Co-Req COS 160	Fall, Spring	Yes
EGN 182	Engineering Tools: Solidworks	1	None	Fall	No
EGN 248	Differential Equations & Linear Algebra	4	Mat 153	Fall, Spring	No
ELE 323	Electromechanical Energy Conversion	3	ELE 217, ITP 210	Fall	No
THE 170	Public Speaking	3	None	Fall, Spring, Summer	Yes
EGN 301	Jr. Design Project, EGN Profession	3	ITP 210, THE 170, or Permission	Spring	No
EGN 304	Engineering Economics	3	Mat 152	Spring	No
EGN 18_	Engineering Tools lab	1	None	Fall, Spring	No
EGN 402	Senior Design Project	3	EGN 301, EGN 304, or permission	Fall, Spring, Summer	No
EGN 3XX	Engineering Elective >300	3	Depends on course chosen	Fall or Spring	No
EGN 3XX	Engineering Elective >300	3	Depends on course chosen	Fall or Spring	No
EGN 3XX	Engineering Elective >300	3	Depends on course chosen	Fall or Spring	No
EGN 3XX	Engineering Elective >300	3	Depends on course chosen	Fall or Spring	No

MAJOR REQUIREMENTS: 29 CREDITS

COURSE NUMBER	COURSE NAME	CREDIT S	PREREQUISITES	OFFERED	Online
EGN 187	Engineering Tools: Circuit Stimulation	1	None	Fall	No
ELE 262	Physics Electronics	3	Chy 113 and co-req ELE 217	Spring	No
ELE 314	Linear Signals & Systems	3	Ele 217, EGN 248	Fall	No
ELE 342	Electronics I: Devices & Circuits	4	ELE 217/219, ELE 262	Fall	No
ELE 343	Electronics 2: Electronic Design	4	ELE 342	Spring	No
ELE 483	Communications Engineering	3	ELE 314	Spring	No
ELE 351	Electromagnetic Fields	3	ELE 217, EGN 248, Mat 252	Fall	No
ELE 486	Digital Signal Processing	3	EGN 160, ELE 314	Spring	No

ELE 489	Digital Signal Processing Lab	1	ELE 219, co-req ELE 486	Spring	No
EGN 325	Control Systems	3	ELE 217, EGN 248	Spring	No
EGN 329	Control Systems Lab	1	ELE 323, ELE 219, co-req EGN 325	Spring	No

CAPSTONE SENIOR SEMINAR (3 CREDITS)

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES	OFFERED	Online
EGN 402	Senior Design Project	3	EGN 301, EGN 304	Fall, Spring, Summer	No

MAJOR COURSES OVERLAPPING IN THE CORE:

CORE AREA	COURSE NUMBER	COURSE NAME	REQUIRED BY MAJOR?
WRI 1	Eng 100	Writing, Reading, & Inquiry 1	Yes
WRI 2	Eng 102	Academic Writing 2	Yes
WRI 3	ITP 210	Technical Writing 3	Yes
QR	Mat 152	Calculus 1	Yes
CE	THE 170	Public Speaking	Yes
SE	CHY 113/114	Principles of Chemistry 1 and Lab	Yes
EISRC	EGN 304	Engineering Economics	Yes
EL	EGN 301	Jr.Design Project	Yes
CAP	EGN 402	Senior Design Project	Yes

CORE CURRICULUM CODES

WRI 1 – Writing, Reading, & Inquiry 1 (ENG 100)

WRI 2 – Writing, Reading, & Inquiry 2 (ENG 102)

WRI 3 – Writing, Reading, & Inquiry 3 (ITP 210)

QR – Quantitative Reasoning

CE – Creative Expression

SCA – Socio-cultural Analysis

CI – Cultural Interpretation

SE – Science Exploration

EISRC – Ethical Inquiry, Social Responsibility, & Citizenship

DIV – Diversity

INT – International

EL – Engaged Learning

CAP – Capstone