

# Engineering (Bachelor of Science Engineering) Course Plan Electrical Concentration

TIER II – Math ACT of 22 - 24/Math SAT of 540 - 580

Freshman Fall Semester			Freshman Spring Semester		
MATH 111	College Algebra	3	MATH 115	Precalculus	3
ENGR 100	Freshman Seminar*	1	BIOL 111	Basic Biology	4
ENGR 110	Introductory Engineering Applications*	3	ENGL 102	Academic Writing & Literature	3
ENGL 101	Academic Writing	3	ENGR 120	Foundations of Engineering Design I*	3
CHEM 111	General Chemistry I	4	CHEM 113	General Chemistry II	4
			CUC 100	Connections	0.5
<b>Semester Total:</b>		<b>14.0</b>	<b>Semester Total:</b>		<b>17.5</b>

Summer Semester after Freshman Year					
MATH 122	Calculus I	4	ENGR 121	Foundations of Engineering Design II*	3
<b>Semester Total:</b>					<b>7.0</b>

Sophomore Fall Semester			Sophomore Spring Semester		
MATH 223	Calculus II	4	MATH 224	Calculus III	4
PHYS 251	Fundamentals of Physics I	4	ENGR 300	Engineering Economics	3
ENGR 220	Statics & Strength of Materials	3	PHYS 252	Fundamentals of Physics II	4
ENGL 2xx	Literature	3	ENGR 260	Electrical Circuits*	4
ECON 201	Microeconomics	3	PE 185	Lifetime Wellness Elective	2
CUC 200	Connections	0.5			
<b>Semester Total:</b>		<b>17.5</b>	<b>Semester Total:</b>		<b>17.0</b>

Junior Fall Semester			Junior Spring Semester		
MATH 310	Differential Equations and Linear Algebra	4	ENGR 320	Fluids*	3
ELEC 325	Embedded Systems*	4	ELEC 350	Electromagnetic Theory*	4
ENGR 310	Thermodynamics*	3	ELEC 365	Linear Systems	4
ENGL 305	Technical Writing and Presentations	3	ELEC 395	Digital System Design*	3
ELEC 265	Electronics*	4	CHRS 125	Introduction to Christianity	3
<b>Semester Total:</b>		<b>18.0</b>	<b>Semester Total:</b>		<b>17.0</b>

Senior Fall Semester			Senior Spring Semester		
ENGR 491	Senior Design I	4	ENGR 492	Senior Design II	2
HUM/FINE ARTS	Elective	3	ENGR 460	Statistical Methods for Engineers	3
HIST 111 or 112	Western Civilization 1 or 2	3	HUM/FINE ARTS or SOC/BEH SCI	Elective	3
ELEC 420	Controls and Communications	4	ART 131, MUSIC 131 or THEA 131	Fine Arts	3
ELEC 435	Digital Signal Processing*	3	ELEC 440	Automation*	3
			ELEC 480	Topics in Electrical Engineering	3
<b>Semester Total:</b>		<b>17.0</b>	<b>Semester Total:</b>		<b>17.0</b>
<b>Degree Total:</b>					<b>136.0</b>

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Total Math and Science Hours: 39 (includes Statistics for Engineers but not Precalculus or College Algebra)

Total Engineering Hours: 61 (includes Engineering Economics but not Introductory Engineering Applications)

## ABET Requirements

Math and Science: minimum of 30 hours

Engineering: minimum of 45 hours

## LEGEND:

RED FONT - this course does not count toward the BS ENGR degree; this course is required for students who enter the program without the required pre-requisite knowledge

BOLD-FACED FONT – designates a course taught by the School of Engineering

BLUE BOX – indicates a course taken by all Tier 2 engineering students

\* - indicates class-lab