Program of Study: Electrical Engineering 2023-2024
Math 1120 Placement

General Education		
For detailed GE curriculum requirements and course lists click here		
*Philosophy 1332 is required of all ECE students. This course will fit into the "Historical and Cultural Studies" category		
The most efficient path to complete the GE theme requirement is to take two 4-hour courses		
Correlate Courses		Hours
Engr 1100.15	Introduction to Ohio State and Electrical and Computer Engineering	1
Engr 1181	Fundamentals of Engineering I	2
Engr 1182	Fundamentals of Engineering II	2
Math 1120	Precalculus with Review I	5
Math 1121	Precalculus with Review II	5
Math 1151	Calculus I	5
Math 1172	Engineering Mathematics A	5
Physics 1250	Mechanics, Thermal Physics, Waves	5
Physics 1251	Electricity and Magnetism, Optics, Modern Physics	5
Chem 1250	General Chemistry for Engineers (will accept Chem 1210)	4
CSE 1222	Introduction to Computer Programming in C++ for Engineers and Scientists	3
Math 2568	Linear Algebra	3
Math 2415	Ordinary and Partial Differential Equations	3
Stat 3470	Introduction to Probability and Statistics for Engineers	3
ISE 2040	Engineering Economics	2
Total		**53 hrs**
Major Core Courses		
ECE 2060	Introduction to Digital Logic	3
ECE 2020	Introduction to Analog Systems and Circuits	3
ECE 2050	Introduction to Discrete Time Signals & Systems	3
ECE 2560	Introduction to Microcontroller-Based Systems	2
ECE 3010	Introduction to Radio Frequency and Optical Engineering	3
ECE 3020	Introduction to Electronics	3
ECE 3027	Electronics laboratory	1
ECE 3030	Semiconductor Electronic Devices	3
ECE 3040	Sustainable Energy and Power Systems I	3
ECE 3050	Signals and Systems	3
ECE 3906	Capstone Design I	4
ECE 4905	Capstone Design II	3
Total		**34 hrs**

Engineering Electives (27 hours)

Major Technical Electives (choose at least 16 hours)

- *Must select 6 hours from one domain:*
- *Must select 3 hours from at least 2 different domains*
- *Must select at least one 5000-level ECE course*
- *Must select at least one lab course (courses below ending in a 7)*
- *5050 and 5550 can count in the Control or the Humans and Justice domain*
- *5078 (3) counts towards 16 hours of technical electives, but is not in a domain*
- *No more than 3 hours of S/U graded courses may count towards Electives*

Communication and Signal Processing Domain: ECE 5000 (3), 5101 (3), 5200 (3), 5206 (3), 5400 (3), **Labs**: 5007(.5), 5207 (.5), 5307 (4)

Computer Domain: ECE 3561 (3), 5362 (3), 5460 (3), 5462 (3), 5463 (3), 5465 (3), 5466 (3), 5560 (3) 5561 (3), 5567.01 (3), 5567.02 (3), **Labs**: 3567 (1), 4567 (4)

Control Systems Domain: ECE 3551 (3), 5050 (3), 5500 (3), 5550 (3), 5551 (3), 5553 (3), 5554 (3), 5555 (3), 5759 (3)

Electronic Circuits Domain: ECE 4021 (3), 5020 (3), 5021 (3), 5022 (3), 5023 (3), 5120 (3) Labs: 5027 (4), 5227 (4)

Electromagnetics, Microwaves and Electro-optics Domain: ECE 5010 (3), 5011 (3), 5012 (3), 5013 (3), 5510 (3) **Lab**: 5017 (4)

Sustainable Energy and Power Systems Domain: 5025 (3), 5041 (3), 5042 (3), 5043 (3), 5244 (3) **Labs** 3047 (1) 5127 (1), 5047 (3)

Solid State Electronics and Photonics Domain: ECE 5031 (3), 5033 (3), 5131 (3), 5132 (3), 5530 (3), 5832 (3), 5833 (3) **Labs**: 5037 (4), 5237 (4)

Human & Justice Domain: ECE 5570 (4), 5050 (3), 5550 (3)

Directed Electives (choose at most 11 hours)

At most 11 hours of non-ECE courses approved by the ECE department see link here: https://ece.osu.edu/students/program-highlights/worksheets-curricula-information

At most 7 hours of physical or biological science courses below the 2000-level

Other details:

- Minimum 138 hours required for degree
- At least 30 hours of ECE courses must be completed at Ohio State
- Must complete 30 hours of Basic Math and Science Courses
- Need both Major and Cumulative GPA to be a 2.0 or higher to graduate
- Philosophy 1332 is required of all ECE students and fulfills Historical and Cultural Studies Foundation GE
- The most efficient path to complete the GE Theme requirement is to take two 4-hour courses

Electrical Engineering Sample Schedule (138 hrs)

	Autumn		Spring	
Year 1	Engr 1100 *Survey*	1	Math 1121 *Pre-Calc rv II*	5
	Math 1120 *Pre-Calc rv I*	5	Chem 1250 *Chemistry for Eng*	4
	GE Foundation	3	GE Foundation (Philos 1332)	3
	GE Foundation	3	GE Foundation	3
	GE Foundation	3	Engineering Elective	3
	GE Launch	1		
		16		18
Year 2	Math 1151 *Calculus I*	5	Math 1172 *Eng Calculus II*	5
	Physics 1250 *Physics I*	5	ECE 2060 *Digital Logic*	3
	CSE 1222 *Programming C/C++*	3	Physics 1251 *Physics II*	5
	ENGR 1181 *Fund Of Eng I*	2	ENGR 1182 *Fund Of Eng II*	2
	Engineering Elective	3	Engineering Elective	3
		18		18
Year 3	ECE 2020 *Analog Sys. & Circ.*	3	Math 2415 *Diff Eqns*	3
	ECE 2050 *Discrt Time Sig & Sys*	3	ECE 3020 *Intro Electronics*	3
	ECE 2560 *Microcontrollers*	2	ECE 3040 *Energy & Power*	3
	Math 2568 *Linear Algebra*	3	ECE 3050 *Signals & Systems*	3
	GE Theme	4	Engineering Elective	3
	ISE 2040 *Eng Economics*	2	Engineering Elective	3
		17		18
Year 4	ECE 3010 *RF & Optical Eng*	3	ECE 4905 *Capstone Design II*	3
	ECE 3030 *Semicndct ElectDev*	3	Engineering Elective	3
	ECE 3906 *Capstone Design I*	4	Engineering Elective	3
	ECE 3027 *Electronics Lab*	1	Engineering Elective	3
	STAT 3470 *Prob & Stat*	3	Engineering Elective	2
	Engineering Elective	1	GE Theme	4
		15		18