Program of Study: Computer Engineering 2022-2023

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 1151	Calculus I	5
Math 1172	Engineering Mathematics A	5
Physics 1250	Mechanics, Thermal Physics, Waves	5
Physics 1251	Electricity and Magnetism, Optics, Modern Physic	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		**43 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 3020	Introduction to Electronics	3
ECE 3027	Electronics laboratory	1
ECE 3561	Advanced Digital Design	3
ECE 3567	Microcontroller Lab	1
ECE 5362	Computer Architecture and Design	3
ECE 3906	Capstone Design I	4
ECE 4905	Capstone Design II	3
CSE 2221	Software I: Software Components	4
CSE 2321	Foundations I: Discrete Structures	3
CSE 2231	Software II: Software Development and Design	4
CSE 2451	Advanced C Programming	2
CSE 2431	Systems II: Introduction to Operating Systems	3
Total		**45**

Engineering Electives (16 hours)

Major Technical Electives (choose at least 9 hrs)

- *Must select at least one 5000 level from the ECE or CSE technical elective list below*
- *Students must waitlist CSE courses on this list and will only be admitted if space permits.*

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

VLSI & Computer Aided Design: ECE 5020 (3), ECE 5560 (3)

Cyber Security: ECE 5555 (3), ECE 5561 (3), ECE 5567.01 (3), ECE 5567.02 (3)

Microprocessor Based Systems: ECE 5465 (3), ECE 5466 (3)

Digital Design and Computer Architecture: ECE 5462 (3)

Computer Networks: ECE 5101 (3), CSE 3461 (3), ECE 4567 (4) (counts as 5000 level)

Signals & Systems: ECE 3050 (3)

Robotics and Control Automation: ECE 3551 (3), ECE 5463 (3)

Digital Signal/Image Processing, Machine Learning: ECE 5200 (3), ECE 5206 (3), ECE 5460 (3), ECE 5307 (4) or CSE 5523 (3)

Database/Algorithms: CSE 3241 (3)

High Performance Computing: CSE 5441 (3)

Non-Major Electives (choose at most 7 hours)

At most 7 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 128 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. This course fulfills Historical and Cultural Studies Foundations GE
- The most efficient path to complete the GE Theme requirement is to take two 4-hour courses

Computer Engineering Sample Schedule (128 hrs)

	Autumn		Spring	
Year 1	Engr 1100 – *Survey*	1	Engr 1182 – *Fund of Eng II*	2
	Engr 1181 – *Fund of Eng I*	2	Math 1172 – *Eng Calculus II*	5
	Math 1151 – *Calculus I*	5	Chem 1250 – *Chemistry for Eng*	4
	Physics 1250 – *Physics I*	5	CSE 1222 – *Programming C/C++*	3
	GE Foundation	3	GE Launch Seminar	1
		16		15
Year 2	Physics 1251 – *Physics II*	5	ECE 2050 – *Discrt Time Sig & Sys*	3
	CSE 2221 – *Dev Software I*	4	ECE 3020 – *Intro Electronics*	3
	ECE 2060 – *Digital Logic*	3	ECE 2560 – *Microcontrollers*	2
	ECE 2020 – *Analog Sys & Circ*	3	CSE 2321 – *Foundations I*	3
	Math 2568 – *Linear Algebra*	3	CSE 2231 – *Dev Software II*	4
			GE (philos 1332)	3
		18		18
Year 3	Math 2415 – *Diff Eqns*	3	Stat 3470 – *Prob & Stat*	3
	ECE 3027 – *Electronics Lab*	1	ECE 3567 – *Microcont Lab*	1
	ECE 3561 – *Adv Digital Design*	3	ECE 5362 – *Comp Arch Design*	3
	CSE 2451 – *Adv Prog in C*	2	GE Theme	4
	GE Theme	4	GE Foundation	3
	GE Foundation	3	ISE 2040 – *Eng Economics*	2
		16		16
Year 4	CSE 2431	3	ECE 4905 – *Capstone Design II*	3
	ECE 3906 – *Capstone Design I*	4	Engineering Elective	3
	Engineering Elective	3	Engineering Elective	3
	Engineering Elective	3	Engineering Elective	1
	Engineering Elective	3	GE Foundation	3
		16		13