Shiley-Marcos SCHOOL OF ENGINEERING
University of San Diego

Electrical Engineering Degree Checklist (2025/26 catalog)

Complete	Core Curriculum (27-33 Units)	Course that Satisfies Requirement	Units
	First Year Writing (CFYW)	FYW 150	3
	Mathematical Reasoning (CMRP)	MATH 150	
	Second Language Competency		3 to 9
	Lower-Division Theological and Religious Inquiry (FTRI)		3
	Upper-Division Theological and Religious Inquiry (FTRI)		3
	Philosophical Inquiry (FPHI)		3
	Ethical Inquiry (FETI)	PHIL 342	
	Scientific and Technological Inquiry (ESTI)	ENGR 101	
	Historical Inquiry (EHSI)		3
	Social and Behavioral Inquiry (ESBI)		3
	Literary Inquiry (ELTI)		3
	Artistic Inquiry (EARI)		3
	Diversity, Inclusion, Social Justice (FDD1)	ENGR 103	
	Diversity, Inclusion, Social Justice (FDD2 or FDG2)		
	Advanced Writing (CADW)	ELEC 491W	
	Oral Communication (CORL)	COMM 103	
	Critical Thinking (CCTH)		
	Information Literacy (CILT)		
	Quantitative Reasoning (CQUR)	ISYE 330	
	First Year Integration (CINL)	LLC course	
	Advanced Integration (CINT)	ELEC 492	
Complete	**Math/Science Courses (36 Units)**	**Prerequisites/(Corequisites)**	
	CHEM 151/151L - General Chemistry I & Lab	(MATH 115 or MATH 150 or MATH 151)	4
	Life Science Elective - EOSC 121 or BIOL 101:225		3
	MATH 150 - Calculus I	MATH 115 or by placement test	4
	MATH 151 - Calculus II	MATH 150 (C- or better)	4
	MATH 250 - Calculus III	MATH 151 (C- or better)	4
	MATH 310 - Applied Math for Science and Engineering I	MATH 151 (C- or better)	3
	MATH 311 - Applied Math for Science and Engineering II	MATH 250 (C- or better), MATH 310 (C- or better)	3
	PHYS 270/270L - Mechanics & Lab	MATH 150	4
	PHYS 271/271L - Electricity & Magnetism & Lab	MATH 151, PHYS 270/270L (C- or better)	4
	ISYE 330 or MATH 315 - Engineering Statistics	MATH 151 [MATH 250 is prerequisite for MATH 315]	3
Complete	**Engineering Core Courses (24.5 Units)**	**Prerequisites/(Corequisites)**	
	ENGR 101 - Intro to Engineering	(MATH 150)	3
	ENGR 102 - Engineering Design Practice	ENGR 101, COMP 110, (MATH 151), (PHYS 270)	3
	ENGR 103 - User-Centered Collaborative Design	ENGR 101, (MATH 151)	3
	COMP 110 - Computational Problem Solving	MATH 115 or placement in MATH 150	3.5
	MENG 210 - Statics	MATH 150, PHYS 270	3
	MENG 260 - Thermal Science or PHYS 272 - Modern Physics	MATH 151, PHYS 271	3
	COMM 103 - Public Speaking		3
	PHIL 342 - Engineering Ethics		3
Complete	**EE Required Courses (48 Units)**	**Prerequisites/(Corequisites)**	
	ELEC 201/201L - Electrical Circuits and Lab	PHYS 271, (MATH 310)	4
	ELEC 301- Electronics I	ELEC 201	4
	ELEC 302 - Electronics II	ELEC 301, (ELEC 350)	4
	ELEC 310 - Embedded System Design	COMP 110, ELEC 340	4
	ELEC 311 - Semiconductor Electronic Devices	MATH 151, CHEM 151, CHEM 151L, PHYS 271	3
	ELEC 320 - Principles of Electrical Power	ELEC 201	3
	ELEC 340 - Digital Design	COMP 110, ELEC 201	4
	ELEC 350 - Signals and Systems	COMP 110, MATH 310, ELEC 201, (MATH 311)	3
	ELEC 430 - Applied Electromagnetics	MATH 311, PHYS 271, ELEC 350	4
	ELEC 460 - Control Systems Engineering	ELEC 320, ELEC 350, MATH 311	4
	ELEC 470 - Communication Principles and Circuits	ELEC 302, ELEC 350, MATH 311, (ISYE 330 or MATH 315)	4
	ELEC 491W - Electrical Engineering Design and Practice I	ELEC 302, ELEC 310, ELEC 350	4
	ELEC 492 - Electrical Engineering Design and Practice II	ELEC 491	3
Complete	**EE Elective Courses (6 Units)**		
	EE Program Elective I	See Undergraduate Catalog for respective course prerequisites/corequisites	3
	EE Program Elective II	See Undergraduate Catalog for respective course prerequisites/corequisites	3
Complete	**Additional Requirements**	**Notes for Additional Requirements**	
	Connect (Career Readiness Program)	Complete 12 points (orientation, networking, senior survey, and 9 flex points)	
	Free Electives	Complete additional units needed to meet 147 Unit requirement for degree	
		Total EE Degree Units	**147**