University of San Diego
SHILEY-MARCOS
SCHOOL OF ENGINEERING

University of San Diego Shiley-Marcos School of Engineering

Int Engr - Sustainability Degree Checklist (2023/24 catalog)

Complete	Core Curriculum	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	3
	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)	GENG 350	
	Advanced Writing (CADW)	GENG 350	
	Oral Communication (CORL)		3
	Quantitative Reasoning (CQUR)	ISYE 330	
	First Year Integration (CINL)	LLC course	
	Advanced Integration (CINT)	GENG 492	
Complete	**Math/Science Courses**	**Prerequisites/(Corequisites)**	
	CHEM 151/151L - General Chemistry		4
	Additional Math or Science (based on concentration)		3
	MATH 150 - Calculus I		4
	MATH 151 - Calculus II	MATH 150 (C- or better)	4
	MATH 310 - Applied Math for Science and Engineering I	MATH 151 (C- or better)	3
	MATH 250 - Calculus III	MATH 151 (C- or better)	3
	ISYE 330 - Engineering Probability & Statistics	MATH 151	3
	PHYS 270/270L – Mechanics +lab	MATH 150	4
	PHYS 271/271L – Electricity & Magnetism +lab	PHYS 270 (C- or better), MATH 151	4
Complete	**Engineering Core Courses**	**Prerequisites/(Corequisites)**	**32**
	ENGR 101 - Introduction to Engineering	(MATH 150)	3
	ENGR 102 – Electromechanical System Design	ENGR 101, ENGR 121/COMP 110, (MATH 151)	3
	ENGR 103 – User-Centered Design	ENGR 101, (MATH 151)	3
	COMP 110– Computational Problem Solving	MATH 115 credit or placement in MATH 130 or higher	3.5
Complete	**Engineering Core Courses**	**Prerequisites/(Corequisites)**	**12.5**
	GENG 250: Integrated Approach to Energy	(PHYS 271, PHYS 271L, ENGR 102, ENGR 103, MATH 310)	3
	GENG 311 - Engineering Materials Science	CHEM 151&L, MATH 151, PHYS 271&L (all with C- or better)	3
	GENG 288: Integrated Approach to Electrical Engineering	PHYS 271, MATH 310	4
	GENG 380 - Sustainability and Engineering		3
	MENG 210 - Statics	PHYS 270, MATH 150	3
	Engineering Elective (lower or upper division)		3
	Engineering Elective (upper division)		3
	GENG 350 - Engineering and Social Justice	ENGR 103, (GENG 250 or GENG 288 or MENG 311 C- or better)	3
	GENG 360 - Experimental Engineering	ENGR 102, GENG 288 or ELEC 201, MENG 210, GENG 250 or MENG 260	3
	GENG 491 - Engineering Senior Design I	GENG 350&360	4
	GENG 492 - Engineering Senior Design II	GENG 491	3
Complete	**Sustainability Concentration**		**35**
	EOSC 121 or 123 - Life in the Ocean or Organisms & Ecosystems		4
	EOSC 300 or EOSC 303 - Enviro. Issues or Enviro Issues Abroad	EOSC 123	3
	Choose 3 courses from Group A		9-10
	Choose 1 course from Group B		3-4
	Choose 2 courses from Group A, B, or C		3-6
			22-27
		Total GENG units	**147**

Group A Sustainability Engineering: GENG 383, GENG 384, GENG 482, ISYE 385, MENG 415

Group B Sustainability Science: EOSC 305, EOSC 314, EOSC 415, EOSC 420, EOSC 431, EOSC 432, EOSC 434, EOSC 435, EOSC 473, EOSC 474, EOSC 485, EOSC 487, EOSC 488

Group C Sustainability Elective: BSCM 302, BSCM 305, CHEM 152, CHEM 355, EOSC 220, ECON 308, GENG 420, ETLW 302, ETLW 313, ETLW 403, HIST 370, ISYE 335, ISYE 340, ISYE 420, ISYE 430, ISYE 480, MENG 260, MENG 360, MENG 370, MENG 410, MGMT 304, MGMT 310, MGMT 312, PHIL 338, PHIL 344, PHIL 415, POLS 340, POLS 342, POLS 348, POLS 349, SOCI 315, SOCI 471, SOCI 473, THRS 338