Shiley-Marcos SCHOOL OF ENGINEERING
University of San Diego

Int Engr - BioMedical Enginering Degree Checklist (2024/25 catalog)

Complete	Core Curriculum (33-39 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)		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)	COMM 203	3
	Quantitative Reasoning (CQUR)	ISYE 330	
	First Year Integration (CINL)	LLC course	
	Advanced Integration (CINT)	GENG 492	
Complete	**Math/Science Courses (32-33 Units)**	**Prerequisites/(Corequisites)**	
	CHEM 151/151L - General Chemistry I & Lab	(MATH 115 or MATH 150 or MATH 151)	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 or MATH 262 - Discrete Math	MATH 151 (C- or better)	3 - 4
	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 (12.5 Units)**	**Prerequisites/(Corequisites)**	
	ENGR 101 - Introduction to Engineering	(MATH 150)	3
	ENGR 102 - Electromechanical System Design	ENGR 101, COMP 110, (MATH 151)	3
	ENGR 103 - User-Centered Design	ENGR 101, (MATH 151)	3
	COMP 110 - Computational Problem Solving	MATH 115 or placement in MATH 130 or higher	3.5
Complete	**GENG Required Courses (35 Units)**	**Prerequisites/(Corequisites)**	
	GENG 250 - Integrated Approach to Energy	(PHYS 271, PHYS 271L, ENGR 102, ENGR 103, MATH 310)	3
	GENG 311 - Engineering Materials Science	CHEM 151/151L, MATH 151, PHYS 271/271L	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)	3
	GENG 360 - Experimental Engineering	ENGR 102, GENG 288 or ELEC 201, MENG 210, GENG 250 or MENG 260, COMP 110, MATH 310, (ISYE 330)	3
	GENG 491 - Engineering Senior Design I	GENG 360, (GENG 350)	4
	GENG 492 - Engineering Senior Design II	GENG 491	3
Complete	**Biomedical Engineering Concentration (24 Units)**	**Prerequisites/(Corequisites)**	
	GENG 330 - Biomaterials Design	ENGR 311 or MENG 311 or GENG 311	3
	GENG 331: Physiology for Biomedical Engineers	COMP 110, MATH 310	3
	GENG 430: Bioinformatics	COMP 110, ISYE 330	3
	GENG 431: Biomechanics	MENG 210, (MENG 370 or GENG 331)	3
	GENG 432: Medical Devices	ENGR 103, (GENG 330 or MENG 370)	3
	Approved BME electives	See Undergraduate Catalog for respective course prerequisites/corequisites	9
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 GENG Degree Units	**147**

Approved BME electives:

BIOL 114, CHEM 301, CHEM 301L, CHEM 302, CHEM 302L, CHEM 331, COMP 380 (and associated prerequisites), ELEC 456 (and associated prerequisites), GENG 460, ISYE 350, ISYE 350L, MENG 351, MENG 352, MENG 360, MENG 360L, MENG 370, MENG 370L, MENG 375, MENG 400, MENG 400L, PHIL 331.