University of San Diego
SHILEY-MARCOS
SCHOOL OF ENGINEERING

University of San Diego Shiley-Marcos School of Engineering

Mechanical Engineering 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/Elective credit		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)	ECON 101 or 102	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)	ENGL 304	3
	Oral Communication (CORL)	COMM 203	3
	Quantitative Reasoning (CQUR)	ISYE 330	
	First Year Integration (CINL)	LLC course	
	Advanced Integration (CINT)	MENG 492	
Complete	**Math/Science Courses**	**Prerequisites/(Corequisites)**	
	CHEM 151/151L - General Chemistry		4
	Additional Math/Science Elective		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)	4
	ISYE 330 or MATH 315 - Engr Probability & Statistics	MATH 151 (MATH 315 pre req is MATH 250)	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)**	**33**
	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 or ENGR 121	MATH 115 credit or placement in MATH 130 or higher	3.5
	MENG 210 - Statics	MATH 150, PHYS 270	3
	MENG 260 - Introduction to Thermal Sciences	MATH 151, PHYS 270	3
	ELEC 201 - Electrical Circuits +lab	PHYS 271 (MATH 310)	4
Complete	**Professional Practice Requirements**	**Prerequisites/(Corequisites)**	**22**
	ECON 101 or 102 or ISYE 220 - Economics	ISYE 220 coreq ISYE 330	3
	PHIL 342 - Engineering Ethics		3
	COMM 203 - Public Speaking		3
	ENGL 304 - Advanced Composition		3
Complete	**MENG Required Courses**	**Prerequisites/(Corequisites)**	**12**
	MENG/ISYE 350 - Manufacturing Processes	MENG 210, ENGR 311	3
	MENG 311 - Materials Science	MATH 151 CHEM 151/151L	3
	MENG 300 - Applied Thermodynamics	MENG 260	3
	MENG 350 - Manufacturing Processes	MENG 210 and MENG 311 or ENGR 311	3
	MENG 351 - Machine Shop Practices		1
	MENG 352 - CAD Practices		1
	MENG 360 - Fluid Mechanics	MATH 310, MENG 260, MATH 250	3
	MENG 370, 370L - Mechanics of Materials +lab	MENG 210	4
	MENG 375 - Dynamics	MENG 210	3
	MENG 400, 400L - Heat Transfer +lab	MENG 360	4
	MENG 430 - Design of Machine Elements	MENG 370	3
	MENG 491 - Senior Design Project I	(COMM 203), MENG 311. ENGL 304, (MENG 351, MENG 352, MENG 400, MENG 430)	4
	MENG 492 - Senior Design Project II	MENG 491	3
Complete	**MENG Elective Courses**		**38**
	Simulation-based course		3
	Free Elective		4
	MENG Elective I		3
	MENG Elective II		3
	MENG Elective III		3
	MENG Elective IV		3
			19
		Total MENG Degree Units	**147**