Shiley-Marcos SCHOOL OF ENGINEERING
University of San Diego

Mechanical Engineering Degree Checklist (2024/25 catalog)

Complete	Core Curriculum (24-30 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)	ECON 101 or 102	
	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	
	Oral Communication (CORL)	COMM 203	
	Quantitative Reasoning (CQUR)	ISYE 330	
	First Year Integration (CINL)	LLC course	
	Advanced Integration (CINT)	MENG 492	
Complete	**Math/Science Courses (33 Units)**	**Prerequisites/(Corequisites)**	
	CHEM 151/151L - General Chemistry I & Lab	(MATH 115 or MATH 150 or MATH 151)	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 and Magnetism & Lab	PHYS 270/270L (C- or better), MATH 151	4
Complete	**Engineering Core Courses (22.5 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 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 (12 Units)**	**Prerequisites/(Corequisites)**	
	ECON 101 or ECON 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 (37 Units)**	**Prerequisites/(Corequisites)**	
	MENG 350 or ISYE 350 - Manufacturing Processes	MENG 210, ENGR 311	3
	MENG 311 - Materials Science	MATH 151, CHEM 151, CHEM 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	MENG 311, ENGL 304, (COMM 203, MENG 351, MENG 352, MENG 400/400L, MENG 430)	3
	MENG 492 - Senior Design Project II	MENG 491	3
Complete	**MENG Elective Courses (15 Units)**		
	MENG Simulation-based course		3
	MENG Elective I		3
	MENG Elective II		3
	MENG Elective III		3
	MENG Elective IV		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 MENG Degree Units	**147**