

University of San Diego Shiley-Marcos School of Engineering
Mechanical Engineering Degree Checklist (2021/22 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	
	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 - Engr 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)	33	
	ENGR 101 - Introduction to Engineering	MATH 115 or (MATH 150)	3	
	ENGR 102 – Electromechanical System Design	ENGR 101, ENGR 121 or COMP 110, MATH 150	3	
	ENGR 103 – User-Centered Design	ENGR 101, MATH 150	3	
	COMP 110 - Computational Problem Solving	(MATH 150)	3	
	MENG 311 - Materials Science	MATH 151 CHEM 151/151L	3	
	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	MENG Required Courses	Prerequisites/(Corequisites)	25	
	ISYE 350 - Manufacturing Processes	MENG 210, ENGR 311	3	
	MENG 300 - Applied Thermodynamics	MENG 260	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		32	
	Simulation-based course		3	
	Free Elective		4	
	MENG Elective		3	
	MENG Elective		3	
	MENG Elective		3	
	MENG Elective		3	
			19	
	Total MENG Degree Units			147