

Mechanical & Aerospace Engineering Department

ME Program: Course Prerequisite List

<u>Course</u>	<u>Title</u>	<u>Units</u>	<u>Prerequisite Course(s)</u>
AE 164	Compressible Flow	3	Engr 100W, ME 111, ME 113
AE 167	Aerospace Propulsion	3	ME 111, ME 113
AE 168	Aerospace Vehicle Dynamics and Control	3	AE 140, AE 165
AE 169	Computational Fluid Dynamics	3	AE 164, ME 114
CE 99	Statics	2	Engr. 10, Math 31, Phys 70
CE 112	Mechanics of Materials	3	CE 99, Corequisites: MatE 25 and Math 133A
CE 113	Mechanics of Materials Laboratory	1	CE 112
Chem 1A	General Chemistry	5	High School Chemistry
EE 98	Introduction to Circuit Analysis	3	Phys 51 or 71, Corequisite: Math 133A
Engr 10	Introduction to Engineering	3	None
Engr 100W	Engineering Reports	3	Completion of Core GE, satisfaction of Writing Skills Test and upper division standing
MatE 25	Introduction to Materials	3	Chem 1A, Phys 70, Math 31
Math 30	Calculus I	3	Pass Calculus Placement Test
Math 31	Calculus II	4	Math 30
Math 32	Calculus III	3	Math 31
Math 133A	Ordinary Differential Equations	3	Math 32
ME 15	Empower MAE Students	3	None
ME 19	Graphics for Engineering	1	None
ME 20	Design and Graphics	2	Corequisite: Engr 10
ME 30	Computer Applications	2	None
ME 40	Product Design I	3	ME 20
ME 101	Dynamics	3	CE 99, Math 32; Grade of 'C' or better required for ME and AE Majors
ME 106	Fundamentals of Mechatronics Engineering	3	EE 98, ME 30; Grade of 'C' or better required for ME and AE Majors. For IT Majors, Tech 60, Math 71, CS49C or CompE 46
ME 109	Heat Transfer in Electronics	3	Phys 71, Math 133A, EE 98
ME 110	Manufacturing Processes	3	MatE 25, ME 20
ME 111	Fluid Mechanics	3	Math 32, CE 99; Grade of 'C' or better required for ME and AE Majors
ME 113	Thermodynamics	4	Phys 52 or 70, Math 32
ME 114	Heat Transfer	3	Math 133A or Math 123, ME 113
ME 115	Thermal Engineering Laboratory	1	Pre/Corequisite: ME 114
ME 120	Experimental Methods	2	CE 112, Engr 100W, ME 111, ME 130
ME 130	Applied Engineering Analysis	3	ME 101, ME 113, Math 133A
ME 135	Introduction to Composites	3	MatE 25
ME 136	Design for Manufacturability	3	ME 110, ME 154
ME 140	Product Design II	3	Tech 40
ME 141	Product Design III	3	Tech 140
ME 145	Electronic Packaging and Design	3	ME 114, ME 130
ME 146	Thermal Management of Electronic Systems	3	ME 114 or ME/ChE 109
ME 147	Dynamic Systems Vibration and Control	3	ME 130
ME 149	Engineering Acoustics	3	ME 130
ME 154	Mechanical Engineering Design	4	CE 112, ME 20, ME 101
ME 157	Mechanical System Design	3	ME 154, corequisites: ME 110, ME 147
ME 160	Introduction to Finite Element Method	3	CE 112, ME 130
ME 165	Computer Aided Design in Mechanical Engineering	3	CE 112, ME 20, ME 130
ME 167	Introduction to Biomechanics	3	ME 130, ME 154, or Instructor Consent
ME 169	MEMS Fabrication & Design	3	CE 112 or MatE 25 or EE 98
ME 170	Solar Energy Engineering	3	ME 111, ME 114
ME 172	Alternative and Renewable Energy Resources	3	ME 111, ME 114
ME 180	Individual Studies	1 to 3	Upper Division Standing and Instructor Consent
ME 182	Thermal Systems Design	3	ME 111, ME 114
ME 183	HVAC Systems Design	3	Pre/Corequisite: ME 114
ME 184	High Vacuum systems Engineering with Application	3	ME 106, ME 154
ME 186	Automotive Engineering	3	ME 114, ME 130, ME 154
ME 187	Automatic Control Systems Design	3	ME 111, ME 147
ME 188	Introduction to Hard Disk Drive Technology	3	ME 106, ME 147, ME 154
ME 189	Design and Manufacture of Microsystems	3	ME 106, ME 154
ME 190	Mechatronics System Design	3	ME 106 or EE 106; corequisite: ME 147
ME 192	Robotics and manufacturing Systems	3	ME 106, ME 130
ME 195A	Senior Design Project I	3	ME 114, ME 154, pre/corequisite: ME 120

ME 195B	Senior Design Project II	3	ME 195A
ME 196J	Optomechanical Systems	3	ME 114, ME 130
ME 196N	Fiber Optics Technology and Photonics	3	Physics 52 or 72, Junior Standing
ME 196R	Reliability Engineering and Risk Analysis	3	ME 130 or ISE 130
ME 197	Cooperative Education Project	3	Instructor consent
ME 198	Technology and Civilization	3	Completion of Core GE, satisfaction of Writing Skills Test and upper division standing
ME 199	Special Topics in Mechanical Engineering	3	Instructor consent
Phys 50	General Physics/Mechanics	4	Math 30 or 30P
Phys 51	General Physics/Electricity and magnetism	4	Phys 50 or 70, Math 31
Phys 52	General Physics/Heat and Light	4	Phys 50 or 70
Phys 53	General Physics/Atomic Physics	2	Phys 50, 51, and 52 or Phys 70 and 71, Chem 1A
Phys 70	Mechanics	4	High school Physics with grade of B or better, Pass Physics Placement Test, Math 30 or 30P
Phys 71	Electricity and magnetism	4	Phys 70, Math 31
Phys 72	Atomic Physics	4	Phys 70, Math 31, Chem 1A

* Note: All courses taken at SJSU require a minimum grade of 'C-' or better with the exception of CE 99, ME 101, ME 106, ME 111 and ME 113 which need a grade of 'C' or better.