

## Mechanical & Aerospace Engineering Department

### AE Program: Course Prerequisite List

<u>Course</u>	<u>Title</u>	<u>Units</u>	<u>Prerequisite Course(s)</u>
AE 110	Space Systems Engineering	3	AE 165
AE 114	Aerospace Structures	3	CE 112
AE 140	Rigid Body Dynamics	3	ME 101
AE 162	Aerodynamics	3	ME 111, Corequisite: Engr 100W
AE 164	Compressible Flow	3	Engr 100W, ME 111, ME 113
AE 165	Aerospace Flight Mechanics	3	ME 101
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
AE 171A	Aircraft Design I	3	AE 114, AE 162, AE 165, ME 20, Corequisite: AE 167
AE 171B	Aircraft Design II	3	AE 167, AE 171A, Corequisite: AE 168
AE 172A	Spacecraft Design I	3	AE 114, AE 162, AE 165, ME 20, Corequisite: AE 110, AE 167
AE 172B	Spacecraft Design II	3	AE 110, AE 167, AE 172A, Corequisite: AE 168
AE 180	Individual Studies	1 to 3	Upper Division Standing and Instructor Consent
AE 198	Technology and Civilization	3	Completion of Core GE, satisfaction of Writing Skills Test and upper division standing
CE 99	Statics	2	Engr. 10, Math 31, Phys 70
CE 112	Mechanics of Materials	3	CE 99, Corequisites: MatE 25 and Math 133A
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 20	Design and Graphics	2	Corequisite: Engr 10
ME 30	Computer Applications	2	None
ME 101	Dynamics	3	CE 99, Math 32; Grade of 'C' or better required for ME and AE Majors
ME 111	Fluid Mechanics	3	CE 99, Math 32; 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, 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	Math 133A, ME 101, ME 113
ME 135	Introduction to Composites	3	CE 112
ME 149	Engineering Acoustics	3	ME 130
ME 160	Introduction to Finite Element Method	3	CE 112, ME 130
ME 165	Computer Aided Design in Mechanical Engineeri	3	CE 112, ME 20, ME 130
ME 187	Automatic Control Systems Design	3	ME 111, ME 147
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 111, and ME 113 which need a grade of 'C' or better.