

SAN JOSÉ STATE UNIVERSITY

Bachelor of Science Degree in MECHANICAL ENGINEERING

FRESHMAN YEAR

<u>Fall</u>	<u>Units</u>	<u>Spring</u>	<u>Units</u>
Math 30, Calculus I	3	Math 31, Calculus II	4
Chem 1A, General Chemistry	5	Physics 70(50), Mechanics	4
Engr 10, Introduction to Engineering	3	ME 20, Design & Graphics	2
English 1A, Composition I (GE Area A2)	3	English 1B, Composition II (GE Area C3)	3
Communications (GE Area A1)	3	GE (Area C1)	(3)
Kinesiology (PE)	<u>1</u>	Kinesiology (PE)	<u>1</u>
Total:	18	Total:	17

SOPHOMORE YEAR

<u>Fall</u>	<u>Units</u>	<u>Spring</u>	<u>Units</u>
Math 32, Calculus III	3	Math 133A, Differential Equations	3
MatE 25, Intro. To Materials	3	CE 99, Statics	2
ME 30, Computer Applications	2	EE 98, Intro. to Circuit Analysis	3
Phys 71(51), Elect. & Magnetism	4	Physics 72(52), Atomic (Heat & Light)	4
GE (Areas C2 & D1) / Am Studies 1A	<u>6</u>	GE (Areas D2 & D3) / Am Studies 1B	<u>6</u>
Total:	18	Total:	18

JUNIOR YEAR

<u>Fall</u>	<u>Units</u>	<u>Spring</u>	<u>Units</u>
CE 112, Mech. of Materials	3	ME 106, Fund. Mechatronics Eng.	3
ME 101, Dynamics	3	ME 114, Heat Transfer	3
ME 111, Fluid Mechanics	3	ME 115, Thermal Engineering Lab	1
ME 113, Thermodynamics	4	ME 130, Appl. Engrg. Analysis	3
GE (Area E)	3	ME 154, Mech. Engr. Design	4
Phys 53, Atomic Physics	(2)	CE 113, Mech. of Materials Lab	1
Total:	18	Engr. 100W, Engr. Reports	<u>3</u>
		Total:	18

SENIOR YEAR

<u>Fall</u>	<u>Units</u>	<u>Spring</u>	<u>Units</u>
Capstone Course	3	ME 195B, Senior Design Project II	3
ME 120, Experimental Methods	2	Technical Electives	9
ME 147, Dyn Sys Vib & Control	3	ME 198, Tech & Civilization (GE Area V)	<u>3</u>
ME 195A, Senior Design Project I	3		
Technical Elective	3		
Upper Division GE (Area S)	<u>3</u>		
Total:	17	Total:	15

TOTAL UNITS FOR GRADUATION: 134 (139)

- *Students must pass the placement tests to enroll in Math 30, English 1A and Physics 70.*
- *Four courses Physics 50 series (14 units) may be substituted for three courses Physics 70 series (12 units). Physics 50 does not require a placement test.*
- *Students transferring from a community college requiring 4 physics courses must enroll in the Physics 50 series to complete the sequence.*
- *General Education course requirements in Area A3 and all of Area B are satisfied by completing the requirements for the major.*
- *American Studies 1A & 1B will cover Lower Division GE in Areas C1, C2, D1, D2, & D3.*

MECHANICAL ENGINEERING PROGRAM

The mission of the Mechanical & Aerospace Engineering Department at San José State University is: to enrich the lives of its students, to transmit knowledge to its students along with the necessary skill for applying it in service to the mechanical engineering profession and the industry, and to expand the base of knowledge through research and scholarship.

Mechanical Engineering is the fundamental of Engineering. It involves almost all other engineering disciplines. As such, mechanical engineers are employed in every engineering field. Some mechanical engineers work in specific industries, building and designing automobiles, airplanes or other types of transportation machines. They work in the computer and microelectronics area, such as semiconductor and disk drives. Many are involved with the designing of sports equipment; machinery for agricultural production and food processing. Mechanical engineers are also involved in design of sea vessels for ocean exploration and spacecrafts for space exploration. They are the manufacturing engineers running the factories. Mechanical engineers are involved in energy fields such as petroleum and nuclear power.

Other areas where mechanical engineers play an important part are in research and development in: energy generation; environmental control; and biomedical. Some biomechanical engineers work with physicians in the design and development of new health care instruments and equipment. It is virtually impossible to find an area or object in everyday life that is not in some way affected by a mechanical engineer.

The undergraduate curriculum provides training in mechanical engineering theory and practice. The curriculum is based on a strong core of engineering science courses common to all engineering programs. It also provides excellent preparation for graduate study. By choosing electives under guidance of a program Advisor, the student may specialize in one or more of the following fields: Mechanical Design, Mechatronics, and Energy System.



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