

# SAN JOSE STATE UNIVERSITY

## Bachelor of Science in Industrial Technology Manufacturing Systems Concentration

### FRESHMAN YEAR

<b>Fall</b>	<b>Units</b>
Comm 20 or 20N, Public Speaking (GE: A1)	3
English 1A , Composition I (GE: A2)	3
Math 71, Calculus for Business and Aviation	3
Tech 20A, Computer-Aided-Graphics	2
Tech 60, Introduction to Electronics	3
<b>Total:</b>	<b>14</b>

<b>Spring</b>	<b>Units</b>
Engr 10, Introduction to Engineering(GE:E)	3
GE Area C1	3
Engl 2, Critical Thinking & Writing (GE: A3)	3
Tech 41, Machine Shop safety	1
Phys 2A, Fundamentals of Physics	4
<b>Total:</b>	<b>14</b>

### SOPHOMORE YEAR

<b>Fall</b>	<b>Units</b>
Bus 20, Financial Accounting	3
Phys 2B , Fundamentals of Physics	4
Tech 30, Intro to Programming in Python	3
Tech 65, Networking Theory and Application	3
GE Area C2	3
<b>Total:</b>	<b>16</b>

<b>Spring</b>	<b>Units</b>
Econ 1B, Principles of Economics: Micro(GE:D1)	4
GE Area C1 or C2	3
Business 90, Business Statistics	5
Chem 1A, General Chemistry	3
Technical Elective	1
<b>Total:</b>	<b>16</b>

### JUNIOR YEAR

<b>Fall</b>	<b>Units</b>
Tech 25, Introduction to Materials Technology	3
Tech 31, Quality Assurance and Control	3
Tech 45, Sustainable Facilities Design & Plan	3
Tech 46, Machine Operation and Management	3
GE Area D2/US History	3
<b>Total:</b>	<b>15</b>

<b>Spring</b>	<b>Units</b>
Engr 100W, Engineering Reports	3
GE Area D3: Political Science	3
Tech 115, Automation and Control	3
Tech 140, Green & Sustainable Product Design	3
Tech 145, Lean Manufacturing	3
<b>Total:</b>	<b>15</b>

### SENIOR YEAR

<b>Fall</b>	<b>Units</b>
Tech 190A, Senior Project I	3
Tech 147, Green Mfg Analysis & Mgmt Tech	3
Bus 141 or 142 or 145	3
Bus 186 , Professional & Business Ethics (GE: S)	3
Tech 143, Poly. & Comp. Fabric. (Tech Elec.)	3
<b>Total:</b>	<b>15</b>

<b>Spring</b>	<b>Units</b>
Tech 190B, Senior Project II	3
Tech 149, Computer Integrated Mfg Sys Tech	3
Tech 198, Technology and Civilization (GE: V)	3
Tech 146, Lean Mfg or 3D Printing & App	3
Bus 160, Fund Mgmt & Organization Behavior	3
<b>Total:</b>	<b>15</b>

**Total units for degree : 120**

The Bachelor of Science in Industrial Technology Program with a concentration in Manufacturing Systems is designed to prepare graduates in-depth knowledge and hands-on experience for careers such as Applications Engineer, Systems Engineer, Customer Support Specialist, Test Engineer, Field Service Engineer, Networking Specialist, and Manufacturing Engineer.

This program will allow graduates to earn a minor in business as part of its curriculum.

<b>Industrial Technology Program Required Course Prerequisites &amp; Co-Req's</b>	
<b>Course</b>	<b>Prerequisites</b>
Bus 20, Financial Accounting	Math 71
Bus 90, Business Statistics	Math 71
Bus 141, Materials Management	Upper Division Standing
Bus 142, Total Quality Management	Upper Division Standing
Bus 145, Global Operations Management	Upper Division Standing
Bus 160, Fund of Management & Organization Behavior	Upper Division Standing
Bus 186, Professional and Business Ethics	Pass WST, Upper Division Standing
Chem 1A, General Chemistry	High school chemistry or Chem 10
Econ 1B, Principles of Economics: Microeconomics	none
Engr 10, Introduction to Engineering	Eligible for Math 019 or Engl 001A
Engr 100W, Engineering Reports	Pass WST, Upper Division
Math 71, Calculus for Business and Aviation	Math 18A or Math 19
Phys 2A, Fundamentals of Physics	Math 18A
Phys 2B, Fundamentals of Physics	Phys 2A
Tech 20A, Computer-Aided-Graphics	none
Tech 25, Introduction to Materials Technology	Pre/ Coreq. Math 18A; Coreq: Chem 1A
Tech 31, Quality Assurance and Control	Bus 90
Tech 41, Machine Shop Safety	Tech 20A
Tech 45, Sustainable Facilities Design & Plan	Tech 20A
Tech 46, Machine Operation and Management	Tech 20A
Tech 60, Introduction to Electronics	Math 8
Tech 63, Analog and Digital Circuits	Tech 60
Tech 65, Networking Theory and Application	Tech 60
Tech 115, Automation and Control	Tech 60, Phys 2A/B, Math 71
Tech 140, Green & Sustainable Product Design	Tech 20A, Chem 1A, Math 71
Tech 143, Polymer & Composite Fabrication	Tech 20A, Chem 1A, Phys 2A
Tech 145, Lean Manufacturing	Bus 140 or 145 or ISE 140
Tech 146, 3D Printing and Applications	Tech 20A, Tech 25, Tech 140
Tech 147, Green Mfg Analysis & Mgmt	Tech 45, Tech 46, Tech 115 Coreq: Tech 140
Tech 149, Computer Integrated Mfg Sys	Tech 147, Coreq: Tech 145
Tech 163, Telecommunications Systems	Tech 63
Tech 165, Wireless Communications Tech	Tech 63, Tech 65
Tech 167, Control Systems	Tech 63, Tech 115
Tech 169, Applied Electronic Design	Tech 167
Tech 190 A, Senior Project I	Engr 100W, Senior Standing
Tech 190 B, Senior Project II	Tech 190 A
Tech 198, Technology and Civilization	Pass WST, Upper Division Standing