

Degree: Industrial Engineering, B.S. 26-27				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
			One from the following: Satisfactory score of 78 or higher on Mathematics Placement Exam, MATH 120 or MATH 125 (either course with grade C- or better).	
LD Major/Area 2	MATH 130	Calculus I		4
5A/5C LD Major	CHEM 110	General Chemistry for Engineering		3
1A	ENGL 102			3
LD Major	PHYS 135	Physics for Scientists and Engrs. I		4
			<b>Total:</b>	14
<b>Second Semester (SPRING)</b>				
LD Major	PHYS 136	Physics for Scientists and Engrs. II	MATH 130 and PHYS 135.	4
LD Major	MATH 131	Calculus II	MATH 130 with grade C- or better.	3
LD Major/Second Comp	ENGR 200	Introduction to Engineering and Design		3
LD Major	ENGR 210	Manufacturing Materials and Processes	CHEM 110 and MATH 130.	4
			<b>Total:</b>	14
<b>Third Semester (FALL)</b>				
1C				3
LD Major	MATH 215	Introduction to Linear Algebra	MATH 130.	3
5B/Sustainability Overlay				3
LD Major	ENGR 220	Statics	PHYS 135.	3
UD Major	INDE 330	Engr. Statistics and Prob.	MATH 130.	3
			<b>Total:</b>	15
<b>Fourth Semester (SPRING)</b>				
1B/Second Comp				3
Area 4/LD Major	PSYC 100	General Psychology		3
LD Major	ENGR 215	Computer Methods in Engr.	MATH 131.	3
LD Major	ENGR 230	Electric Circuits I	PHYS 136 and MATH 215.	3
UD Major	INDE 340	Design of Engr. Experiments	INDE 330 or STAT 316.	3
			<b>Total:</b>	15
<b>Fifth Semester (FALL)</b>				
Code 1/Area 4				3
3A/Diversity Overlay				3
UD Major	ENGR 320	Engr. Economics	MATH 130.	3
UD-Area 5/UD Major	INDE 390	Human Factors and Work Methods	INDE 330 or STAT 100; and Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	4
UD Major	INDE 360	Operations Research	MATH 131.	4
			<b>Total:</b>	17
<b>Sixth Semester (SPRING)</b>				
Area 6		Ethnic Studies		3
UD Major	INDE 410	Facilities Plan. Dsgn. and Mat. Handling	ENGR 210.	3
UD Major	INDE 430	Design of Work Systems	INDE 390.	4
UWR/UD-Area 3/Social Justice Overlay			Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
3B				3
			<b>Total:</b>	16
<b>Seventh Semester (FALL)</b>				
UD Major	INDE 420	Discrete Event Simulation	ENGR 215, and INDE 330 or STAT 316.	3
UD Major	INDE 440	Sustainable Production and Supply Systems	INDE 360, and either INDE 330 or STAT 316.	4
UD Math		student choice		3
UD Math		student choice		3
Free Elective				1
			<b>Total:</b>	14
<b>Eighth Semester (SPRING)</b>				
UD-Area 4/Code	HIST 382 (Recommended)		Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
UD Major	INDE 450	Systems Quality and Reliability	ENGR 210, and either INDE 330 or STAT 316.	4
UD Major	INDE 460	Service & Manu. Systems Modeling	INDE 360.	4
UD Major	INDE 492	Senior Design	Completion or enrollment in any three courses from: INDE 410, INDE 420, INDE 440, INDE 450, INDE 460.	4
			<b>Total:</b>	15
<b>Total Units:</b>				120

Note: No changes to, or from, the credit/no credit pattern are permitted after the Grade Type Change period. There are no exceptions to this rule. Courses in a student's major department, regardless of course prefix, may not be taken "CR/NC," unless that is the only grading pattern in the course.

CSUEB General Breadth and Graduation Requirement Checklist	
<b>Area 1 (9 units): English Communication</b>	
<input type="checkbox"/> 1A - Lower Division English Composition	
<input type="checkbox"/> 1B - Lower Division Critical Thinking and Composition	
<input type="checkbox"/> 1C - Lower Division Oral Communication	
<b>Area 2 (3 units): Mathematical Concepts and Quantitative Reasoning</b>	
<input type="checkbox"/> Area 2 - Mathematical Concepts and Quantitative Reasoning	
<b>Area 3 (6 units): Arts &amp; Humanities - Minimum of two different disciplines as designated by course prefix (e.g., ART, THEA, MUS)</b>	
<input type="checkbox"/> 3A - Arts and Humanities (Arts)	
<input type="checkbox"/> 3B - Arts and Humanities (Humanities)	
<b>Area 4 (6 units): Social and Behavioral Sciences - Minimum of two different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)</b>	
<input type="checkbox"/> Area 4 - Lower Division Social and Behavioral Sciences	
<input type="checkbox"/> Area 4 - Lower Division Social and Behavioral Sciences	
<b>Area 5 (7 units): Physical and Biological Sciences</b>	
<input type="checkbox"/> 5A - Lower Division Physical and Biological Sciences (Physical)	
<input type="checkbox"/> 5B - Lower Division Physical and Biological Sciences (Biological)	
<input type="checkbox"/> 5C - Lower Division Physical and Biological Sciences (Laboratory) -- May be embedded in 5A or 5B course, as long as 7 units met for lower-division Subject Area 5.	
<b>Area 6 (3 units): Ethnic Studies</b>	
<input type="checkbox"/> Area 6 - Ethnic Studies	
<b>Second Composition: Second Composition (Required as part of 1B for 2025-26 or later catalog)</b>	
<input type="checkbox"/> Second Composition	
<b>University Writing Requirement (3-4 units)</b>	
<input type="checkbox"/> UWR	
<b>U.S. Code (American Institutions Requirement) - Two courses (6 units) covering three U.S. Code Requirements of US-1 (U.S. History), US-2 (U.S. Constitution), and US-3 (California State &amp; Local Government).</b>	
<input type="checkbox"/> Code 1	
<input type="checkbox"/> Code 2	
<b>Upper Division GE Requirements (9 units): Should be taken after completion of 1A, 1B, 1C, and Area 2 with a C- (CR)</b>	
<input type="checkbox"/> UD- Area 3 - Upper Division Arts or Humanities	
<input type="checkbox"/> UD- Area 4 - Upper Division Social and Behavioral Sciences	
<input type="checkbox"/> UD- Area 5 - Upper Division Science or Mathematical Concepts/Quantitative Reasoning	
<b>Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major</b>	
<input type="checkbox"/> Diversity (Div)	
<input type="checkbox"/> Social Justice (SJ)	
<input type="checkbox"/> Sustainability (S)	
<b>Elective Courses</b>	
Under consultation with their advisor, students shall select a minimum of 6 units of approved, upper-division Math/Basic Science elective courses.	

\*Students are required to take a minimum of 40 semester units as upper division (includes 9 units upper division GE)