

Degree: Physics, B.A. 25-26				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
Recommended	SCI 130	Connecting to STEM Majors		2
1C		Oral Communication		3
LD Major/5A&5C	PHYS 135	Physics for Scientists and Engineers I		4
LD Major/Area 2	MATH 130	Calculus I		4
3A		Arts		3
			<b>Total:</b>	16
<b>Second Semester (SPRING)</b>				
1A		Written Communication		3
LD Major	PHYS 136	Physics for Scientists and Engineers II		4
LD Major	MATH 131	Calculus II		3
3B		Humanities		3
			<b>Total:</b>	13
<b>Third Semester (FALL)</b>				
1B/Second Comp				3
LD Major	PHYS 137	Physics for Scientists and Engineers III		4
Area 4/Code 1		Social Science/US Code		3
5B		Life Science		3
Elective				3
			<b>Total:</b>	16
<b>Fourth Semester (SPRING)</b>				
LD Major/Second Comp	PHYS 230	Physical Reasoning	MATH 230, and PHYS 137 or PHYS 126.	3
LD Major	MATH 215	Introduction to Linear Algebra		3
Free Elective				3
Area 4/Code 2		Social Science/US Code		3
Area 6		Ethnic Studies		3
			<b>Total:</b>	15
<b>Fifth Semester (FALL)</b>				
UD Major	PHYS 350	Quantum Mechanics I	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS 380	Advanced Lab I	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS	Physics Elective		3
UWR				3
UD Free Elective				3
			<b>Total:</b>	15
<b>Sixth Semester (SPRING)</b>				
UD Major	PHYS 330	Analytical Mechanics	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS 381	Advanced Laboratory II: Experimental Methods	PHYS 380	3
UD Free Elective				3
UD Free Elective				3
UD Free Elective				3
			<b>Total:</b>	15
<b>Seventh Semester (FALL)</b>				
UD Major	PHYS 450	Electromagnetism I	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS elective			3
UD Free Elective				3
UD-Area 3/Overlay			Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
UD-Area 5/Overlay			Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
			<b>Total:</b>	15
<b>Eighth Semester (SPRING)</b>				
UD-Area 4/Overlay			Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
UD Major	PHYS 340	Statistical Mech. & Thermo.	MATH 230, and PHYS 137 or PHYS 126	3
UD Free Elective				3
UD Free Elective				3
UD Free Elective				3
			<b>Total:</b>	15
<b>Total Units:</b>				120.00

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 18 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>	
Choose a minimum of 6 units from the following:	
CHEM 100 - Introduction to College Chemistry Units: 3 ; G.E./G.R. Area: 5A, 5C	
CHEM 110 - General Chemistry for Engineering Units: 3 ; G.E./G.R. Area: 5A, 5C	
CHEM 111 - General Chemistry I Units: 5 ; G.E./G.R. Area: 5A, 5C	
CHEM 112 - General Chemistry II Units: 5	
CS 100 - Programming for Everyone Units: 3	
CS 101 - Computer Science I Units: 4	
PHYS 104 - Musical Acoustics Units: 4 ; G.E./G.R. Area: 5A, 5C	
PHYS 105 - How Things Work Units: 3 ; G.E./G.R. Area: 5A	
PHYS 106 - Physics for Future Leaders Units: 3 ; G.E./G.R. Area: 5A; Sustainability	
PHYS 107 - Science of Energy Units: 3 ; G.E./G.R. Area: 5A; Sustainability	
PHYS 108 - Astronomy of Indigenous Cultures Units: 3 ; G.E./G.R. Area: 5A; Diversity	
PHYS 115 - Elementary Physics Units: 3 ; G.E./G.R. Area: 5A, 5C	
ASTR 138 - Descriptive Astronomy Units: 3 ; G.E./G.R. Area: 5A	
ASTR 139 - Astronomy Laboratory Units: 1 ; G.E./G.R. Area: 5C	
PHYS 303 - Biophysics Units: 3 ; G.E./G.R. Area: UD-Area 5	
ASTR 337 - Extrasolar Planets Units: 3 ; G.E./G.R. Area: UD-Area 5	
ASTR 338 - The Cosmos Units: 3 ; G.E./G.R. Area: UD-Area 5	
ASTR 339 - Stars and Galaxies Units: 3 ; G.E./G.R. Area: UD-Area 5	
PHYS 351 - Quantum Mechanics II Units: 3	
PHYS 360 - Selected Topics Units: 1	
PHYS 451 - Electromagnetism II Units: 3	
PHYS 460 - Astrophysics Units: 3	
PHYS 461 - Atomic Physics Units: 3	
PHYS 462 - Solid State Physics Units: 3	
PHYS 463 - Particle Physics Units: 3	
PHYS 480 - Advanced Laboratory III: Modeling, Design, and Analysis Units: 3	
PHYS 481 - Advanced Laboratory IV: Projects Units: 3	
PHYS 497 - Issues in Physics Units: 3	
SCI 308 - Hands-On Science Teaching Units: 1	

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