

Degree: Physics, B.S. 22-23				
Requirement Area	Course	Course Title	Prerequisites	Units
First Semester (FALL)				
E	GS 101A	Foundations of Success I		1
A1		Oral Communication		3
LD Major/B1&B3	PHYS 135	Physics for Scientists and Engineers I		4
LD Major/B4	MATH 130	Calculus I		4
C1		Art		3
			Total:	15
Second Semester (SPRING)				
E	GS 101B	Foundations of Success II		1
A2		Written Communication		3
LD Major	PHYS 136	Physics for Scientists and Engineers II	MATH 130 and PHYS 135	4
B4/LD Major	MATH 131	Calculus II	MATH 130 with grade C- or better	3
C2		Humanities		3
			Total:	14
Third Semester (FALL)				
E		Lifelong Learning and Self-Development		1
A3	PHIL 100	Workshop in Critical Thinking		3
LD Major	PHYS 137	Physics for Scientists and Engineers III	MATH 130 and PHYS 136	4
LD Major	MATH 230	Calculus III	MATH 131 with grade C- or better.	3
LD Major	CHEM 110	General Chemistry		3
Elective				2
			Total:	16
Fourth Semester (SPRING)				
LD Major/Second Composition	PHYS 230	Physical Reasoning	MATH 230, and PHYS 137 or PHYS 126	3
LD Major	MATH 285	Introduction to Differential Equations		3
B2/Sustainability Overlay	ENSC 240	Environmental Biology		3
D1/Code 1		Social Sciences/US Code		3
Add'l C1 or C2*				3
			Total:	15
Fifth Semester (FALL)				
F		Ethnic Studies		3
UD Major	PHYS 330	Analytical Mechanics	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS 350	Quantum Mechanics I	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS 380	Advanced Laboratory I: Electronics	MATH 230, and PHYS 137 or PHYS 126	3
LD Major	MATH 215	Introduction to Linear Algebra	MATH 130	3
			Total:	15
Sixth Semester (SPRING)				
D2/Code 2		Social Sciences/US Code		3
UD-B				3
UD Major	PHYS	Physics Elective		3
UD Major	PHYS 351	Quantum Mechanics II	PHYS 350	3
UD Major	PHYS 381	Advanced Laboratory II: Experimental Methods	PHYS 380	3
			Total:	15
Seventh Semester (FALL)				
UD-C/Overlay				3
UD Major	PHYS 340	Statistical Mech. & Thermo.	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS 450	Electromagnetism I	MATH 230, and PHYS 137 or PHYS 126	3
UD Major	PHYS 480	Advanced Laboratory III: Modeling, Design, and Analysis	PHYS 381	3
Elective				3
			Total:	15
Eighth Semester (SPRING)				
UD-D/Overlay				3
UD Major	PHYS 451	Electromagnetism II	PHYS 450	3
UD Major	PHYS 481	Advanced Laboratory IV: Projects	PHYS 480	3
UD Major	PHYS	Physics Elective		3
Elective				3
			Total:	15
Total Units:				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	
Area A (9 units): Communication in the English Language & Critical Thinking (Must earn passing grade of C-/CR or better)	
<input type="checkbox"/>	A1. COMM 100 or 104, MLL 111
<input type="checkbox"/>	A2. ENGL 101, 102, or 104
<input type="checkbox"/>	A3. PHIL 100
Area B (9 units): Scientific Inquiry & Quantitative Reasoning	
<input type="checkbox"/>	B1. Physical Science
<input type="checkbox"/>	B2. Life Science
<input type="checkbox"/>	B3. Laboratory Activity
<input type="checkbox"/>	B4. Quantitative Reasoning (Must earn passing grade of C-/CR or better.)
Area C (9 units): Arts & Humanities - Minimum of three different disciplines as designated by course prefix (e.g., ART, THEA, MUS)	
<input type="checkbox"/>	C1. Arts
<input type="checkbox"/>	C2. Humanities
<input type="checkbox"/>	*Additional Lower-division Area C Course in Arts (C1) or Humanities (C2)
Area D (6 units): Social Sciences - Minimum of three different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)	
<input type="checkbox"/>	D1.
<input type="checkbox"/>	D2.
Area E (3 units): Lifelong Learning and Self-Development	
<input type="checkbox"/>	E.
Area F (3 units): Ethnic Studies	
<input type="checkbox"/>	F.
Second Composition: Requires completion of GE A2 with a C-/CR or better. Must be completed before attaining junior standing.	
<input type="checkbox"/>	Second Composition
U.S. Code (American Institutions Requirement) - Two courses (6 units)	
<input type="checkbox"/>	Code 1.
<input type="checkbox"/>	Code 2.
Upper Division GE Requirements (9 units): Should be taken after completion of	
<input type="checkbox"/>	UD-B. Upper-division Science Inquiry and Quantitative Reasoning
<input type="checkbox"/>	UD-C. Upper-division Arts OR Humanities
<input type="checkbox"/>	UD-D. Upper-division Social Sciences
Overlay Requirements (9 units): Courses may be upper or lower division, and	
<input type="checkbox"/>	Diversity (Div)
<input type="checkbox"/>	Social Justice (SJ)
<input type="checkbox"/>	Sustainability (S)
Elective Courses	
Choose a minimum of 6 units from the following:	
PHYS 460 - Astrophysics Units: 3	
PHYS 461 - Atomic Physics Units: 3	
PHYS 462 - Solid State Physics Units: 3	
PHYS 463 - Particle Physics Units: 3	

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