

Degree: Physics, B.A. 23-24

Requirement Area	Course	Course Title	Prerequisites	Units
First Semester (FALL)				
E	SCI 130	Connecting to STEM Majors		2
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		Arts		3
		Total:		16
Second Semester (SPRING)				
A2		Written Communication		3
LD Major	PHYS 136	Physics for Scientists and Engineers II		4
LD Major	MATH 131	Calculus II		3
C2		Humanities		3
Elective				1
		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		4
D1/Code 1		Social Science/US Code		3
B2		Life Science		3
Elective				1
		Total:		15
Fourth Semester (SPRING)				
LD Major/Second Comp	PHYS 230	Physical Reasoning		3
LD Major	MATH 215	Introduction to Linear Algebra		3
Add'l C1 or C2*		Arts or Humanities		3
D2/Code 2		Social Science/US Code		3
F		Ethnic Studies		3
		Total:		15
Fifth Semester (FALL)				
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
		Total:		15
Sixth Semester (SPRING)				
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
		Total:		15
Seventh Semester (FALL)				
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-C/Overlay				3
UD-B/Overlay				3
		Total:		15
Eighth Semester (SPRING)				
UD-D/Overlay				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
		Total:		15
Total Units:				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.

Revised 3/24/23

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.)	
<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 two 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	
University Writing Requirement	
<input type="checkbox"/> UWR	
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 & Local Government).	
<input type="checkbox"/> Code 1.	
<input type="checkbox"/> Code 2.	
Upper Division GE Requirements (9 units): Should be taken after completion of A1, A2, A3, and B4 with a C- (CR)	
<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 GE or major	
<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:	
CHEM 100 - Introduction to College Chemistry Units: 3 ; G.E./G.R. Area: B1, B3	
CHEM 110 - General Chemistry for Engineering Units: 3 ; G.E./G.R. Area: B1, B3	
CHEM 111 - General Chemistry I Units: 5 ; G.E./G.R. Area: B1, B3	
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: B1, B3	
PHYS 105 - How Things Work Units: 3 ; G.E./G.R. Area: B1	
PHYS 106 - Physics for Future Leaders Units: 3 ; G.E./G.R. Area: B1; Sustainability	
PHYS 107 - Science of Energy Units: 3 ; G.E./G.R. Area: B1; Sustainability	
PHYS 108 - Astronomy of Indigenous Cultures Units: 3 ; G.E./G.R. Area: B1; Diversity	
PHYS 115 - Elementary Physics Units: 3 ; G.E./G.R. Area: B1, B3	
ASTR 138 - Descriptive Astronomy Units: 3 ; G.E./G.R. Area: B1	
ASTR 139 - Astronomy Laboratory Units: 1 ; G.E./G.R. Area: B3	
PHYS 303 - Biophysics Units: 3 ; G.E./G.R. Area: UD-B	
ASTR 337 - Extrasolar Planets Units: 3 ; G.E./G.R. Area: UD-B	
ASTR 338 - The Cosmos Units: 3 ; G.E./G.R. Area: UD-B	
ASTR 339 - Stars and Galaxies Units: 3 ; G.E./G.R. Area: UD-B	
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)