



CHICAGO STATE
UNIVERSITY

College of Arts and Science
Bachelor of Science
Catalog year 2022-2023

PHYB

Physics for Bioscience Applications

**refer to the catalog at csu.edu for updates to program requirements*

Credit Hours	120 credit hours. Students starting a 120-credit hour program in Fall 2018 must complete a minimum of 15 credit hours per semester or 30 credit hours per academic year to earn a Bachelor's degree on time in 4 years.	
Grade Point Average	2.0 GPA (only 1 D in physics courses allowed)	
Residency Rule	Complete last 30 hours at Chicago State University. No more than 66 credit hours may be transferred in from a 2-year school	
Examinations	Transfer students who transfer in general education courses that meet their general education requirements in English Composition or Mathematics with a C or better do not have to take the corresponding placement examination.	
General Education Core	Chicago State University requires a minimum of 39 credit hours in the following General Education competencies:	
	English Composition (6 credits); Oral Communication (3 credits); Mathematics (3 credits); Foreign language (3 credits);	Social Science (9 credits); Humanities (6 credits); Fine Arts (3 credits); Biological Sciences (3 credits); Physical Sciences (3 credits)
	Students must also complete 1 embedded diversity course and 1 embedded critical thinking course. Some courses may fulfill more than one requirement. Only approved courses will satisfy Gen Ed Requirements. Transfer students with an AA or AS degree have met all General Education Requirements. General Education requirements for Mathematics (3 hr) and Natural Sciences (6 hr) are embedded in the supportive courses for the Major (see below*).	

	Subject Code/ Course Number	Term Offered	Credit Hours	Gen Ed	Also Allowed	Pre-requisite Courses	Co-requisite Courses
SEMESTER 1							
Calculus I	MATH 1410	F, S	4	Yes	Math 1415	MATH 1210 or MATH 1250	Calculus I
Composition I	ENG 1270	F, S	3	Yes	ENG 1240	Placement test	
General Chemistry I	CHEM 1400	F, S	3	Yes		One-year HS Chemistry or CHEM 1300	MATH 1200 and CHEM 1410
General Chemistry I Lab	CHEM 1410	F, S	1	Yes		CHEM 1400	CHEM 1400
Foreign Language	SPAN/FREN/C HIN/AFL 1010	F, S	3	Yes	must have a sequence in one language		
Physics Skills	PHYS/CHEM 1010	F, S	1			FYSE	
SEMESTER 2							
Calculus II	MATH 1420	F, S	4			MATH 1410	Calculus II
Composition II	ENG 1280	F, S	3	Yes	ENG 1240	ENG 1270	
General Chemistry II	CHEM 1450	F, S	3			CHEM 1400	MATH 1210, CHEM 1460
General Chemistry II Lab	CHEM 1460		1			CHEM 1450	CHEM 1450
Humanities elective		F, S	3	Yes			
Oral Communication	CMAT 2030	F, S	3	Yes	ENG 2011		

SEMESTER 3							
Intro to Biology	BIOL 1710	F, S	4				
Calculus based Physics I	PHYS 2110	F	4	Yes		MATH 1410	MATH 1410
Intro to C++	CPTR 1100	F	3			MATH 0990	
Organic Chemistry I Lecture	CHEM 2400	F, S	3			MATH 1200, CHEM 1410	
Organic Chem I Lab	CHEM 2410	F, S	1				CHEM 1400
Social Science Elective 1			3				

SEMESTER 4							
Calculus based Physics II	PHYS 2220	S	4			PHYS 2110	MATH 1420
Social Science Elective 2			3				
Physics advisor approved elective			3				
Organic Chemistry II Lecture	CHEM 2450	F, S	3			CHEM 1400, CHEM 1410	
Organic Chem II Lab	CHEM 2460	F, S	1				CHEM 2400

SEMESTER 5							
Calculus III	MATH 2430	F	4			MATH 1420	
Calculus based Physics III	PHYS 2330	F	4			PHYS 2220	
Electronics I	PHYS 2700	F	3			PHYS 2220	
Social Science Elective 3		F, S	3				

SEMESTER 6							
Differential Equations	MATH 2550	S	4			MATH 2430	
Biol of Animals	ZOOL 2040	S	4			ENG 1240 BIOL 1080 MATH 1200	
Thesis Research I	PHYS 2100	F, S	1		Consult advisor		
Mathematical Methods of Physics I	PHYS 3450	S	3			PHYS 2330, MATH 2550	
Classical Mechanics I	PHYS 3110	S	3			PHYS 2330	

SEMESTER 7							
Human Physiology Lecture and Lab	PSLY 2040	F	4			BIOL 1080, ZOOL 2040	
Quantum Mechanics I	PHYS 3250 or 3255	F	3			PHYS 3110	
Electricity and Magnetism I	PHYS 3150 or 3155	F	3			PHYS 2330	
Physics advisor approved elective		F, S	1			Dept. Consent	
Fine Arts Elective		F, S	3				

SEMESTER 8							
Adv. Undergrad Lab I	PHYS 4850	S	4			PHYS 2330	
Human Functional Anatomy Lab	ZOOL 2050	S	4			ZOOL 2040, BIOL 1080	
Senior Thesis	PHYS 4905	S	3			Dept. Consent	
Fine Arts elective	PHYS, ENGR 2XXX	S	3				

Notes:

- Thesis committee approval and 120 hours of research must be completed **before** taking PHYS 4905.
- MATH 1200 and MATH 1210 serve only as prerequisites for MATH 1410, they don't count towards degree