

Cleveland State University
College of Sciences and Health Professions
Bachelor of Science in Physics
(Even Year Start)

First Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
ASC 101 Introduction to University Life	1		INTRO	ENG 102 English II	3		W/C
ENG 101 English I	3		W/C	MTH 182 Calculus II	4	X	M/QL
MTH 181 Calculus I	4	X	M/QL	Social Science Elective (outside the US/ALAAME)	3 to 4		SS
Social Science Elective	3 to 4		SS	US Diversity Elective	3 to 4		DIV
Arts & Humanities Elective	3 to 4		A&H	General Elective*	3 to 4		
Semester Total	14 to 16			Semester Total	16 to 19		

Second Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
PHY 243 University Physics I	5	X	NS; WAC	PHY 244 University Physics II	5	X	NS; WAC
MTH 281 Multivariable Calculus	4	X		CIS 260 Programming	4	X	
African American Experience Elective	3 to 4		DIV	Arts & Humanities Elective (outside the US/ALAAME)	3 to 4		A&H
General Elective*	3 to 4			General Elective*	3 to 4		
Semester Total	15 to 17			Semester Total	15 to 17		

Third Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
PHY 330 Introduction to Modern Physics	4	X		PHY 440 Quantum Physics I	4	X	
PHY 340 Mechanics and Vibrations	4	X		PHY 475 Statistical Physics	4	X	
General Elective*	3 to 4			Technical Elective**	3 to 4	X	
Writing Across the Curriculum Elective	3 to 4		WAC	General Elective*	3 to 4		
Semester Total	14 to 16			Semester Total	14 to 16		

Fourth Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
PHY 450 Optics and Electromagnetic Waves	4	X		PHY 350 Electricity and Magnetism	4	X	
Technical Elective**	3 to 4	X		PHY 455 Optics Lab	4	X	
PHY 474 Thermal Physics	4	X	CAP	Technical Elective**	3 to 4	X	
General Elective*	3 to 4			General Elective*	3 to 4		
Apply for Spring graduation prior to Sep 9th							
Semester Total	14 to 16			Semester Total	14 to 16		
Degree Total: 116-133 (128 hours minimum)							

Assumptions: college-level readiness in MTH & ENG; no Foreign Language Deficiency

College/ Program Notes:

The plan above is a suggested guide to ensure that all General Education, College, University, and Major requirements are met within 4 years of study. Students may deviate from the suggested placement of Gen Ed courses, although the M/QL and W/C requirements should be completed during the first year of study.

*Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 128 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). Depending upon other elective choices made (3 credit hour vs. 4 credit hour courses), students may not need as many general electives as indicated above, or may need additional electives.

** Physics majors must complete 10 credits of 300/400-level courses from Physics, Chemistry, Mathematics, or Engineering.

University Notes:

Gen Ed Key:	INTRO = Introduction to University Life (one course)	SS = Social Sciences (two courses, one of which must be focused outside the US**)
	W/C = Writing/Composition (two courses; C or better required)	A&H = Arts & Humanities (two courses, one must be focused outside the US**)
	M/QL = Mathematics/Quantitative Literacy (two courses)	DIV = Social Diversity (two courses; one US Diversity and one African American Experience)
	NS = Natural Sciences (two courses, one of which must have a lab)	WAC/SPAC = Writing/Speaking Across the Curriculum (three courses, one in the major; C or better required)
		CAP = Capstone
	** of the SS and A&H courses focused outside the US, one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME)	

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Cleveland State University
College of Sciences and Health Professions
Bachelor of Science in Physics
(Odd Year Start)

First Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
ASC 101 Introduction to University Life	1		INTRO	ENG 102 English II	3		W/C
ENG 101 English I	3		W/C	MTH 182 Calculus II	4	X	M/QL
MTH 181 Calculus I	4	X	M/QL	Social Science Elective (outside the US/ALAAME)	3 to 4		SS
Social Science Elective	3 to 4		SS	US Diversity Elective	3 to 4		DIV
Arts & Humanities Elective	3 to 4		A&H	General Elective*	3 to 4		
Semester Total	14 to 16			Semester Total	16 to 19		

Second Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
PHY 243 University Physics I	5	X	NS; WAC	PHY 244 University Physics II	5	X	NS; WAC
MTH 281 Multivariable Calculus	4	X		CIS 260 Programming	4	X	
African American Experience Elective	3 to 4		DIV	Arts & Humanities Elective (outside the US/ALAAME)	3 to 4		A&H
General Elective*	3 to 4			General Elective*	3 to 4		
Semester Total	15 to 17			Semester Total	15 to 17		

Third Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
PHY 330 Introduction to Modern Physics	4	X		PHY 350 Electricity and Magnetism	4	X	
PHY 450 Optics and Electromagnetic Waves	4	X		PHY 455 Optics Lab	4	X	
Technical Elective**	3 to 4	X		General Elective*	3 to 4		
Writing Across the Curriculum Elective	3 to 4		WAC	General Elective*	3 to 4		
Semester Total	14 to 16			Semester Total	14 to 16		

Fourth Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
PHY 340 Mechanics and Vibrations	4	X		PHY 440 Quantum Physics I	4	X	
PHY 474 Thermal Physics	4	X	CAP	PHY 475 Statistical Physics	4	X	
Technical Elective**	3 to 4	X		Technical Elective**	3 to 4	X	
General Elective*	3 to 4			General Elective*	3 to 4		
Apply for Spring graduation prior to Sep 9th							
Semester Total	14 to 16			Semester Total	14 to 16		
Degree Total: 116-133 (128 hours minimum)							

Assumptions: college-level readiness in MTH & ENG; no Foreign Language Deficiency

College/ Program Notes:

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Cleveland State University
College of Sciences and Health Professions
Bachelor of Science in Physics

CSUTeach Dual Field Licensure in Chemistry and Physics, Grades 7-12
 Minor in Chemistry, Minor in Education

First Year

Fall Semester				Spring Semester				Summer Semester			
Credits	Major	Gen Ed		Credits	Major	Gen Ed		Credits	Major	Gen Ed	
ENG 101 English I	3		W/C	ENG 102 English II	3		W/C	African Amer Exp Elective	3 to 4		DIV
MTH 181 Calculus I	4	X	M/QL	MTH 182 Calculus II	4	X	M/QL				
PSY 221 Adolescent Psychology	3	X	SS	PHY 243 University Physics I	5	X	NS;WAC				
ASC 101 Introduction to University Life	1		INTRO	EVS 206 Intro to Environmental Science	4	X	NS				
Arts & Hum Elective (outside US/ALAAME)	3 to 4		A&H	EUT 201 Inquiry Approaches to Teaching	1	X					
Semester Total	14 to 15			Semester Total	17			Semester Total	3 to 4		

Second Year

Fall Semester				Spring Semester				Summer Semester			
Credits	Major	Gen Ed		Credits	Major	Gen Ed		Credits	Major	Gen Ed	
PHY 244 University Physics II	5	X	NS;WAC	CHM 262/267 General Chemistry/Lab II	5	X	NS	CHM 331/336 O Chem/Lab	6	X	
CHM 261/266 General Chemistry/Lab I	5	X	NS	CIS 260 Intro to Programming	4	X					
MTH 281 Multivariable Calculus	4	X		EDC 300 Diversity in Educational Settings	3	X	DIV				
EUT 217 Inquiry in Science	1	X		Social Sci Elective (outside US/ALAAME)	3 to 4		SS				
				HPR 101 Wellness	1	X					
Semester Total	15			Semester Total	16 to 17			Semester Total	6		

Third Year

Fall Semester				Spring Semester				Summer Semester			
Credits	Major	Gen Ed		Credits	Major	Gen Ed		Credits	Major	Gen Ed	
PHY 330 Intro to Modern Physics	4	X		PHY 440 Quantum Physics I	4	X		BIO 380 Biology Content	5	X	
PHY 470 Environmental Physics	4	X		CHM 320 Survey of Physical Chemistry**	4	X		EDL 305 Content Area Lit	3	X	
PHY 474 Thermal Physics	4	X	CAP	CHM 404 Environmental Chemistry	3	X					
EUT 302 Knowing & Learning	3	X		EUT 305 Classroom Interactions	3	X					
CHM 401 Chemical Information**	2	X	WAC	PHY 475 Statistical Physics**	4	X					
Semester Total	17			Semester Total	18			Semester Total	8		

Fourth Year

Fall Semester				Spring Semester				Summer Semester			
Credits	Major	Gen Ed		Credits	Major	Gen Ed		Credits	Major	Gen Ed	
PHY 340 Mechanics and Vibrations**	4	X		EST 499 STEM Student Teaching	6	X					
PHY 450 Optics & Electromagnetic Waves	4	X		EUT 210 Perspectives in Math & Science	3	X	A&H				
PHY 301 Research Methods	3	X	WAC	PHY 350 Electricity and Magnetism**	4	X					
EUT 317 Project-Based Instruction	3	X		PHY 455 Optics Laboratory**	4	X					
Apply for Spring graduation prior to Sep 9th											
Semester Total	14			Semester Total	17			Semester Total	0		
Degree Total: 145-148											

Assumptions: college-level readiness in MTH & ENG; no Foreign Language Deficiency

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**Not offered every semester. Check with department for availability

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