

**Cleveland State University**  
**College of Arts and Sciences**  
**Bachelor of Arts in Physics**

<b>First Year</b>								
<b>Fall Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	<b>Spring Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	
ASC 101 Intro to University Life	1		Intro	ENG 102 College Writing II	3		W/C	
ENG 101 College Writing I	3		W/C	MTH 182 Calculus II	4		M/QL	
MTH 181 Calculus I	4	X	M/QL	Social Science Elective**	3		SS	
Social Science Elective**	3		SS	Social Diversity Elective (US)	3		DIV-US	
Arts & Humanities Elective**	3		A&H	General Elective*	3			
<i>Semester Total</i>	<b>14</b>			<i>Semester Total</i>	<b>16</b>			

<b>Second Year</b>								
<b>Fall Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	<b>Spring Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	
PHY 243 University Physics I	5	X	NS/WAC	PHY 244 University Physics II	5	X	NS/WAC	
MTH 281 Multivariable Calc^ or MTH 283/284^	4	X		Arts & Humanities Elective**	3		A&H	
Social Diversity Elective (AA)	3		DIV-AA	General Elective*	3			
General Elective*	3			General Elective*	3			
<i>Semester Total</i>	<b>15</b>			<i>Semester Total</i>	<b>14</b>			

<b>Third Year</b>								
<b>Fall Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	<b>Spring Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	
PHY Elective 300/400 Level	3	X		PHY 330 Modern Physics	3	X		
PHY 320 Computational Physics	3	X		Physics Lab Elective (335/461/455)^	3	X	WAC	
General Elective* 300/400 level	3			General Elective* 300/400 level	3			
General Elective* (WAC)	3		WAC	General Elective* 300/400 level	3			
General Elective*	3			General Elective*	3			
<i>Semester Total</i>	<b>15</b>			<i>Semester Total</i>	<b>15</b>			

<b>Fourth Year</b>								
<b>Fall Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	<b>Spring Semester</b>	<b>Credits</b>	<b>Major</b>	<b>Gen Ed</b>	
PHY Elective 300/400 Level	3	X		PHY 498 Capstone Senior Project	1	X	CAP	
PHY Elective 300/400 level	3	X		PHY Elective 300/400 level	3	X		
General Elective* 300/400 level	3			PHY Elective (300/400 Level)	3			
General Elective*	3			General Elective* 300/400 level	3			
General Elective*	3			General Elective*	3			
				General Elective*	3			
<b>Apply for Spring graduation by the middle of this term</b>								
<i>Semester Total</i>	<b>15</b>			<i>Semester Total</i>	<b>16</b>			
<b>Credit Total: 120 (minimum 120 required for degree)</b>								

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. This plan assumes college-level readiness in both mathematics and English and that Foreign Language Deficiency requirements have been met.

<b>Gen Ed Key:</b>	
INTRO = Introduction to University Life Requirement (one course)	SS = Social Sciences Requirement (2 courses from different departments**)
W/C = Writing/Composition Requirement (2 courses; C or better required)	A&H = Arts & Humanities Requirement (2 courses from different departments**)
M/QL = Mathematics/Quantitative Literacy Requirement (2 courses)	DIV = Social Diversity Requirement (one US Diversity & one African American Exp.)
NS = Natural Science (2 courses, one of which must have a lab)	WAC/SPAC = Writing/Speaking Across the Curriculum (3 courses, one in major)
	CAP = Capstone Requirement

\* General Electives ensure that a student accumulates the minimum 120 required credit hours for graduation. Of these 120 credit hours, a minimum of 36 credit hours must be upper division (300 or 400-level courses).

\*\* Of the SS and A&H courses, one must be focused on Africa, Latin America, or the Middle East

^Any course or combination of courses (minimum 4 credit hours) from the following list: MTH 220, MTH 281, MTH 283, MTH 284, MTH 288, or ESC 250

^^Physics Lab elective is required. It can be chosen from PHY 335 (typically offered spring of odd years), PHY 461 (typically offered fall of odd years), or PHY 455 (typically offered spring of even years)

This information is provided solely for the convenience of the reader, and the University expressly disclaims any liability which may otherwise be incurred. This publication is neither a contract nor an offer to make a contract. While every effort has been made to ensure the accuracy of the information, the University reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, or any other subject addressed herein.

**Cleveland State University**  
**College of Arts and Sciences**  
 Bachelor of Arts in Physics  
 CSUteach (license in Education)

<b>First Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
ASC 101: Intro to University Life	1			Intro										
ENG 101: College Writing I	3			W/C	ENG 102: College Writing II	3			W/C					
BIO 200/201: Introductory Biology I + Lab	4	x		NS	BIO 202/203: Introductory Biology II + Lab	4	x		NS					
PSY 221: Adolescent Psychology	3		x	SS	PHY 241/243/H: University Physics I*	5	x		NS					
MTH 181: Calculus I	4	x		M/QL	MTH 182: Calculus II	4	x		M/QL					
<i>Semester Total</i>	15				<i>Semester Total</i>	16				<i>Semester Total</i>	0			

<b>Second Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
EUT 201: Step 1: Inquiry Approaches to Teaching	1		x		EDB 242: Introduction to Education	3		x	DIV	African American Experience Elective	3			DIV
PHY 242/244/H: University Physics II*	5	x		NS	GEO 100/101: Introduction to Geology + lab	4	x			CIS 151: Invitation to Computing	3	x		
CHM 261/266: General Chemistry I + Lab	4	x		NS	CHM 262/267: General Chemistry II + Lab	4	x		NS					
MTH 281: Multivariable Calculus	4	x			PHY Elective: 3xx/4xx	3	x							
Arts & Humanities Elective (**ALAAME)	3			A&H	BIO 304/305: Population Biology & Ecology + Lab	4	x							
<i>Semester Total</i>	17				<i>Semester Total</i>	18				<i>Semester Total</i>	6			

<b>Third Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
EDB 302: Psychological Foundations of Education	3		x	WAC	EUT 305: Classroom Interactions	3		x		EDL 305: Content Area Literacy	3		x	
PHY Elective 3xx/4xx	3	x			PHY Elective: 3xx/4xx	3	x			STA 147: Statistical Concepts with App	3		x	M/QL
PHY 470: Environmental Physics	3	x			PHY Elective: 3xx/4xx	3	x			EDC 200: Div in Edu Setting	3		x	DIV
PHY 330: Modern Physics	3	x			EVS 206: Intro to Environmental Science	3	x		NS					
CIS 260: Introduction to Programming	4	x			PHY 201: Astronomy: Stars and Galaxies	3			WAC					
<i>Semester Total</i>	16				<i>Semester Total</i>	15				<i>Semester Total</i>	9			

<b>Fourth Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
EUT 417: Project Based Instruction in Science	3		x		EST 499: CSUteach STEM Apprentice Teaching II	6		x						
EST 399: CSUteach STEM Apprentice Teaching I	1		x		EUT 210: Perspectives on Science & Math	3		x	A&H/WAC					
EUT 311: Research Methods	3		x	WAC	CHM 255: Environmental Chemistry	3	x	x						
PHY Elective: 3xx/4xx	3	x			Social Science Elective (**ALAAME)	3			SS					
PHY 474: Thermal Physics	4	x		CAP										
ESE 400: Introduction to Special Education	3		x	WAC										
<b>Apply for Spring graduation by the middle of this term</b>														
<i>Semester Total</i>	17				<i>Semester Total</i>	15				<i>Semester Total</i>	0			
<b>Degree Total: 144</b>														

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. This plan assumes college-level readiness in both mathematics and English and that Foreign Language Deficiency requirements have been met.

Gen Ed Key:	
INTRO = Introduction to University Life Requirement (one course)	SS = Social Sciences Requirement (2 courses from different departments**)
W/C = Writing/Composition Requirement (2 courses; C or better required)	A&H = Arts & Humanities Requirement (2 courses from different departments**)
M/QL = Mathematics/Quantitative Literacy Requirement (2 courses)	DIV = Social Diversity Requirement (one US Diversity & one African American E
NS = Natural Science (2 courses, one of which must have a lab)	WAC/SPAC = Writing/Speaking Across the Curriculum (3 courses, one in major
	CAP = Capstone Requirement

\*Students must choose either PHY 243/H or PHY 244/H to meet WAC requirements. If one is not chosen, an additional WAC course will need to be added

\*\* Of the SS and A&H courses, one must be focused on Africa, Latin America, or the Middle East

This information is provided solely for the convenience of the reader, and the University expressly disclaims any liability which may otherwise be incurred. This publication is neither a contract nor an offer to make a contract. While every effort has been made to ensure the accuracy of the information, the University reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, or any other subject addressed herein.

**Cleveland State University**  
**College of Arts and Sciences**  
 Bachelor of Arts in Physics  
*CSUteach* (minor in Mathematics and license in Education)

<b>First Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
ASC 101: Intro to University Life	1			Intro										
ENG 101: College Writing I	3			W/C	ENG 102: College Writing II	3			W/C					
BIO 200/201: Intro to Biology I + Lab -OR- CHM 261/262: Gen Chem I + Lab*	4	x		NS	BIO 202/203: Intro to Biology II + Lab -OR- CHM 262/267: Gen Chem II + Lab*	4	x		NS					
PSY 221: Adolescent Psychology	3		x	SS	PHY 241/243/H: University Physics I	5	x		NS					
MTH 181: Calculus I	4	x		M/QL	MTH 182: Calculus II	4	x		M/QL					
<i>Semester Total</i>	15				<i>Semester Total</i>	16				<i>Semester Total</i>	0			

<b>Second Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
EUT 201: Step 1: Inquiry Approaches to Teaching	1		x		EDB 242: Introduction to Education	3		x	DIV	CIS 151: Invitation to Computing	3	x		
PHY 242/244/H: University Physics II	5	x		NS	CIS 260: Introduction to Programming	4	x			STA 323: Statistical Methods	3	x		
EVS 206: Intro to Environmental Science	3	x		NS	MTH 288: Linear Algebra	3	x			EDC 200: Div in Edu Setting	3		x	DIV
MTH 281: Multivariable Calculus	4	x			PHY Elective: 3xx/4xx	3	x			African American Experience	3			DIV
PHY 470: Environmental Physics	3	x			MTH 220: Discrete Mathematics	3	x		SS					
<i>Semester Total</i>	16				<i>Semester Total</i>	16				<i>Semester Total</i>	12			

<b>Third Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
EDB 302: Psychological Found of Ed	3		x	WAC	EUT 305: Classroom Interactions	3		x		ESE 400: Intro to Special Edu	3		x	
PHY Elective: 3xx/4xx	3	x			PHY Elective: 3xx/4xx	3	x			EDL 305: Content Area Literacy	3		x	
MTH 301: Introduction to Number Theory	3	x			MTH 358: Abstract Algebra	3	x	x	WAC					
MTH 333: Geometry	3	x			MTH 201: Functions & Modeling	3		x						
PHY 330: Modern Physics	3	x			PHY Elective: 3xx/4xx	3	x							
PHY Elective: 3xx/4xx	3	x			BIO 380/381: Bio Content Mid Sch Teach -OR- CHM 380 Prin of Chem Mid Sch Teach	3 or 4		x						
<i>Semester Total</i>	18				<i>Semester Total</i>	18				<i>Semester Total</i>	6			

<b>Fourth Year</b>														
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed	Summer Semester	Credits	Major	License	Gen Ed
EUT 415: Project Based Instruction in Math	3		x		EST 499: <i>CSUteach</i> STEM Apprentice Teaching II	6		x						
EUT 417: Project Based Instruction in Science	3		x		EUT 210: Perspectives on Science & Math	3		x	A&H/WAC					
EST 399: <i>CSUteach</i> STEM Apprentice Teaching I	1		x		Social Science Elective (**ALAAME)	3			SS					
EUT 311: Research Methods	3		x	WAC	Arts & Humanities Elective (**ALAAME)	3			A&H					
PHY 474: Thermal Physics	3	x	x	CAP										
STA 424: Probability Theory & Application	3	x	x											
<b>Apply for Spring graduation by the middle of this term</b>														
<i>Semester Total</i>	16				<i>Semester Total</i>	15				<i>Semester Total</i>	0			

**Degree Total: 148-149**

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. This plan assumes college-level readiness in both mathematics and English and that Foreign Language Deficiency requirements have been met.

Gen Ed Key:	
INTRO = Introduction to University Life Requirement (one course)	SS = Social Sciences Requirement (2 courses from different departments**)
W/C = Writing/Composition Requirement (2 courses; C or better required)	A&H = Arts & Humanities Requirement (2 courses from different departments**)
M/QL = Mathematics/Quantitative Literacy Requirement (2 courses)	DIV = Social Diversity Requirement (one US Diversity & one African American Exp.)
NS = Natural Science (2 courses, one of which must have a lab)	WAC/SPAC = Writing/Speaking Across the Curriculum (3 courses, one in major)
	CAP = Capstone Requirement

\*If a student chooses BIO 200/201 and BIO 202/203, he/she must choose CHM 380. If a student chooses CHM 262/266 and CHM 262.267, he/she must choose BIO 380/381.

\*\* Of the SS and A&H courses, one must be focused on Africa, Latin America, or the Middle East

This information is provided solely for the convenience of the reader, and the University expressly disclaims any liability which may otherwise be incurred. This publication is neither a contract nor an offer to make a contract. While every effort has been made to ensure the accuracy of the information, the University reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, or any other subject addressed herein.