

Cleveland State University
College of Science and Health Professions
Bachelor of Arts in Physics
- NEW FALL 2014 -

First Year								
Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed	
ASC 101 Introduction to University Life	1		INTRO	MTH 182 Calculus II	4	X	M/QL	
MTH 181 Calculus I	4	X	M/QL	ENG 102 English II	3		W/C	
ENG 101 English I	3		W/C	Social Science Elective (outside US/ALAAME)	3		SS	
Social Science Elective	3		SS	US Diversity Elective	3		DIV	
CIS 151 Invitation to Computing	3	X						
<i>Semester Total</i>	14			<i>Semester Total</i>	13			

Second Year								
Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed	
PHY 241 [^] or 243 University Physics I	5	X	NS; WAC	PHY 242 [^] or 244 University Physics II	5	X	NS; WAC	
MTH 281 Multivariable Calculus	4	X		CIS 260 Introduction to Programming	4	X		
CHM 261/266 OR BIO200/201 OR CIS (300/400)	4	X		CHM 262/267 OR BIO 202/203 OR CIS (300/400)	4	X		
African American Experience Elective	3		DIV	Arts and Humanities Elective (outside US/ALAAME)	3		A&H	
<i>Semester Total</i>	16			<i>Semester Total</i>	16			

Third Year								
Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed	
PHY 474 Thermal Physics	4	X	CAP	PHY 330 Modern Physics	3	X		
Physics Elective (300/400)	3	X		Physics Elective (300/400)	3	X		
Discipline Elective (300/400)	3	X		Discipline Elective (300/400)	3	X		
Writing Across the Curriculum Elective	3		WAC	Discipline Elective (300/400)	3	X		
General Elective*	3			Arts & Humanities Elective	3		A&H	
<i>Semester Total</i>	16			<i>Semester Total</i>	15			

Fourth Year								
Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed	
Physics Elective (300/400)	3	X		Physics Elective (300/400)	3	X		
Physics Elective (300/400)	3	X		Physics Elective (300/400)	3	X		
Discipline Elective (300/400)	3	X		Discipline Elective (300/400)	3	X		
Discipline Elective (300/400)	3	X		General Elective*	3			
General Elective*	3			General Elective*	3			
Apply for Spring graduation prior to Sep 9th								
<i>Semester Total</i>	15			<i>Semester Total</i>	15			
Degree Total (as listed in above sample): 120 (120 hours minimum required to earn degree)								

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.

[^]The PHY 241/242 sequence does not qualify for WAC credit; students choosing PHY 241/242 rather than PHY 243/244 will need to complete 2 additional WAC courses.

*General Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 120 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). Depending upon elective choices made, students may not need as many general electives as indicated above, or may need additional electives.

University Notes:

Gen Ed Key:	SS = Social Sciences Requirement (2 courses, one of which must be focused outside the US** A&H = Arts & Humanities Requirement (2 courses, one must be focused outside the US**) DIV = Social Diversity Requirement (2 courses; one US Diversity and one African American Exp.) WAC/SPAC = Writing/Speaking Across the Curriculum Requirement (3 courses, one in the major) CAP = Capstone Requirement ** 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 Arts in Physics
 CSUteach (minor in Education)

First Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
ASC 101: Intro to University Life	1			Intro	EUT 201: Step 1: Inquiry Approaches to Teaching	1		x						
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	x	NS	BIO 202/203: Introductory Biology II + Lab	4	x	x	NS					
PSY 221: Adolescent Psychology	3		x	SS	PHY 241/243/H: University Physics I*	5	x	x	NS					
MTH 181: Calculus I	4	x	x	M/QL	MTH 182: Calculus II	4	x	x	M/QL					
<i>Semester Total</i>	15				<i>Semester Total</i>	17				<i>Semester Total</i>	0			

Second Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
EUT 217: Step 2: Inquiry-Based Lesson Design in Science	1		x		EDC 300: Div in Edu Settings	3		x	DIV	Social Science Elective (outside US**)	3			SS
PHY 242/244/H: University Physics II*	5	x	x	NS	PHY 330: Modern Physics	3	x	x						
CHM 261/266: General Chemistry I + Lab	4	x	x	NS	CHM 262/267: General Chemistry II + Lab	4	x	x	NS					
MTH 281: Multivariable Calculus	4	x	x		CIS 151: Invitation to Computing	3	x							
Arts & Humanities Elective (outside US**)	3			A&H	BIO 304/305: Population Biology & Ecology + Lab	4	x	x						
<i>Semester Total</i>	17				<i>Semester Total</i>	17				<i>Semester Total</i>	3			

Third Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
EUT 302: Knowing & Learning	3		x		EUT 305: Classroom Interactions	3		x		PHY 201: Astronomy: Stars & Galaxies	3		x	NS
PHY Elective: 3xx/4xx	3	x			PHY Elective: 3xx/4xx	3	x			MTH 147: Statistical Concepts with App	3		x	M/QL
PHY 470: Environmental Physics	3	x	x		PHY Elective: 3xx/4xx	3	x							
GEO 100/101: Introduction to Geology + lab	4	x	x	NS	EVS 206/207: Intro to Env. Science + Lab	4	x	x	NS					
CIS 200: Introduction to Programming	4	x			African American Experience Elective	3			DIV					
<i>Semester Total</i>	17				<i>Semester Total</i>	16				<i>Semester Total</i>	6			

Fourth Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
EUT 317: 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					
SCI 311: Research Methods	3		x	WAC	CHM 255: Environmental Chemistry	3	x	x						
PHY Elective: 3xx/4xx	3	x			PHY Elective: 3xx/4xx	3	x							
PHY 474: Thermal Physics	4	x	x	CAP										
EDL 305: Content Area Literacy	3		x											
<i>Apply for Spring graduation prior to Sep 9th</i>														
<i>Semester Total</i>	17				<i>Semester Total</i>	15				<i>Semester Total</i>	0			

Degree Total: 140

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.

*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

Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 120 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.

University Notes:

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

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

First Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
ASC 101: Intro to University Life	1			Intro	EUT 201: Step 1: Inquiry Approaches to Teaching	1		x						
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	x	NS	BIO 202/203: Intro to Biology II + Lab -OR- CHM 262/267: Gen Chem II + Lab	4	x	x	NS					
PSY 221: Adolescent Psychology	3		x	SS	PHY 241/243/H: University Physics	5	x	x	NS					
MTH 181: Calculus I	4	x	x	M/QL	MTH 182: Calculus II	4	x	x	M/QL					
Semester Total	15				Semester Total	17				Semester Total	0			

Second Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
EUT 217: Step 2: Inquiry-Based Lesson Design in Science	1		x		EDC 300: Div in Edu Settings	3		x	DIV	MTH 220: Discrete Math	3	x	x	
PHY 242/244/H: University Physics	5	x	x	NS	PHY 330: Modern Physics	3	x	x		Statistical Methods	3	x	x	
EVS 206/207: Intro to Env Science + Lab	4	x	x	NS	MTH 288: Linear Algebra	3	x	x						
MTH 281: Multivariable Calculus	4	x	x		CIS 151: Invitation to Computing	3	x							
PHY 470: Environmental Physics	3	x	x		Social Science Elective (outside U)	3			SS					
Semester Total	17				Semester Total	15				Semester Total	6			

Third Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
EUT 302: Knowing & Learning	3		x		EUT 305: Classroom Interactions	3		x		CHM 380: Prin of Chem Mid Sch Teach -OR- BIO 380/381: Bio Content Mid Sch Teach*	3 or 4	x	x	
PHY Elective: 3xx/4xx	3	x			PHY Elective: 3xx/4xx	3	x							
MTH 301: Introduction to Number Theory	3	x	x		MTH 358: Abstract Algebra	3	x	x	WAC					
MTH 333: Geometry	3	x	x		MTH 201: Functions & Modeling	3		x		EDL 305: Content	3		x	
CIS 260: Introduction to Programming	4	x			African American Experience Elec	3			DIV					
					PHY Elective: 3xx/4xx	3	x							
Semester Total	16				Semester Total	18				Semester Total	6 or 7			

Fourth Year														
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	Summer Semester	Credits	Major	Minor	Gen Ed
EUT 317: 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	&H/WAC					
SCI 311: Research Methods	3		x	WAC	PHY Elective: 3xx/4xx	3	x							
MTH 424: Probability Theory & Applications	3	x	x		Arts & Humanities Elective (outside U)	3			A&H					
PHY 474: Thermal Physics	4	x	x	CAP										
PHY Elective: 3xx/4xx	3	x												
Apply for Spring graduation prior to Sep 9th														
Semester Total	17				Semester Total	15				Semester Total	0			

Degree Total: 142

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

College/ Program Notes:

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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

Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 120 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.

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