

Cleveland State University  
College of Sciences and Health Professions  
**Bachelor of Science in Biology**  
(recommended plan for students with strong science backgrounds)

**First Year**

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
BIO 200/201 Introductory Biology I/Lab	4	X	NS	BIO 202/203 Introductory Biology II/Lab	4	X	NS
CHM 261/266 General Chemistry I/Lab	4	X	NS	CHM 262/267 General Chemistry II/Lab	4	X	NS
ENG 101 English I	3		W/C	ENG 102 English II	3		W/C
STA 147, PSY 217^, SOC 354^ <b>OR</b> MTH 181	3 or 4	X	M/QL	STA 347, PSY 317^ <b>OR</b> MTH 182	3 or 4	X	M/QL
ASC 101 Introduction to University Life	1		INTRO				
<i>Semester Total</i>	<i>15 or 16</i>			<i>Semester Total</i>	<i>14 or 15</i>		

**Second Year**

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
300 Level BIO Course (from Group A)	4	X		300 Level BIO Course (from Group B)	4	X	
CHM 331/336 Organic Chemistry I/Lab	4	X		General Elective*	3		
Arts & Humanities Elective**	3		A&H	Social Science Elective**	3		SS
Social Science Elective**	3		SS	Arts & Humanities Elective**	3		A&H
				General Elective*	3		
<i>Semester Total</i>	<i>14</i>			<i>Semester Total</i>	<i>16</i>		

**Third Year**

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
300 Level BIO Course (from Group B)	4	X		300 Level BIO Course (from Group A)	4	X	
Biology Elective^^	4	X		Biology Elective^^	4	X	
PHY 231 (or PHY 221 or 241)	4 or 5	X	NS	BIO 390 Writing in Biology (Recommended)	3	X	WAC
US Diversity Elective	3		DIV	PHY 232 (or PHY 222 or 242)	4 or 5	X	NS
<i>Semester Total</i>	<i>15 or 16</i>			<i>Semester Total</i>	<i>15 or 16</i>		

**Fourth Year**

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
Biology Elective^^	4	X		BIO 499 Exit Evaluation	0	X	
African American Experience Elective	3		DIV	BIO 495 Seminar	2	X	CAP; SPAC
General Elective*	3			Writing Across the Curriculum Elective	3		WAC
General Elective*	3			Biology Elective^^	4	X	
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>	<i>16</i>			<i>Semester Total</i>	<i>15</i>		
<b>Degree Total (as listed in above sample): 120-124 (120 hours minimum required to earn degree)</b>							

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 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, students may not need as many electives as indicated above, or may need additional electives.

^Only one QL course can be applied to the M/QL requirement. The other course must be an MTH/STA course.

^^Refer to the Undergraduate Catalog, Degree Audit, or the faculty advisor for information regarding which courses are eligible to be used as biology electives.

**University Notes:**

<b>Gen Ed Key:</b>	SS = Social Sciences (two courses from different departments**)
INTRO = Introduction to University Life (one course)	A&H = Arts & Humanities (two courses from different departments**)
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 required)
NS = Natural Sciences (two courses, one of which must have a lab)	CAP = Capstone
** of the four total SS and A&H courses, 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 Biology**  
(recommended plan for students not confident/untested in their scientific abilities)

**First Year**

<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>
BIO 200/201 Introductory Biology I/Lab	4	X	NS	BIO 202/203 Introductory Biology II/Lab	4	X	NS
ENG 101 English I	3		W/C	ENG 102 English II	3		W/C
STA 147, PSY 217^, SOC 354^ <b>OR</b> MTH 181	3 or 4	X	M/QL	STA 347, PSY 317^ <b>OR</b> MTH 182	3 or 4	X	M/QL
ASC 101 Introduction to University Life	1		INTRO	Arts & Humanities Elective**	3		A&H
Social Science Elective**	3		SS	Social Science Elective**	3		SS
<b>Semester Total</b>	<b>14 or 15</b>			<b>Semester Total</b>	<b>16 or 17</b>		

**Second Year**

<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>
300 Level BIO Course (from Group A)	4	X		300 Level BIO Course (from Group B)	4	X	
CHM 261/266 General Chemistry I/Lab	4	X	NS	General Elective*	3		
US Diversity Elective	3		DIV	CHM 262/267 General Chemistry II/Lab	4	X	NS
Arts & Humanities Elective**	3		A&H	African American Experience Elective	3		DIV
<b>Semester Total</b>	<b>14</b>			<b>Semester Total</b>	<b>14</b>		

**Third Year**

<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>
300 Level BIO Course (from Group B)	4	X		300 Level BIO Course (from Group A)	4	X	
CHM 331/336 Organic Chemistry I/Lab	4	X		Biology Elective^^	4	X	
Writing Across the Curriculum Elective	3		WAC	BIO 390 Writing in Biology (Recommended)	3	X	WAC
General Elective*	3			General Elective*	3		
General Elective*	3						
<b>Semester Total</b>	<b>17</b>			<b>Semester Total</b>	<b>14</b>		

**Fourth Year**

<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>
Biology Elective^^	4	X		BIO 499 Exit Evaluation	0	X	
PHY 231 (or PHY 221 or 241)	4 or 5	X	NS	PHY 232 (or PHY 222 or 242)	4 or 5	X	NS
General Elective*	3			Biology Elective^^	4	X	
Biology Elective^^	4	X		BIO 495 Seminar	2	X	CAP; SPAC
				General Elective*	3		
				General Elective*	3		
<b>Apply for Spring graduation by the middle of this term</b>							
<b>Semester Total</b>	<b>15 or 16</b>			<b>Semester Total</b>	<b>16 or 17</b>		
<b>Degree Total (as listed in above sample): 120 - 124 (120 hours minimum required to earn degree)</b>							

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 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, students may not need as many electives as indicated above, or may need additional electives.

^Only one QL course can be applied to the M/QL requirement. The other course must be an MTH/STA course.

^^Refer to the Undergraduate Catalog, Degree Audit, or the faculty advisor for information regarding which courses are eligible to be used as biology electives.

**University Notes:**

<b>Gen Ed Key:</b>	
INTRO = Introduction to University Life (one course)	SS = Social Sciences (two courses from different departments**)
W/C = Writing/Composition (two courses; C or better required)	A&H = Arts & Humanities (two courses from different departments**)
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 four total SS and A&H courses, one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME)

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**Cleveland State University**  
**College of Science and Health Professions**  
**Bachelor of Science in Biology - Medical Laboratory Science**

**First Year**

<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>
BIO 200/201 Introductory Biology I/Lab	4	X	NS	BIO 202/203 Introductory Biology II/Lab	4	X	NS
CHM 261/266 General Chemistry I/Lab	4	X	NS	CHM 262/267 General Chemistry II/Lab	4	X	NS
ENG 101 English I	3		W/C	ENG 102 English II	3		W/C
STA 147, PSY 217 <sup>^</sup> , <b>OR</b> SOC 354 <sup>^</sup>	3	X	M/QL	STA 347 <b>OR</b> PSY 317 <sup>^</sup>	3	X	M/QL
ASC 101 Introduction to University Life	1		INTRO				
<i>Semester Total</i>	<i>15</i>			<i>Semester Total</i>	<i>14</i>		

**Second Year**

<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>
BIO 308/309 Cell Biology/Lab	4	X		BIO 306/307 Biochemistry & Molecular Biology/Recitation	4	X	
CHM 331/336 Organic Chemistry I/Lab	4	X		BIO 310/311 Genetics/Recitation (recommended)	4	X	
Arts & Humanities Elective	3		A&H	Arts & Humanities Elective	3		A&H
Social Science Elective	3		SS	US Diversity Elective	3		DIV
				General Elective*	3		
<i>Semester Total</i>	<i>14</i>			<i>Semester Total</i>	<i>17</i>		

**Third Year**

<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>
BIO 412/413 Elements of Immunology/Lab	4	X		BIO 390 Writing in Biology (Recommended)	3	X	WAC
BIO 416/417 Microbiology/Lab	5	X		BIO 414/415 Parasitology/Lab (Recommended)	4	X	
African American Experience Elective	3		DIV	BIO 422 or HSC 422/450 (Recommended)	3-5	X	
Writing Across the Curriculum Elective	3		WAC	BIO 495 Seminar	2	X	CAP; SPAC
				Social Science Elective	3		SS
				BIO 499 Exit Evaluation	0	X	
<i>Apply to school of medical laboratory science</i>							
<i>Semester Total</i>	<i>15</i>			<i>Semester Total</i>	<i>15-17</i>		

**Fourth Year = Clinical Year - Taken at school of medical laboratory science**

<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>
<i>Apply for Spring graduation by the middle of this term</i>							
<i>Degree Total (as listed in above sample): 90-92 + 33 from Clinical Year = 120-122 (120 hours minimum required to earn degree)</i>							

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

**College/ Program Notes:**

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<sup>^</sup>Only one QL course can be applied to the M/QL requirement. The other course must be an MTH/STA course.

**University Notes:**

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**Cleveland State University**  
**College of Sciences and Health Professions**  
**Bachelor of Science in Biology**  
**CSUteach (license in Education)**

<b>First Year</b>									
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed
ASC 101: Intro to University Life	1			Intro	PHY 201: Astronomy: Stars & Galaxies	3	x	x	NS
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	CHM 261/266: General Chemistry I + Lab	4	x	x	NS
MTH 181: Calculus I	4	x	x	M/QL	STA 147: Statistical Concepts & App	3	x	x	M/QL
<i>Semester Total</i>	<i>15</i>				<i>Semester Total</i>	<i>17</i>			

<b>Second Year</b>									
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed
EUT 201: Step 1: Inquiry Approaches to Teaching	1		x		EDB 242: Introduction to Education	3		x	DIV
BIO 304/305: Population Biology and Evolution + Lab	4	x	x		BIO 300/301: Plant Biology + Lab	4	x	x	
CHM 262/267: General Chemistry II + Lab	4	x	x	NS	CHM 331/336: Organic Chemistry I + Lab	4	x	x	
BIO 302/303: Animal Biology + Lab	4	x	x		EVS 206: Intro to Environmental Science	3	x	x	NS
Arts & Humanities (**ALAAME)	3			A&H	EDC 200: Div in Edu Settings	3		x	DIV
<i>Semester Total</i>	<i>16</i>				<i>Semester Total</i>	<i>17</i>			

<b>Third Year</b>									
Fall Semester	Credits	Major	License	Gen Ed	Spring Semester	Credits	Major	License	Gen Ed
EDB 302: Psychological Foundations of Education	3		x	WAC	EUT 305: Classroom Interactions	3		x	
BIO 308/309: Cell Biology + Lab	4	x	x		BIO 306/307: Biochemistry + Recitation	4	x	x	
PHY 221: College Physics I	5	x	x	NS	PHY 222: College Physics II	5	x	x	NS
GEO 100/101: Intro to Geology + Lab	4	x	x	NS	BIO 3xx/4xx: Elective	3	x	x	
African American Experience Elective	3			DIV	ESE 400: Introduction to Special Education	3		x	WAC
<i>Semester Total</i>	<i>19</i>				<i>Semester Total</i>	<i>18</i>			

<b>Fourth Year</b>									
Fall Semester	Credits	Major	License	Gen Ed	Spring 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
SCI 311: Research Methods	3		x	WAC	CHM 255: Principles of Environmental Chemistry	3	x	x	
BIO 310/311: Genetics + Recitation	4	x	x		Social Science (**ALAAME)	3	x		SS
PHY 470: Environmental Physics	3	x	x		BIO 499: Exit Evaluation	0	x	x	
EDL 305: Content Area Literacy	3		x						
BIO 495: Seminar	2	x	x	CAP/WAC					
<b>Apply for Spring graduation prior to Sep 9th</b>									
<i>Semester Total</i>	<i>19</i>				<i>Semester Total</i>	<i>15</i>			
<i>Degree Total: 136</i>									

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

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\*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:**

<b>Gen Ed Key:</b>	SS = Social Sciences (two courses from different departments)
INTRO = Introduction to University Life (one course)	A&H = Arts & Humanities (two courses from different departments)
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 required)
NS = Natural Sciences (two courses, one of which must have a lab)	CAP = Capstone
** of the SS and A&H courses, one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME)	

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