

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
MTH 147, PSY 217^, SOC 354^ OR MTH 181	3 or 4	X	M/QL	MTH 347, PSY 317^ OR MTH 182	3 or 4	X	M/QL
ASC 101 Introduction to University Life	1		INTRO				
Semester Total	15 or 16			Semester Total	14 or 15		

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		
Semester Total	14			Semester Total	16		

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
Semester Total	15 or 16			Semester Total	15 or 16		

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		
Apply for Spring graduation prior to Sep 9th							
Semester Total	16			Semester Total	15		
Degree Total (as listed in above sample): 120-124 (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.

*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 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:

Gen Ed Key:	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

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
ENG 101 English I	3		W/C	ENG 102 English II	3		W/C
MTH 147, PSY 217 [^] , SOC 354 [^] OR MTH 181	3 or 4	X	M/QL	MTH 347, PSY 317 [^] OR 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
Semester Total	14 or 15			Semester Total	16 or 17		

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 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
Semester Total	14			Semester Total	14		

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	
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						
Semester Total	17			Semester Total	14		

Fourth Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
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		
Apply for Spring graduation prior to Sep 9th							
Semester Total	15 or 16			Semester Total	16 or 17		
Degree Total (as listed in above sample): 120 - 124 (120 hours minimum required to earn degree)							

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

College/ Program Notes:

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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, 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 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.

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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 Science and Health Professions
Bachelor of Science in Biology - Medical Laboratory Science
(3+1 Option)

First Year

Fall Semester				Spring Semester			
	Credits	Major	Gen Ed		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
MTH 147, PSY 217 [^] , OR SOC 354 [^]	3	X	M/QL	MTH 347 OR PSY 317 [^]	3	X	M/QL
ASC 101 Introduction to University Life	1		INTRO				
Semester Total	15			Semester Total	14		

Second Year

Fall Semester				Spring Semester			
	Credits	Major	Gen Ed		Credits	Major	Gen Ed
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
Semester Total	14			Semester Total	14		

Third Year

Fall Semester				Spring Semester			
	Credits	Major	Gen Ed		Credits	Major	Gen Ed
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
General Elective*	1-3			Social Science Elective	3		SS
				BIO 499 Exit Evaluation	0	X	
Apply to school of medical laboratory science							
Semester Total	16-18			Semester Total	15-17		

Fourth Year = Clinical Year - full time July-June, all classes taken at school of medical laboratory science

Session I (July-December)				Session II (January-June)			
	Credits	Major	Gen Ed		Credits	Major	Gen Ed
BIO 440 Immunopathology I	1	X		BIO 480 Bacteriology I	3	X	
BIO 441 Immunopathology II	1	X		BIO 481 Bacteriology II	3	X	
BIO 442 Immunohematology I	2	X		BIO 482 Mycology	1	X	
BIO 443 Immunohematology II	2	X		BIO 483 Parasitology	1	X	
BIO 444 Clinical Chemistry I	3	X		BIO 484 Urinalysis and Fluids	1	X	
BIO 445 Clinical Chemistry II	3	X		BIO 485 Clinical Hematology I	3	X	
BIO 446 Molecular Diagnostics	1	X		BIO 486 Clinical Hematology II	3	X	
BIO 447 Lab Operations I	1	X		BIO 487 Coagulation	1	X	
				BIO 488 Lab Operations II	1	X	
Apply for Spring graduation prior to Sep 9th				BIO 489 Lab Operations III	1	X	
Semester Total	14			Semester Total	18		
Degree Total (minimum) 88 + 32 from Clinical Year = 120 (120 hours minimum required to earn degree)							

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 Biology
 CSUteach (license in Education)

<i>First Year</i>										
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	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	MTH 147: Statistical Concepts & App	3	x	x	M/QL	
<i>Semester Total</i>	15				<i>Semester Total</i>	17				

<i>Second Year</i>										
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	
EUT 201: Step 1: Inquiry Approaches to Teaching	1		x		EDB 242: Introduction to Education	3		x		
BIO 300/301: Plant Biology + Lab	4	x			BIO 304/305: Pop Biology & Evolution + Lab	4	x	x		
CHM 262/267: General Chemistry II + Lab	4	x	x	NS	CHM 331/336: Organic Chemistry I + Lab	4	x			
EVS 206: Intro to Environmental Science	3	x	x	NS	BIO 308/309: Cell Biology + Lab	4	x			
Arts & Humanities (**ALAAME)	3			A&H	EDC 200: Div in Edu Settings	3		x	DIV	
<i>Semester Total</i>	15				<i>Semester Total</i>	18				

<i>Third Year</i>										
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	Gen Ed	
EDB 302: Psychological Foundations of Education	3		x	WAC	EUT 305: Classroom Interactions	3		x		
BIO 302/303: Animal Biology + Lab	4	x			BIO 306/307: Biochemistry + Recitation	4	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		Social Science (**ALAAME)	3			SS	
African American Experience Elective	3			DIV	ESE 400: Introduction to Special Education	3		x		
<i>Semester Total</i>	19				<i>Semester Total</i>	18				

<i>Fourth Year</i>										
Fall Semester	Credits	Major	Minor	Gen Ed	Spring Semester	Credits	Major	Minor	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			BIO 495: Seminar	2	x		CAP/WAC	
PHY 470: Environmental Physics	3	x	x		BIO 499: Exit Evaluation	0	x			
EDL 305: Content Area Literacy	3		x		BIO 3xx/4xx: Elective	3	x			
Apply for Spring graduation prior to Sep 9th										
<i>Semester Total</i>	17				<i>Semester Total</i>	17				

Degree Total: 136

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

College/ Program Notes:

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University Notes:

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