

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 [^] OR MTH 181 | 3 or 4 | X | M/QL | STA 347, PSY 317 [^] OR 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 | | |
| Apply for Spring graduation prior to Sep 9th | | | | | | | |
| <i>Semester Total</i> | <i>16</i> | | | <i>Semester Total</i> | <i>15</i> | | |
| <i>Degree Total (as listed in above sample): 120-124 (120 hours minimum required to earn degree)</i> | | | | | | | |

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:

| | |
|---|---|
| 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) |

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 Sciences and Health Professions
Bachelor of Science in Biology
(recommended plan for students not confident/untested in their scientific abilities)

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 |
| ENG 101 English I | 3 | | W/C | ENG 102 English II | 3 | | W/C |
| STA 147, PSY 217 [^] , SOC 354 [^] OR MTH 181 | 3 or 4 | X | M/QL | STA 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 | | | | Spring Semester | | | |
|-------------------------------------|-----------|-------|--------|--------------------------------------|-----------|-------|--------|
| | Credits | Major | Gen Ed | | 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 | | | | Spring Semester | | | |
|--|-----------|-------|--------|--|-----------|-------|--------|
| | Credits | Major | Gen Ed | | 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 | | | | Spring Semester | | | |
|--|-----------------|-------|--------|-----------------------------|-----------------|-------|-----------|
| | Credits | Major | Gen Ed | | 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:

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:

| | |
|---|---|
| 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) |

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 Science and Health Professions
Bachelor of Science in Biology - Medical Laboratory Science
New for 2019-20

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 |
| STA 147, PSY 217 [^] , OR SOC 354 [^] | 3 | X | M/QL | STA 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 |
| | | | | General Elective* | 3 | | |
| Semester Total | 14 | | | Semester Total | 17 | | |

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 |
| | | | | Social Science Elective | 3 | | SS |
| | | | | BIO 499 Exit Evaluation | 0 | X | |
| Apply to school of medical laboratory science | | | | | | | |
| Semester Total | 15 | | | Semester Total | 15-17 | | |

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

| Fall Semester | | | | Spring Semester | | | |
|--|---------|-------|--------|-----------------|---------|-------|--------|
| | Credits | Major | Gen Ed | | Credits | Major | Gen Ed |
| Apply for Spring graduation prior to Sep 9th | | | | | | | |
| Degree Total (as listed in above sample): 90-92 + 33 from Clinical Year = 120-122 (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 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.

University Notes:

| | |
|--|---|
| Gen Ed Key: INTRO = Introduction to University Life (one course) W/C = Writing/Composition (two courses; C or better required) M/QL = Mathematics/Quantitative Literacy (two courses) NS = Natural Sciences (two courses, one of which must have a lab) | SS = Social Sciences (two courses from different departments**) A&H = Arts & Humanities (two courses from different departments**) DIV = Social Diversity (two courses; one US Diversity and one African American Experience) 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) |
|--|---|

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 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:

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 (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 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) |

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.