

COLLEGE OF SCIENCE

Biological Sciences, BS Biochemistry Concentration

2022-2023 Catalog | catalog.uah.edu

| EH 102 3 Accelerated College Writing EH 101 or EH 1015 FA/SP/SL | Completed | Course Number | Credits | Course Name | Prerequisites, Corequisites and/or Prerequisites with Concurrency* | Semester Usually Offered | | |
|--|-----------|---------------------------------------|--------------|--|---|-----------------------------|--|--|
| Bil 101 3 College Writing Bil | <u> </u> | | | | | | | |
| □ EH 102 3 College Writing | | | | | | | | |
| BH 105 3 Accelerated College Writing Placement* SP | | | | | | | | |
| EH 105 3 Honore English Seminar Honors FA | | | | | | | | |
| | | | | | | | | |
| See attached for choices See attached for choices | | EH 105 | 3 | | | FA | | |
| | | | 3 | | | | | |
| | | | | | | | | |
| ### Area III: Mathematics and Sciences 11:12 cradits ### Area III: Mathematics 3:4 crodits ### Area III: Mathematics 3:4 crodits ### Area III: Mathematics 3:4 crodits ### FA/SP/SL ### Attra Sciences (Lab) 8 credits ### General Physics 1:4 bb ### Ceneral Physics 4:4 bb ### Ceneral Physics 4: | | | | | | | | |
| MA 112 or higher 3 Precalculus Algebra Placement* FA/SP/SL | | * | | | | | | |
| MA 112 or higher 3 | | | | Area III: Mathematics and Science | ences 11-12 credits | | | |
| PH101/101L 4 General Physics H Lab General Physics W Calculus H Lab General Physics W Lab General Physics W Lab General Biochemistry H Lab General Biochemistry H Lab General For Wilson H Lab General Electives General Electiv | | | | Mathematics 3-4 of | credits | | | |
| PH 101/101L 4 General Physics V - Lab (MA 171) FA | | MA 112 or higher | 3 | Precalculus Algebra | <u>Placement</u> * | FA/SP/SU | | |
| | | | | |) 8 credits | | | |
| CH 121/125 3/1 General Chemistry I + Lab Placement* or MA 113 w/ conc FA/SP/SL | | | 4 | General Physics I + Lab | (MA 171) | FA | | |
| Area IV: History and Social & Behavioral Sciences 12 credits 3 | | · · · · · · · · · · · · · · · · · · · | 2/1 | | , , | EA/CD/CII | | |
| □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ | | CH 121/123 | 3/1 | | | FA/3F/3U | | |
| 3 Social & Behavioral Science See attached for choices | П | | 2 | | | | | |
| 3 Social & Behavioral Science See attached for choices | | | | | | | | |
| | | | | | | | | |
| ## Area Vs Pre-Professional For Biological Sciences Majors 14 credits | | * | | | | | | |
| For Biological Sciences Majors 14 credits FYE 1015 | Ш | | 3 | | | | | |
| FYE 101S | | | | | | | | |
| | | EVE 1010 | 1 | | • | ΕΛ | | |
| □ | | | | | | ГА | | |
| BH 301 3 Technical Writing EH 101, EH 102, Junior standing (61+ credit hours) FA/SP/SL | | | | | | | | |
| BYS 119/121 3/1 Principles of Biology + Lab FA/SP/SL BYS 120/122 3/1 Organismal Biology + Lab FA/SP/SL BYS 219/221 3/1 Genetics and Evolution + Lab BYS 119, BYS 120, CH 101 or 121, MA 107 or 112 FA/SP/SL BYS 300/300L 3/1 Cell & Developmental Biology + Lab BYS 219, CH 123 or CH 201 FA/SP/SL BYS 490 2 Senior Capstone BYS 119, BYS 120, BYS 219, BYS 300, (91 + credit hours) FA/SP/SL BYS 321/321L 4 General Microbiology + Lab BYS 120, 219, and BYS 300 w/ conc BYS 361/362 3 General Biochemistry + Lab BYS 119, 120, CH 332/335 BYS 363/365 3 General Biochemistry + Lab BYS 119, 120, CH 332/335 BYS 363/365 3 General Biochemistry + Lab BYS 361 Biochemistry Concentration Electives 6 credits Biochemistry Concentration Electives 6 credits CH 123/126 3/1 General Chemistry + Lab CH 121 CH 223/224 3/1 Quantitative Analysis + Lab CH 123 CH 331/335 3/1 Organic Chemistry + Lab CH 123 CH 332/336 3/1 Organic Chemistry + Lab CH 123 CH 332/336 3/1 Organic Chemistry + Lab CH 123 CH 332/336 3/1 Organic Chemistry + Lab CH 123 CH 332/336 SH 10 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 Organic Chemistry + Lab CH 123 CH 332/336 SH 2 O | | FH 301 | | • | | FA/SP/SII | | |
| BYS 119/121 | | 211001 | Ü | | | 17031730 | | |
| BYS 119/121 3/1 | | | | <u> </u> | | | | |
| □ BYS 120/122 3/1 Organismal Biology + Lab FA/SP/SL □ BYS 219/221 3/1 Genetics and Evolution + Lab BYS 119, BYS 120, CH 101 or 121, MA 107 or 112 FA/SP/SL □ BYS 300/300L 3/1 Cell & Developmental Biology + Lab BYS 219, CH 123 or CH 201 FA/SP/SL Biochemistry Concentration Requirements 120, BYS 120, BYS 219, BYS 300, (91+ credit hours) FA/SP/SL BYS 321/321L 4 General Microbiology I + Lab BYS 120, 219, and BYS 300 w/ conc □ BYS 361/362 3 General Biochemistry I + Lab BYS 119, 120, CH 332/335 □ BYS 363/365 3 General Biochemistry III + Lab BYS 361 Biochemistry Concentration Electives 6 credits □ 3 300+ level or higher BYS course BYS 361 □ 3 300+ level or higher BYS course BYS 361 □ 3 300+ level or higher BYS course BYS 361 □ CH 123/126 3/1 General Chemistry Minor 12 credits □ CH 223/224 3/1 Quantitative Analysis + Lab CH 126 < | П | BYS 119/121 | 3/1 | 9 | To distant | FA/SP/SII | | |
| BYS 219/221 3/1 Genetics and Evolution + Lab BYS 119, BYS 120, CH 101 or 121, MA 107 or 112 FA/SP/SU BYS 300/300L 3/1 Cell & Developmental Biology + Lab BYS 219, CH 123 or CH 201 FA/SP/SU BYS 490 2 Senior Capstone BYS 119, BYS 120, BYS 219, BYS 300, (91+ credit hours) FA/SP/SU Biochemistry Concentration Requirements 12 credits BYS 321/321L 4 General Microbiology + Lab BYS 120, 219, and BYS 300 w/ conc BYS 361/362 3 General Biochemistry + Lab BYS 119, 120, CH 332/335 BYS 363/365 3 General Biochemistry + Lab BYS 361 Biochemistry Concentration Electives 6 credits BYS 363/365 3 General Biochemistry + Lab BYS 361 Biochemistry Concentration Electives 6 credits 3 300+ level or higher BYS course 3 3 300+ level or higher BYS course Minor Requirements CH 123/126 3/1 General Chemistry Minor 12 credits CH 123/126 3/1 General Chemistry + Lab CH 121 CH 223/224 3/1 Quantitative Analysis + Lab CH 126 CH 331/335 3/1 Organic Chemistry + Lab CH 331 CH 323/336 3/1 Organic Chemistry + Lab CH 331 CH 332/336 BE Elective courses can be taken from any department and do not have to be taken in your major or minor. | | | | | | - | | |
| BYS 300/300L 3/1 Cell & Developmental Biology + Lab BYS 219, CH 123 or CH 201 FA/SP/SU | | | | 0 0, | RYS 119 RYS 120 CH 101 or 121 MΔ 107 or 112 | | | |
| BYS 490 2 Senior Capstone BYS 119, BYS 120, BYS 219, BYS 300, (91+ credit hours) FA/SP/SL Biochemistry Concentration Requirements 12 credits BYS 321/321L 4 General Microbiology I + Lab BYS 120, 219, and BYS 300 w/ conc BYS 361/362 3 General Biochemistry I + Lab BYS 119, 120, CH 332/335 BYS 363/365 3 General Biochemistry II + Lab BYS 361 Biochemistry Concentration Electives 6 credits Biochemistry Concentration Electives 6 credits 3 300+ level or higher BYS course Minor Requirements Required Chemistry Minor 12 credits CH 123/126 3/1 General Chemistry II + Lab CH 121 CH 223/224 3/1 Quantitative Analysis + Lab CH 126 CH 331/335 3/1 Organic Chemistry I + Lab CH 123 CH 332/336 3/1 Organic Chemistry II + Lab CH 331 CH 332/336 3/1 Organic Chemistry II + Lab CH 331 Bereal Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | | | | | | | |
| Biochemistry Concentration Requirements 12 credits BYS 321/321L | | | | | · | | | |
| □ BYS 321/321L 4 General Microbiology I + Lab BYS 120, 219, and BYS 300 w/ conc □ BYS 361/362 3 General Biochemistry I + Lab BYS 119, 120, CH 332/335 □ BYS 363/365 3 General Biochemistry II + Lab BYS 361 BYS 363/365 3 General Biochemistry II + Lab BYS 361 Biochemistry Concentration Electives 6 credits □ 3 300+ level or higher BYS course □ 3 300+ level or higher BYS course Sequired Chemistry Minor 12 credits □ CH 123/126 3/1 General Chemistry II + Lab CH 121 □ CH 223/224 3/1 Quantitative Analysis + Lab CH 126 □ CH 331/335 3/1 Organic Chemistry II + Lab CH 123 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 | _ | 2.0.70 | _ | · | | 17001700 | | |
| BYS 361/362 3 General Biochemistry I + Lab BYS 119, 120, CH 332/335 BYS 363/365 3 General Biochemistry II + Lab BYS 361 Biochemistry Concentration Electives 6 credits 3 300+ level or higher BYS course 3 300+ level or higher BYS course Biochemistry ByS course Sequired Chemistry Minor 12 credits CH 123/126 3/1 General Chemistry II + Lab CH 121 CH 223/224 3/1 Quantitative Analysis + Lab CH 126 CH 331/335 3/1 Organic Chemistry II + Lab CH 123 CH 332/336 3/1 Organic Chemistry II + Lab CH 331 CH 332/336 3/1 Organic Chemistry II + Lab CH 331 Beneral Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | BYS 321/321L | 4 | <u> </u> | • | | | |
| BYS 363/365 3 General Biochemistry + Lab BYS 361 | | | - | 0, | | | | |
| Biochemistry Concentration Electives 6 credits 3 300+ level or higher BYS course 3 300+ level or higher BYS course Minor Requirements | | | | · · · · · · · · · · · · · · · · · · · | | | | |
| 3 300+ level or higher BYS course | | | | | Electives 6 credits | | | |
| 3 300+ level or higher BYS course | | | 3 | • | | | | |
| Minor Requirements Required Chemistry Minor 12 credits □ CH 123/126 3/1 General Chemistry II + Lab CH 121 □ CH 223/224 3/1 Quantitative Analysis + Lab CH 126 □ CH 331/335 3/1 Organic Chemistry I + Lab CH 123 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 General Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | | 3 | 9 | | | | |
| □ CH 123/126 3/1 General Chemistry II + Lab CH 121 □ CH 223/224 3/1 Quantitative Analysis + Lab CH 126 □ CH 331/335 3/1 Organic Chemistry I + Lab CH 123 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 General Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | | | | nents | | | |
| □ CH 123/126 3/1 General Chemistry II + Lab CH 121 □ CH 223/224 3/1 Quantitative Analysis + Lab CH 126 □ CH 331/335 3/1 Organic Chemistry I + Lab CH 123 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 General Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | | | Required Chemistry Min | nor 12 credits | | | |
| □ CH 223/224 3/1 Quantitative Analysis + Lab CH 126 □ CH 331/335 3/1 Organic Chemistry I + Lab CH 123 □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 General Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | CH 123/126 | 3/1 | General Chemistry II + Lab | CH 121 | | | |
| □ CH 332/336 3/1 Organic Chemistry II + Lab CH 331 General Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | | 3/1 | Quantitative Analysis + Lab | | | | |
| General Electives Elective courses can be taken from any department and do not have to be taken in your major or minor. | | CH 331/335 | 3/1 | Organic Chemistry I + Lab | CH 123 | | | |
| Elective courses can be taken from any department and do not have to be taken in your major or minor. | | CH 332/336 | 3/1 | Organic Chemistry II + Lab | CH 331 | | | |
| • • | | | | General Electi | ves | | | |
| Total = 120+ credits to graduate | | | Elective cou | irses can be taken from any department and d | o not have to be taken in your major or minor. | | | |
| Total - 1201 creates to graduate | | | | Total = 120+ credits to | o graduate | | | |
| 36 of the 120 credits must be taken at 300-level or higher. | | | | 36 of the 120 credits must be taken | at 300-level or higher. | | | |



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| Charger Foundations Choices | | | | | | | |
|---|--|---|--|--|--|--|--|
| I. Freshman Composition | Choose 1 | College Writing I & II (EH 101 + 102) Intensive Writing & Studio & Freshman Comp II (EH 101S + 101L & EH 102) Honors English Seminar (EH 105; equivalent to EH 101 & EH 102) Accelerated College Writing (EH 103: equivalent to EH 101 & EH 102) | | | | | |
| II. Fine Arts | Choose 1 | Ancient to Medieval Art (ARH 100) Renaissance to Modern Art (ARH 101) World Art (ARH 103) Introduction to Drawing (ARS 160) Intro to Film Studies (FMA 123) Intro to Music Literature (MU 100) Theatre Appreciation (TH 122) | | | | | |
| II. Humanities (Literature) | Choose 1 | Readings Literature/Culture I (EH 207) Readings Literature/Culture II (EH 208) Honors Literature/Culture I (EH 209) Honors Literature/Culture II (EH 210) Literature Without Borders (EH 241) | Mythology (EH 242) Protest Literature (EH 243) Heroes &/or Monsters (EH 244) Love &/or Romance (EH 245) Speculative Realities (EH 246) | | | | |
| II. Humanities (Non-Literature) | Choose 1 | Ancient to Medieval Art (ARH 100) Renaissance to Modern Art (ARH 101) World Art (ARH 103) Introduction to Drawing (ARS 160) Ancient & Medieval Worlds (AMS 229) Public Speaking (CM 113) Intro to Film Studies (FMA 123) Intro to Music Literature (MU 100) Intro to Philosophy (PHL 101) | Intro to Philosophy (PHL 101) Intro to Ethics (PHL 102) Intro to Logic (PHL 103) Science, Tech & Human Values (PHL 150) Theatre Appreciation (TH 122) Intro to Women's Studies (WGS 200) Foreign Language (WLC 101) International Cinema (WLC 204) | | | | |
| III. Mathematics | \longrightarrow | Precalculus Algebra (MA 112) or higher | | | | | |
| III. Natural Sciences (Lab) Sequence | \longrightarrow | Intro to Chemistry I (CH 101/105) General Physics I (PH 101/101L) | | | | | |
| IV. History | Choose 1 | World History I (HY 103) World History II (HY 104) | United States to 1877 (HY 221) United States Since 1877 (HY 222) | | | | |
| IV. Social & Behavioral Sciences | Choose 2 | World Geography (AES 105) Human Geography (AES 110) Global systems & Cultures (GS 200) Macroeconomics (ECN 142) Microeconomics (ECN 143) American Gov't (PSC 101) Politics & Foreign Govt (PSC 102) | International Relations (PSC 260) General Psychology (PY 101) Life Span Development (PY 201) Intro to Sociology (SOC 100) Analysis of Social Problems (SOC 102) Intro to Criminology (SOC 103) | | | | |
| | Studente | Students must take one literature and on | | | | | |
| Area II Sequence | Students must also take <u>either</u> a second literature <u>or</u> history course to complete a sequence. Area II Sequence Take a 2 nd Literature <u>AND</u> History or Social & Behavioral Science | | | | | | |
| OR | | | | | | | |
| Area IV Sequence | Take a 2 nd History AND Fine Arts or Non-Literature Humanities or Literature Humanities | | | | | | |
| Area V. Choices | | | | | | | |
| Computer Programming | Choose 1 | Intro to Computers & Programming (CS 100) Intro to C Programming (CS 102) Intro to Programming Using JAVA (CS 103) Intro to CS Using Python (CS 104) Coding Algorithms for Biology (BYS 205) Biological Data Skills (BYS 431) | | | | | |
| Applied Statistics | Choose 1 | Elements of Statistics Analysis (MA 281) Probability & Statistics (MA 385) Psychological Statistics (PY 300) Statistics for Social Sciences (SOC 303) | | | | | |