BS, Biology, Cell/Molecular Biology Concentration, 142B Appalachian State University College of Arts and Sciences Department of Biology Program of Study

| 2016-2017 | | | | | | | |
|--|---|--------------|--------------------------|---|-----------------|--------------------------------|---|
| | | | Universal General | Education Transfer Component (UGETC) | | | |
| English Composition (6 SCH) The following two English composition courses are required. | | | | | | | |
| Prefix | Course Name | Credit Hours | Pre-requisites | University Course Equivalent | Credit Hours | Required or Preferred by Major | Notes |
| ENG 111 | Expository Writing | 3 | None | RC 1000 | 3 | Required | |
| ENG 112 | Argument-Based Research | 3 | ENG 111 | RC 2001 | 3 | Required | |
| Total Credit Hours Requir | ed | 6 | | | 6 | | |
| Humanities/Fine Arts (6 S | CH) | | | Students will select two courses from at least two differen | nt disciplines: | | |
| Prefix | Course Name | Credit Hours | Pre-requisites | University Course Equivalent | Credit Hours | Required or Preferred by Major | Notes |
| ART 111 | Art Appreciation | 3 | None | ART 2011 | 3 | | |
| ART 114 | Art History Survey I | 3 | None | ART 2030 | 3 | | |
| ART 115 | Art History Survey II | 3 | None | ART 2130 | 3 | | |
| COM 231 | Public Speaking | 3 | None | COM 2101 | 3 | | |
| ENG 231 | American Literature I | 3 | ENG 111, 112, OR 114 | ENG 2350 | 3 | | |
| ENG 232 | American Literature II | 3 | ENG 111, 112, OR 114 | ENG 2350 | 3 | | |
| ENG 241 | British Literature I | 3 | ENG 111, 112, OR 114 | ENG 2050 | 3 | | |
| ENG 242 | British Literature II | 3 | ENG 111, 112, OR 114 | ENG 2050 | 3 | | |
| MUS 110 | Music Appreciation | 3 | None | MUS 2011 | 3 | | |
| MUS 112 | Introduction to Jazz | 3 | None | MUS 2014 | 3 | | |
| PHI 215 PHI 240 | Philosophical Issues Introduction to Ethics | 3 | ENG 111 ENG 111 | PHL Elective PHL 2000 | 3 | | |
| Total Credit Hours Requir | | 6 | | PRL 2000 | 6 | | 1 |
| | | | | | | | |
| Social /Behavioral Science | _ ` · | T = | T | Students will select two courses from at least two differen | | | |
| Prefix | Course Name | Credit Hours | Pre-requisites | University Course Equivalent | Credit Hours | Required or Preferred by Major | Notes |
| ECO 251 | Principles of Microeconomics | 3 | None | ECO 2030 | 3 | | |
| ECO 252 HIS 111 | Principles of Macroeconomics World Civilizations I | 3 | None None | ECO 2040 HIS 1101 | 3 | | |
| HIS 111 | World Civilizations I | 3 | None | HIS 1102 | 3 | | |
| HIS 131 | American History I | | None | HIS 1200 | 3 | | |
| HIS 132 | American History II | | None | HIS 1200 | 3 | | |
| PSY 150 | General Psychology | | None | PSY 1200 | 3 | | |
| POL 120 | American Government | 3 | None | PLS 1100 | 3 | | |
| SOC 210 | Introduction to Sociology | | None | SOC 1000 | 3 | | |
| Total Credit Hours Requir | ed | 6 | | | 6 | | |
| Mathematics (8 SCH) | | | | Students will select two courses from the following: | | | |
| Prefix | Course Name | Credit Hours | Pre-requisites | University Course Equivalent | Credit Hours | Required or Preferred by Major | Notes |
| MAT 171 | Precalculus Algebra | 4 | None | MAT 1020 | 4 | | MAT 171 & 172 (MAT 1025) may need to be taken as |
| MAT 172 | · · | | MAT 171 | GEP MAT | | | prerequisites for MAT 271 (MAT 1110, which is required for major) |
| MATH 263 | Precalculus Trigonometry Brief Calculus | 4 | MAT 171 | MAT 1030 | 4 | | major) |
| MATH 203 | Calculus I | 4 | MAT 172 | MAT 1110 | 4 | Required | Required Cognate Course - See Program of Study |
| MAT 272 | Calculus II | | MAT 271 | MAT 1120 | 1 | nequired | nequired cognate course - see Frogram or Study |
| Total Credit Hours Requir | | | | IWAT 1120 | | | |
| Natural Sciences (8 SCH) | | | | Students will select two courses from the following cours | | | |
| | Causas Nama | Credit Hours | Due neerrieitee | University Course Equivalent | Credit Hours | Required or Preferred by Major | Netes |
| Prefix AST 151/151A | Course Name General Astronomy I and Lab I | creat nours | Pre-requisites None | AST 1001 | credit nours | nequired or Freierred by Major | Notes |
| BIO 110 | Principles of Biology | 1 | None | BIO 1201 & BIO 1204 | 4 | | |
| BIO 111 | General Biology I | 4 | None | BIO 1801 | 4 | Required | Required Cognate Course - See Program of Study |
| BIO 112 | General Biology II | 4 | BIO 111 | BIO 1802 | 4 | Required | Required Cognate Course - See Program of Study |
| CHM 151 | General Chemistry I | 4 | None | CHE 1101 & CHE 1110 | 4 | Required | Required Cognate Course - See Program of Study |
| CHM 152 | General Chemistry II | 4 | CHM 151 | CHE 1102 & CHE 1120 | 4 | Required | Required Cognate Course - See Program of Study |
| GEL 111 | Introduction to Geology | 4 | None | GLY 1101 | 4 | · | |
| PHY 110/110A | Conceptual Physics and Lab | 4 | None | PHY 1100 | 4 | | |
| PHY 151 | College Physics I | 4 | MAT 171 | PHY 1103 | 4 | Required | Required Cognate Course - See Program of Study |
| PHY 152 | College Physics II | 4 | PHY 151 | PHY 1104 | 4 | Required | Required Cognate Course - See Program of Study |
| PHY 251 | General Physics I | 4 | MAT 271 | PHY 1150 | 4 | | |
| PHY 252 | General Physics II | 4 | MAT 272 and PHY 251 | PHY 1151 | 4 | | |
| Total Credit Hours Requir | ed | 8 | · | | 8 | · | · |

Total UGETC Hours 34 34

| | Additional General Education Courses (11-12 SHC): These courses must classified as UGETC or general education within the CAA. | | | | | | | |
|---------------------------|---|--------------|----------------|------------------------------|--------------|-----------|--|--|
| Prefix | Course Name | Credit Hours | Pre-requisites | University Course Equivalent | Credit Hours | Category | Notes | |
| BIO/CHM/PHY not taken p | reviously | 4 | | | 4 | UGETC/GEC | Required Cognate Course - See Program of Study | |
| BIO/CHM/PHY not taken p | reviously | 4 | | | 4 | UGETC/GEC | Required Cognate Course - See Program of Study | |
| UGETC/Elective | | 3 | | | 3 | UGETC/GEC | | |
| | | | | | | | | |
| Total Credit Hours Requir | ed | 11 | | | 11 | | | |

Total General Education Hours Required

45

45

| Other REQUIRED HOURS (14-15 SHC): These courses must be classified as pre-major, elective or general education within the CAA. | | | | | | | |
|--|--------------------------|--------------|----------------|------------------------------|--------------|-----------|--|
| Prefix | Course Name | Credit Hours | Pre-requisites | University Course Equivalent | Credit Hours | Category | Notes |
| ACA 122 | College Transfer Success | 1 | None | | 1 | GEC | required by CAA |
| MAT 152 | Statistical Methods I | 4 | None | STT 2810 | 4 | Pre-Major | Required Cognate Course - See Program of Study |
| BIO/CHM/PHY not taken p | reviously | 4 | | | 4 | Pre-Major | Required Cognate Course - See Program of Study |
| BIO/CHM/PHY not taken p | reviously | 4 | | | 4 | Pre-Major | Required Cognate Course - See Program of Study |
| Pre-Major/Elective | | 3 | | | 3 | Elective | |

Other Required Hours (15-16 SCH)

16

16 **61**

Total Semester Credit Hours in Program: 61

Notes:

BIO 250, Genetics: Depending on course availability, this course could be taken to transfer as BIO 2400; however, this course will need to be petitioned for credit. Students are encouraged to contact the Office of Transfer Services, prior to registration, to investigate class transferability.

BIO 265, Cell Biology: Depending on course availability, this course could be taken to transfer as BIO 2600 & 2610 (lecture and lab). Refer to the Program of Study for more information on concentration requirements.

| 3th -4th Year | Plan BS, Biology at Appalachian State University | | | |
|---------------|--|-------|--|--------------------------|
| Semester | Course | Hours | Notes | |
| 5 | BIO 2400 or BIO 2700 Genetics | 3 | Major Requirement | |
| 5 | CHE 2201 & 2203 Organic Chemistry I & Lab | 4 | Major Requirement | |
| 5 | BIO 2012 Intro to Evolutionary Biology | 3 | Major Requirement | |
| 5 | BIO 2600 Cell Biology | 3 | Major Requirement | |
| 5 | BIO 2410 or 2610 Lab | 1 | Major Requirement | 14 |
| 6 | CHE 2202 & 2204 Organic Chemistry II & Lab | 4 | Major Requirement | |
| 6 | BIO 3301 or 3314 or 4555 | 4 | Major Requirement | |
| 6 | BIO Cell/Subcell or Ant & Phys | 3-4 | See Program of Study | |
| 6 | BIO Evol/Ecology or Biodiversity | 3-4 | See Program of Study | |
| 6 | Free Elective | 3 | | 17-19 |
| 7 | CHE 4580 Biochemistry I | 3 | Major Requirement | |
| 7 | BIO Cell/Subcell or Ant & Phys | 3-4 | See Program of Study | |
| 7 | BIO Cell/Subcell or Ant & Phys | 3-4 | See Program of Study | |
| 7 | BIO 3800 Molecular Biology | 3 | Writing in the Discipline [WID] | |
| 7 | Free Elective | 3 | | 16-18 |
| 8 | Bio Cell/Subcell or Ant & Phys | 3-4 | See Program of Study | |
| 8 | BIO 4501 or 4700 or 4910 | 3 | CAPSTONE | |
| 8 | Free Elective | 3 | Take anough from Elections to reach 130 hours required for | |
| 8 | Free Elective | 3 | Take enough Free Electives to reach 128 hours required for | |
| 8 | Free Elective | 3 | the degree | 15-16 |
| | | · | | 67 |
| | | | | 61 transfer hours |
| | | | | 128 hours for graduation |

Notes:

- A minor in chemistry can be completed by adding CHE 4581.
- Due to course sequencing and availability, students may require 2.5 years to complete this degree.

Residency Requirements:

- 32 hours must be taken at Appalachian
- 18 hours in the major must be from Appalachian
- 9 hours in the minor must be from Appalachian
- 50 hours must be completed at a 4-year university