The degree requires 120.5 credits. At least 32 credits must be taken at ISU.
(Numbers in parentheses refer to credits; unless noted, classes are offered both fall and spring)
Information on AP course credits can be found here: http://www.admissions.iastate.edu/cbe/ap.php
Information on IB course credits can be found here: http://www.admissions.iastate.edu/cbe/ib.php

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I. UNIVERSITY REQUIREMENTS: *These apply to all ISU degree programs.*

____ ENGL 150 (3) Critical Thinking and Communication (begin with ENGL 250 if ACT E of 24 or higher) **Minimum C-**

____ ENGL 250 (3) or ENGL 250H (3) Written, Oral, Visual, and Electronic Communication **Minimum C**

____ LIB 160 (1) Library Instruction

____ International Perspectives* (3) *http://www.registrar.iastate.edu/students/div-ip-guide/IntlPerspectives-current*

____ U. S. Diversity* (3) *http://www.registrar.iastate.edu/students/div-ip-guide/usdiversity-courses*

*Certain courses also meet a College requirement for Arts and Humanities or Social Sciences (dual-count)

____ Advanced English: ENGL 309 (3) Report and Proposal Writing **or** ENGL 312 (3) Biological Communication **or** ENGL 314 (3) Technical Writing

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II. COLLEGE REQUIREMENTS:

College of Liberal Arts and Sciences (LAS) **Need 45 credits of 300+ level coursework from a 4 YR institution**

_____ 3 years of a single foreign language in high school or 4-8 credits of World Languages (students who have 2 years of a foreign language only need to complete a 102 level course in the same language)

_____ Social Sciences (9 credits) *https://las.iastate.edu/students/academics/general-education/general-education-approved-course-list-2016-17/#III.%20Social%20Sciences*

_____ Arts and Humanities (12 credits) *https://las.iastate.edu/students/academics/general-education/general-education-approved-course-list-2016-17/*

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III. MAJOR REQUIREMENTS:

Core Courses: Minimum of 38.5 credits

____ BCBIO 110 (0.5) BCBIO Orientation *fall only* (GEN 110 may be substituted if BCBIO 110 is not offered)

____ GEN 313 & L (4) Principles of Genetics and Genetics Laboratory Note: BIOL 211 & 212 are prerequisites

____ COM S 227 (4) Introduction to Object-oriented Programming (suggest first taking COM S 127 if no prior programming)

____ COM S 228 (3) Introduction to Data Structures

____ COM S 230 (3) Discrete Computational Structures

____ COM S 311 (3) Design and Analysis of Algorithms

____ MATH 165 (4) Calculus I **and** MATH 166 (4) Calculus II

____ BCBIO 322 (3) Introduction to Bioinformatics and Computational Biology *fall only*

____ BCBIO 401 (3) Fundamentals of Bioinformatics and Computational Biology I *fall only*
and BCBIO 402 (3) Fundamentals of Systems Biology and Network Science *spring only*
OR BCBIO 444 (4) Bioinformatic Analysis *fall only*

____ BCBIO 490 Independent Study **or** BCBIO 491 Team Research Projects (1-5 credits)

____ Department Approved list: Select 3-9 Credits from list
http://catalog.iastate.edu/collegeofliberalartsandsciences/bioinformaticsandcomputationalbiology_undergraduate/#curriculumtext
NOTE: Must have 8.0 crs of 300+ level COM S, MATH, or BCBIO taken at ISU with grade of C or higher

Complementary Courses: Minimum of 31 credits

____ **General Biology:** BIOL 211 & 211L (4) Principles of Biology I **and** BIOL 212 & 212L (4) Principles of Biology

____ **Advanced Biology:** BIOL 314 (3) Molecular Cell Biology **or** BIOL 315 (3) Biological Evolution **or** GEN 409 (3) Molecular Genetics

____ **General Chemistry:** CHEM 163 & L (5) College Chemistry and Lab **or** CHEM 177 & L (5) General Chemistry I **and** CHEM 178 (3) General Chemistry II

____ **Organic Chemistry:** CHEM 231 & L (4) Elementary Organic Chemistry **or** CHEM 331 & L (4) Organic Chemistry I **and** CHEM 332 & L (4) Organic Chemistry II

____ **Physics:** PHYS 115 & L (5) **or** PHYS 111 (5) General Physics I **or** PHYS 221 (5) Classical Physics I

____ **Statistics:** STAT 330 (3) Probability and Statistics for Computer Science **and** STAT 483 (3) Empirical Methods for the Computational Sciences *fall only*

Additional elective coursework to meet 120.5 credits. Some of these electives may need to be at the 300+ level to reach the 45 credits of advanced (300+) coursework required by the College of Liberal Arts and Sciences.
Prepared by Lois Girton 3-16-20 lgirton@iastate.edu