

BACHELOR OF SCIENCE DEGREE IN BIOINFORMATICS Catalog yr: 2023

Name: _____

Student # _____

Date: _____

General Education Requirements

English Composition

ENGL 101 & 102* _____ 3 _____ 3 _____

OR ENGL (106 &) 107 & 108* _____ 3 _____ 3 _____

OR ENGL 109H* _____ 3 _____

*A grade of B or higher in ENGL 102, 108 or 109H is required to satisfy the Mid-Career Writing Assessment (MCWA).

Second Language

2nd semester proficiency by credit or exam required _____

Mathematics

MATH 122A & 122B (OR 125) Calculus I _____ 5 (3) _____

General Education

UNIV 101 Intro to General Education _____ 1 _____

Exploring Perspectives

Artist _____ 3 _____

Humanist _____ 3 _____

Natural Scientist _____ 3 _____

Social Scientist _____ 3 _____

Building Connections

Course 1 _____ 3 _____

Course 2 _____ 3 _____

Course 3 _____ 3 _____

Capstone

UNIV 301 _____ 1 _____

May double dip up to 9 units between general education and major requirements

Upper Division Requirement

A minimum of 42 units of upper division (300/400 level) coursework is required to complete this degree. Students are responsible to ensure this requirement is met.

Bioinformatics Major Foundation Courses

Chemistry

CHEM 141 & 145 General Chemistry I _____ 4 _____

CHEM 142 & 146 General Chemistry II _____ 4 _____

CHEM 241A & 243A Organic Chemistry I _____ 3 _____ 1 _____

CHEM 241B & 243B Organic Chemistry II _____ 3 _____ 1 _____

Biology

MCB 181R & 181L Introductory Biology I _____ 3 _____ 1 _____

ECOL 182R & 182L Introductory Biology II _____ 3 _____ 1 _____

Mathematics

MATH 263 Biostatistics _____ 3 _____

Computer Science

ISTA 130 Computational Thinking and Doing _____ 4 _____

ISTA 116 Statistical Foundations for Information Age _____ 3 _____

Bioinformatics Major Core Courses (19 units)

ECOL 296B Seminar in Bioinformatics (Fall only) _____ 1 _____

ECOL 346 Bioinformatics (Spring only) _____ 4 _____

ECOL 320 Genetics _____ 4 _____

ECOL 335 Evolutionary Biology (Spring only) _____ 4 _____

ISTA 320 Applied Data Visualization _____ 3 _____

ISTA 321 Data Mining and Discovery _____ 3 _____

OR ISTA 322 Data Engineering _____ 3 _____

OR ISTA 331 Principles and Practice of Data Science _____ 3 _____

Major Electives

Elective courses must be upper division (300 or 400 level)

Minimum of 22 units of upper division Bioinformatics electives

Graduation Requirements

- 120 total units 42 upper division units 30 units or more completed at UA 2.00 or higher cum & major GPA 56 university units
- Major Complete General Education Complete MCWA Complete - A grade of B or higher in ENGL 102, 108 or 109H OR with ENGL 308.

4 Year Plan with Calculus Placement

Fall	14	Spring	17
CHEM 141	3	CHEM 142	3
CHEM 145	1	CHEM 146	1
MATH 122A	1	MATH 263	3
MATH 122B	4	ISTA 130	4
ECOL 296B	1	ENGL 102	3
ENGL 101	3	Gen Ed	3
UNV 101	1		

Fall	16	Spring	13
CHEM 241A	3	CHEM 241B	3
ECOL 182 R	3	MCB 181R	3
ECOL 182 L	1	MCB 181L	1
ISTA 116	3	ISTA 320	3
Gen Ed	3	Gen Ed	3
Gen Ed	3		

Summer	2
CHEM 243 A	1
CHEM 243 B	1

Fall	17	Spring	15
ECOL 320	4	ECOL 335	4
ISTA 321	3	ECOL 346	4
OR 322 OR 331		Major Elective	3
Major Elective	3	Language 102	4
Major Elective	3		
Language 101	4		

Fall	15	Spring	13
Major Elective	3	Major Elective	3
Major Elective	3	Major Elective	3
Major Elective	3	Gen Ed	3
Major Elective	3	Gen Ed	3
Gen Ed	3	UNIV 301	1

Total Units 120

*Must reach 120 total units

Graduation Requirements

- 120 total units 42 upper division units 30 units or more completed at UA 2.00 or higher cum & major GPA 56 university units
- Major Complete General Education Complete MCWA Complete- A grade of B or higher in ENGL 102, 108 or 109H OR with ENGL 308.

4 Year Plan with MATH 112 Placement

Fall	11	Spring	18
MATH 112	3	CHEM 141	3
ENGL 101	3	CHEM 145	1
ECOL 296B	1	MATH 120R	4
UNIV 101	1	ENGL 102	3
Gen Ed	3	ISTA 130	4
		Gen Ed	3

Fall	16	Spring	13
MATH 122A	1	MCB 181R	3
MATH 122B	4	MCB 181L	1
CHEM 142	3	CHEM 241A	3
CHEM 146	1	ISTA 320	3
ECOL 182R	3	MATH 263	3
ECOL 182L	1		
ISTA 116	3		

Fall	14	Spring	18
ECOL 320	4	ECOL 335	4
CHEM 241B	3	ECOL 346	4
ISTA 321	3	Gen Ed	3
OR 322 OR 331		Major Elective	4
Major Elective	4	Gen Ed	3

Summer	2
CHEM 243 A	1
CHEM 243 B	1

Fall	16	Spring	14
Language 101	4	Language 102	4
Major Elective	3	Major Elective	3
Major Elective	3	Major Elective	3
Gen Ed	3	Major Elective	3
Gen Ed	3	UNIV 301	1

Total Units 120

Graduation Requirements

- 120 total units 42 upper division units 30 units or more completed at UA 2.00 or higher cum & major GPA 56 university units
- Major Complete General Education Complete MCWA Complete- A grade of B or higher in ENGL 102, 108 or 109H OR with ENGL 308.