

BACHELOR OF SCIENCE DEGREE IN BIOINFORMATICS Catalog yr: 2017-18

Advisors: Meredith Larrabee - larrabee@email.arizona.edu, Sarah Kortessis - sarahkortessis@email.arizona.edu

Appointments: wiseadvising.arizona.edu

Name: _____

Student # _____ Date: _____

General Education Requirements

English Composition

ENGL 101 & 102*	3	3
OR ENGL 107 & 108*	3	3
OR ENGL 109H*	3	3

*A grade of B or higher in ENGL102, 108 or 109H is required to satisfy the Mid-Career Writing Assessment (MCWA).

Second Language

2nd semester proficiency by credit or exam required _____

Mathematics

Requirement satisfied by Bioinformatics Foundation courses.

Tier One

Individuals & Societies (2 courses)- select from 150A, B & C

_____ & _____	3	3
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Traditions & Cultures (2 courses)- select from 160A, B, C & D

_____ & _____	3	3
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Tier Two

Arts (3 units)-	3
Humanities (1 course)-	3
Individuals & Societies (1 course)-	3

*Natural Sciences (NATS) requirement satisfied by major coursework.

Diversity Emphasis Course

One course must be taken that focuses on Gender, Race, Class, Ethnicity, Sexual Orientat. or Non-Western Studies. Certain Tier One & Two courses can also be used to satisfy this requirement.

_____ 3 _____

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 151 (F, S, SS) OR CHEM 105A & 106A	4
CHEM 152 (F, S, SS) OR CHEM 105B & 106B	4
CHEM 241A & 243A (F, S, SS)	3 1
CHEM 241B & 243B (F, S, SS)	3 1

Biology

MCB 181R (F, S, SS) & 181L (F, S)	3	1
E COL 182R (F, S, SS) & 182L (F, S)	3	1

Mathematics

MATH 122A & 122B (F, S, SS) OR MATH 125 (F, S)	3-5
MATH 129 (F, S, SS)	3

Computer Science

CSC 110 (F, S, SS) OR ISTA 130 (F, S)	4
CSC 120 (F, S, SS)	4

Bioinformatics Major Core Courses

Major Core Requirements

E COL 296B Seminar in Bioinformatics (F)	1
CSC 245 Intro to Discrete Struct. (F, S)	4
OR MATH 243 Discrete Math in CS (F, S, SS)	3
CSC 250 Ess. Comp. for the Sciences (F)	3
CSC 345 Analysis of Discrete Struct. (F, S)	4
E COL 346 Bioinformatics (S)	4

Major courses for each specific area are included on the back side of this sheet.

Graduation Requirements

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

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BIOIN Major - Molecular & Cellular Bio Focus

MCB Emphasis Requirements

MATH 263	Biostatistics (F, S, SS)	3	_____
BIOC 384	Fndtns in Biochemistry (F, S, SS)	3	_____
OR MCB 301	Molecular Basis of Life (F, S)	4	_____
MCB 304	Molecular Genetics (S)	4	_____
MCB 305	Cell & Developmental Bio (F)	4	_____
MCB 315	Key Concepts in Quant. Bio (F)	4	_____

Electives

At least 11 units upper division Bioinformatics electives required

_____ () _____
_____ () _____

BIOIN Major - Systems Biology Focus

Systems Biology Emphasis Requirements

MATH 263	Biostatistics (F, S, SS)	3	_____
BIOC 384	Fndtns in Biochemistry (F, S, SS)	3	_____
OR MCB 301	Molecular Basis of Life (F, S)	4	_____
MCB 304	Molecular Genetics (S)	4	_____
MCB 305	Cell & Developmental Bio (F)	4	_____
ECOL 302	Ecology (F)	4	_____
ECOL 335	Evolutionary Bio (S)	4	_____

Electives

At least 7 units upper division Bioinformatics electives required

_____ () _____
_____ () _____
_____ () _____

BIOIN Major - Ecology & Evolutionary Bio Focus

EEB Emphasis Requirements

MATH 263	Biostatistics (F, S, SS)	3	_____
ECOL 302	Ecology (F)	4	_____
ECOL 320	Genetics (F, SS)	4	_____
ECOL 335	Evolutionary Biology (S)	4	_____
ECOL 326	Genomics (F, SS)	3	_____

Electives

At least 11 units upper division Bioinformatics electives required

_____ () _____
_____ () _____

BIOIN Major - Computer Science Focus

CSC Emphasis Requirements

MATH 223	Vector Calculus (F, S, SS)	4	_____
MATH 254	Differential Equations (F, S, SS)	3	_____
MATH 363	Statistical Methods (F, S)	3	_____
CSC 445	Intro to Algorithms (S)	3	_____
MCB 304	Molecular Genetics (S)	4	_____
OR ECOL 320	Genetics (F, SS)	4	_____
MCB 305	Cell & Developmental Bio (F)	4	_____
OR ECOL 335	Evolutionary Bio (S)	4	_____

****Must take either MCB 304/305 or ECOL320/335 ****

Electives

At least 8 units upper division Bioinformatics electives required

_____ () _____
_____ () _____
_____ () _____
_____ () _____

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.