

7.0 List of existing program and proposed program

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses,

Complementary Courses, Elective Courses)

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required

Courses, Complementary Courses, Elective Courses)

Required Mathematics & Statistics Courses (6 credits)

MATH 222 (3) Calculus 3

MATH 223 (3) Linear Algebra

Required Computer Science Courses (12, 15 or 16 credits)

COMP 202 (3) Intro to Computing 1 (*)

COMP 206 (3) Software Systems

COMP 250 (3) Intro to Computer Science

COMP 251 (3) Data Structures and Algorithms

COMP 462 (3) Computational Biology Methods

Or

COMP 561 (4) Computational Biology Methods and Research

* Students who have sufficient knowledge in a programming language are not required to take COMP 202.

Required Biology Courses (20 credits)

CHEM 212 (4) Organic Chemistry

BIOL 200 (3) Molecular Biology

BIOL 201 (3) Cell Biology and Metabolism

BIOL 202 (3) Basic Genetics

BIOL 215 (3) Intro to Ecology and Evolution

BIOL 301 (4) Cell and Molecular Laboratory

Required Joint Courses (7 credits)

COMP 401 (3) Project in Biology and Computer Science

COMP 499 (1) Undergraduate bioinformatics seminar

BIOL 495 (3) Integrative Computing in Biology

Complementary courses (24 credits)

6 credits from the following:

MATH 323 (3) Probability Theory **AND** MATH 324 (3) Statistics

OR

MATH 203 (3) Principle of Statistics 1 **AND** MATH 204 (3)

Principle of Statistics 2

OR

BIOL 309 (3) Mathematical Models in Biology **AND** BIOL 373 (3)

Biometry

At least 18 credits from the following lists, with the following two requirements:

(4) 9 credits from each of the following two blocks

(5) at least one course at the 400-level or above from each block.

Computer Science Block

MATH 240 (3) Discrete Structures 1

COMP 273 (3) Introduction to Computer Systems

COMP 302 (3) Programming Languages and Paradigm

COMP 303 (3) Software Development

COMP 304 (3) Object Oriented Software Design

COMP 310 (3) Operating Systems

COMP 330 (3) Theoretical Aspects: Computer Science

COMP 335 (3) Software Engineering Methods

COMP 350 (3) Numerical Computing

COMP 360 (3) Algorithm Design Techniques

All COMP courses at the 400-level (except 401,499, and 462) and all courses at the 500-level (except 561).

Biology Block

BIOL 300 (3) Molecular Biology of the Gene

BIOL 309 (3) Mathematical Models in Biology

BIOL 310 (3) Large Scale Ecology

BIOL 313 (3) Eukaryotic Cell Biology

BIOL 435 (3) Natural Selection

BIOL 518 (3) Advanced Topics in Cell Biology

BIOL 568 (3) Topics on the Human Genome

BIOL 569 (3) Developmental Evolution

BIOL 572 (3) Molecular Evolution

BIOL 583 (3) Advanced Biometry

Required Mathematics & Statistics Courses (6 credits)

MATH 222 (3) Calculus 3

MATH 223 (3) Linear Algebra

Required Computer Science Courses (12, 15 or 16 credits)

COMP 202 (3) Intro to Computing 1 (*)

COMP 206 (3) Software Systems

COMP 250 (3) Intro to Computer Science

COMP 251 (3) Data Structures and Algorithms

COMP 462 (3) Computational Biology Methods

Or

COMP 561 (4) Computational Biology Methods and Research

* Students who have sufficient knowledge in a programming language are not required to take COMP 202.

Required Biology Courses (20 credits)

CHEM 212 (4) Organic Chemistry

BIOL 200 (3) Molecular Biology

BIOL 201 (3) Cell Biology and Metabolism

BIOL 202 (3) Basic Genetics

BIOL 215 (3) Intro to Ecology and Evolution

BIOL 301 (4) Cell and Molecular Laboratory

Required Joint Courses (7 4 credits)

COMP 401 (3) Project in Biology and Computer Science

COMP 499 (1) Undergraduate bioinformatics seminar

BIOL 495 (3) Integrative Computing in Biology

Complementary courses (24 27 credits)

6 credits from the following:

MATH 323 (3) Probability Theory **AND** MATH 324 (3) Statistics

OR

MATH 203 (3) Principle of Statistics 1 **AND** MATH 204 (3)

Principle of Statistics 2

OR

BIOL 309 (3) Mathematical Models in Biology **AND** BIOL 373 (3)

Biometry

At least 18 21 credits from the following lists, with the following requirements:

(1) at least 9 credits from each of the following two blocks

(2) at least 9 credits at the 400-level or above

(3) at least 3 credits at the 400-level or above from each block.

Computer Science Block

MATH 240 (3) Discrete Structures 1

COMP 273 (3) Introduction to Computer Systems

COMP 302 (3) Programming Languages and Paradigm

COMP 303 (3) Software Development

COMP 304 (3) Object Oriented Software Design

COMP 310 (3) Operating Systems

COMP 330 (3) Theoretical Aspects: Computer Science

COMP 335 (3) Software Engineering Methods

COMP 350 (3) Numerical Computing

COMP 360 (3) Algorithm Design Techniques

All COMP courses at the 400-level (except 401,499, and 462) and all courses at the 500-level (except 561).

Biology Block

BIOL 300 (3) Molecular Biology of the Gene

BIOL 309 (3) Mathematical Models in Biology

BIOL 310 (3) Large Scale Ecology

BIOL 313 (3) Eukaryotic Cell Biology

BIOL 395 (1) Quantitative Biology seminar I

BIOL 435 (3) Natural Selection

BIOL 495 (1) Quantitative Biology seminar II

BIOL 518 (3) Advanced Topics in Cell Biology

BIOL 551 (3) Cell cycle

BIOL 568 (3) Topics on the Human Genome

BIOL 569 (3) Developmental Evolution

BIOL 572 (3) Molecular Evolution

BIOL 583 (3) Advanced Biometry

8.0 Consultation with
Related Units

Yes No

Financial Consult Yes No

Attach list of consultations

9. Approvals

Routing Sequence	Name	Signature	Date
Department	<input type="text"/>	<input type="text"/>	<input type="text"/>
Curric/Acad Committee	<input type="text"/>	<input type="text"/>	<input type="text"/>
Faculty 1	<input type="text"/>	<input type="text"/>	<input type="text"/>
Faculty 2	<input type="text"/>	<input type="text"/>	<input type="text"/>
Faculty 3	<input type="text"/>	<input type="text"/>	<input type="text"/>
SCTP	<input type="text"/>	<input type="text"/>	<input type="text"/>
GS	<input type="text"/>	<input type="text"/>	<input type="text"/>
APPC	<input type="text"/>	<input type="text"/>	<input type="text"/>
Senate	<input type="text"/>	<input type="text"/>	<input type="text"/>

Submitted by

Name
Phone
Email
Submission Date

To be completed by ARR:

CIP Code