

# Bioinformatics BS Degree Curriculum Chart 2008-2009

## Math

**CMPE 16**  
Applied Discrete Math

**MATH 19A**  
Calculus

OR

**MATH 20A**  
Honors Calc

**MATH 19B**  
Calculus

OR

**MATH 20B**  
Honors Calc.

**MATH 23A**  
Multivariable Calculus

**CMPE 107**  
Stochastic

OR

**AMS 131**  
Probability Theory

**AMS 132**  
Statistical  
Inference

OR

**AMS 206**  
Bayesian Statistics

## Bioinformatics

**BME 80G**  
Bioethics

OR

**PHIL 145**  
Genetics  
Ethics

**BME 110**  
Computational Biology Tools

**BME 205**  
Bioinformatics Models and Algorithms

### ONE of the following:

**BME 210**  
Application and Analysis of Microarrays

**BME 211**  
Computational Systems Biology

**BME 220/L**  
Protein Bioinformatics

**BME 230/L**  
Computational Genomics

**BME 195**  
Senior Thesis

## Engineering

**CMPS 12A/L**  
Intro to  
Programming

OR

**CMPS 5J**  
Intro to  
Program.  
Java

AND

**CMPE 12/L**  
Comp. System  
and Assem.  
Lang.

OR

**CMPS 11**  
Intermediate  
Program.

**CMPE 13/L**  
Comp System.  
And C Prog.

**CMPS 12B/M**  
Data Structures

**CMPS 109**  
Advanced Programming

**CMPS 182**  
Intro to Database  
Management Systems

OR

**CMPS 180\***  
Database Systems

**CMPE 185**  
Technical Writing

**Shaded boxes represent foundation courses which  
must be completed before applying to the major.**

\* Additional prerequisite courses required

† Additional prerequisite of CHEM 108B/M or CHEM 112C/N  
waived if grade in prior course is B or above

## Science

**CHEM 1A**  
General Chemistry

**CHEM 1B/M**  
General Chemistry

**CHEM 1C/N**  
General Chemistry

**CHEM 108A/L**  
Organic  
Chemistry

OR

**CHEM 112A/L**  
Org. Chem.

AND

**CHEM 112B/M**  
Org. Chem.

(with the grade B or above)

**BIOL 20A**  
Cell & Molecular Biology

**BIOL 105**  
Genetics

**BIOC 100A<sup>†</sup>**  
Biochemistry

### ONE of the following:

**BIOL 110**  
Cell Biology

**BIOL 115**  
Eukaryotic Molecular Biology

**BIOL 119**  
Microbiology

**BME 155**  
Biotechnology and Drug  
Development

## Electives

**Two courses; approved by faculty advisor; consider the following:**

**AMS: 132, 162, 203, 205, 207, 215**

**BIOC: 100B, 100C, 110**

**BIOL: 100L\*, 105L, 105M, 109L, 110, 115,  
115L\*, 117A\*, 117B, 119, 119L\*, 187L\*,  
200A, 200B**

**BME: 102, 109, 130, 210, 220, 230**

**CHEM: 103, 108B/M, 112C/N, 200A, 200B,  
200C**

**CMPE: 108, 177**

**CMPS: 101, 104A, 105, 115, 116\*, 130, 140\*,  
142, 160/L**

**ISM: 206, 250**

**Choices must form a coherent program and be approved by a faculty advisor for  
bioinformatics.**

BIOINFORMATICS BS  
DEGREE CURRICULUM

Fall	Winter	Spring	Summer

Fall	Winter	Spring	Summer

Fall	Winter	Spring	Summer

Fall	Winter	Spring	Summer

**BINF Electives Approval Form**

Student Name \_\_\_\_\_

Student ID \_\_\_\_\_

Elective 1 \_\_\_\_\_

Elective 2 \_\_\_\_\_

Explanation of choice of electives:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Faculty Advisor's Approval: \_\_\_\_\_ Date: \_\_\_\_\_