



Bioinformatics and Molecular Biology

Year I

| Fall | Credit hours | | Spring | Credit hours | |
|-----------|-------------------------|---|-----------|---------------------------|---|
| BIOL 1010 | Introduction to Biology | 3 | BIOL 2120 | Intro. Cell & Molec. Biol | 4 |
| BIOL 1015 | Intro to Biology Lab | 1 | CHEM 1200 | Chemistry II | 4 |
| CHEM 1100 | Chemistry I | 4 | MATH 1020 | Calculus II | 4 |
| MATH 1010 | Calculus I | 4 | | HASS Elective | 4 |
| | HASS Elective | 4 | | | |

Year II

| Fall | Credit hours | | Spring | Credit hours | |
|-----------|-------------------------|---|-----------|--------------------------|---|
| CSCI 1100 | Computer Science I | 4 | BIOL 4620 | Molecular Biology | 4 |
| CHEM 2230 | Organic Chemistry Lab I | 1 | CHEM 2240 | Organic Chemistry Lab II | 1 |
| CHEM 2250 | Organic Chemistry I | 3 | CHEM 2260 | Organic Chemistry II | 3 |
| PHYS 1100 | Physics I | 4 | PHYS 1200 | Physics II | 4 |
| | HASS Elective | 4 | CSCI 1200 | Data Structures | 4 |

Year III⁴

| Summer ⁴ | Credit hours | | Spring | Credit hours | |
|---------------------|------------------------------------|---|-----------|---------------------------------|---|
| BIOL 4720 | Molecular Biology Lab ² | 4 | BIOL 4550 | Molecular Modeling ² | 4 |
| BIOL 4760 | Molec Biochemistry I | 4 | | Elective | 4 |
| | Elective | 4 | | Depth Elective ¹ | 4 |
| | HASS Elective | 4 | | HASS Elective | 4 |

Year IV

| Fall | Credit hours | | Spring | Credit hours | |
|-----------|--------------------------------|---|--------|---------------------------------------|---|
| BIOL 4630 | Molecular Biology II | 4 | | Elective | 4 |
| BIOL 4540 | Sequence Analysis ² | 4 | | Elective | 4 |
| | HASS Elective | 4 | | Culminating Experience ^{2,3} | |
| | Depth Elective ¹ | 4 | | Depth Elective ¹ | |

Footnotes

¹Depth elective. Choose three, at least four credits from each list. Four-credit courses may be satisfied with pre-approved transfer credits.

²May not be satisfied with transfer credits.

³BIOL 4990 Senior Research Thesis, BIOL 4900 Team Research or BIOL 4940 Readings in Biology with prior approval of a BFMB faculty member.

⁴Fall of Year III is the away semester for BFMB majors.

DEPTH ELECTIVES

Experimental

BCBP 4310 Genetic Engineering
BCBP 4660 The Biology of Systems
BCBP 4710 Biochemistry Laboratory
BIOL 4770 Molecular Biochemistry II
BCBP 4800 Methods in Biophysics
BCBP 4870 Protein Structure Determination
CHEM 2440 Physical Chemistry for Life Sciences
CHEM 4300 Medicinal Chemistry
CHEM 4310 Bioorganic Mechanisms

Computational

BIOL 4200 Biostatistics
BIOL 4961 Human Population
CSCI 2300 Introduction to Algorithms
CSCI 4020 Computer Algorithms
CSCI 4100 Machine Learning from Data
CSCI 4380 Database Systems
CSCI 4390 Data Mining
CSCI 4400 Xinformatics
CSCI 4800 Numerical Computing
MATH 2400 Introduction to Differential Equations
MATH 4720 Mathematics in Medicine and Biology
MATP 4600 Probability Theory and Applications

SUMMER COURSES:

BIOL 1010/1015 Introduction to Biology (for non-majors)
BIOL 2500 Genetics and Evolution
BIOL 4200 Biostatistics
BIOL 4270 Human Physiology
BIOL 4320 Microbiology Lab
BIOL 4620 Molecular Biology Lab
BIOL/BCBP/CHEM 4760 Molecular Biochemistry I
BIOL 4900 Team Research
BIOL/BCBP 4940 Readings in Biology
BIOL BCBP 4970 Non-thesis Research