MOLECULAR & CELLULAR BIOCHEMISTRY MAJOR (B.S.)

A minimum of 21 units with the following distribution:

1. Foundation requirements – 4 units, all as follows:
   ____ BI 213 Cells, Genes and Evolution (fall & spring)
   ____ BI 215 Biodiversity and Ecology (fall & spring) (prerequisite: BI 213)
   ____ BI 217 Forms and Functions of Life (fall & spring) (prerequisite: BI 213)
   ____ BI 221 Biostatistics and Experimental Design (fall & spring)

2. Upper level requirements – 2 units, both as follows:
   ____ BI 350 Cell Physiology (fall) (prerequisites: all four foundation courses; CH 112)
   ____ BI 360 Molecular Genetics (spring) (prerequisites: BI 213, 217; CH 112)

3. Major Core requirements – 4 units, all as follows:
   ____ MCB 310 Cellular Signaling (fall and spring)
   ____ CH 517 Biochemistry I (fall)
   ____ CH 518 Biochemistry II (spring)
   CHOOSE ONE:
   ____ MI 230 Microbiology (fall and spring)
   ____ MI 521 Immunology and Serology (fall even year) (prerequisites: MI 230, CH 211)

4. Upper level electives – 2 units, from the following:
   ____ 2 units 300-level or higher
   ____ 1 unit 300-level or higher & 1 unit Physical Science or Math
   ____ Research Track (MCB 493, MCB 494)

5. Cognate Courses – 7 units: 4 units in Chemistry, 2 units in Physics, and 1 unit in Math:
   ____ CH 111 General Chemistry I (fall)
   ____ CH 112 General Chemistry II (spring) (prerequisite: CH 111)
   ____ CH 211 Organic Chemistry I (fall) (prerequisites: CH 111, 112)
   ____ CH 212 Organic Chemistry II (spring) (prerequisite: CH 211)
   ____ MA 121 Analytic Geometry & Calculus I (fall, spring)
   ____ PY 131 Elements of Physics I (fall)
   ____ PY 132 Elements of Physics II (spring) (prerequisite: PY 131)
   or _____ PY 141 General Physics I (fall) (co-requisite: MA 121)
   ____ PY 142 General Physics II (spring) (prerequisite: PY 141, MA 122)

September 2022
6. Senior Learning Community – 2 units:

______ MCB 400E Experiential Component (zero units) (fall, spring, summer) (permission of SLC coordinator required)

______ BI 400 Senior Thesis in Biological Sciences (fall, spring) (prerequisite: MCB 400E)

______ MCB 491 Advances in Molecular & Cellular Biochemistry (spring) (prerequisites: BI 213, 215, 217, 221, CH 517, 518, MCB 310, MI 230 or 521) (permission of the instructor)