

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)

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)