# Bachelor of Science in Biology

## MOLECULAR CELL BIOLOGY CONCENTRATION

### Lower-Division Core in Biology
(BIOL 130 Introductory Cell Biology and Genetics, 4 units)
(BIOL 131 Diversity and Ecology, 4 units)

### Physical Sciences & Mathematics
CHEM 115A & 115B (General Chemistry, 10 units)
CHEM 335A & 335B (Organic Chemistry, 6 units)
CHEM 336A (Organic Chemistry Lab, 2 units)
CHEM 445 (Structural Biochemistry, 3 units) OR CHEM 446 (Metabolic Biochemistry, 3 units)
MATH 165 (Elementary Applied Statistics, 4 units)
MATH 161 (Differential and Integral Calculus, 4 units)
PHYS 210A & 210B (General Physics Lecture, 6 units)
PHYS 209A (General Physics Lab, 1 unit)

### Upper-Division Core in Biology
(BIOL 320 Evolution and Ecology, an Integrated Approach, 4 units)
(BIOL 321 Molecular Biology, Cell Biology and Physiology, 4 units)

### Organismal/Diversity Requirement
(complete ONE of the following)
(BIOL 322 Invertebrate Biology, 4 units)
(BIOL 323 Entomology, 4 units)
(BIOL 327 Vertebrate Biology, 4 units)
(BIOL 329 Plant Biology, 4 units)
(BIOL 340 General Bacteriology, 4 units)

### Upper-Division Requirements
(BIOL 325 Molecular and Cellular Lab Techniques, 1 unit)
(BIOL 342 Molecular Genetics, 4 units)
(BIOL 344 Cell Biology, 4 units)

### Major Electives for Concentration
(choose in consultation with your advisor)

#### Recommended courses:
(BIOL 338 Environmental Microbiology and Biotechnology, 4 units)
(BIOL 340 General Bacteriology, 4 units)
(if not used to satisfy the Organismal/Diversity Requirement)
(BIOL 383 Virology, 4 units)
(BIOL 472 Developmental Biology, 4 units)
(BIOL 480 Immunology, 4 units)

### Research Experience:
(choose one of the following)

#### a. Research Experience in Biology
BIOL 490 (3 units)

#### b. Honors Thesis (enrollment by application only)
BIOL 496A Honors Thesis I – Research Design (1-2 units)
AND
BIOL 496B Honors Thesis II (2-3 units)

#### c. Independent Research
BIOL 494 (1-3 units)

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<th>Total</th>
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<td>GE (12 units in major)</td>
<td>38</td>
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<td>Electives</td>
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<td>Total Units in Degree</td>
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Recommended Advisors (in alphabetical order): Michael Cohen, Joseph Lin, Murali Pillai or Sean Place