# BIOLOGY

Bachelor of Science Degree Requirements – 180 units [NEW PROGRAM]

## CSULA | Department of Biological Sciences | 323.343.2050 | Biological Sciences Building 143

<table>
<thead>
<tr>
<th>Name:</th>
<th>Career Goal:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIN:</td>
<td>GE Catalog (Qtr./Yr.):</td>
<td>Major (Qtr./Yr.):</td>
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<tr>
<td>Phone:</td>
<td>Student Signature:</td>
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<td>Email:</td>
<td>Advisor Signature:</td>
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## GENERAL EDUCATION REQUIREMENTS (60 units)

MATH 204 + BIOL 100A + either CHEM 101 or PHYS 101 double count for A4 + B1 + B2

<table>
<thead>
<tr>
<th>A: Basic Subjects (16 units)</th>
<th>[T] or Qtr./Yr. Grade</th>
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<tbody>
<tr>
<td>A1: Written Communication</td>
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<tr>
<td>A2: Oral Communication</td>
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<tr>
<td>A3: Critical Thinking</td>
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<tr>
<td>A4: Mathematics</td>
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*Minimum of C grade required for all courses in Block A. [T]=transfer work.

### A1: American Institutions (8 units)

- US History
- US Constitution
- California State/Local Government

### B: Natural Sciences (8 units)

- B1: Biological (with lab)
- B2: Physical (with lab)

### C: Humanities (12 units; from 3 different areas)

### D: Social Sciences (12 units; from 3 different disciplines)

### E: Lifelong Understanding (4 units)

### Upper Division Theme (12 units)

- Natural Science
- Social Science
- Humanities

Courses listed or cross-listed with major cannot be taken to satisfy theme requirements.

## UNIVERSITY REQUIREMENTS (6-8 units)

- NSS 101 (or NSS 301 for transfers)
- ENGL 102
- WPE (UNIV 400 or 401)
- (d) Diversity
- (d) Diversity

Diversity courses are fulfilled via Blocks C, D, E, or GE theme course with (d)-designation next to the course number.

## MAJOR REQUIREMENTS (112-114 units)

### Required Courses (89 units) | [T] or Qtr./Yr. Grade |
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>BIOL 100A Introductory Biology I</td>
<td>(5)</td>
</tr>
<tr>
<td>BIOL 100B Introductory Biology II</td>
<td>(5)</td>
</tr>
<tr>
<td>BIOL 100C Introductory Biology III</td>
<td>(5)</td>
</tr>
<tr>
<td>BIOL 300 Biometrics</td>
<td>(4)</td>
</tr>
<tr>
<td>BIOL 320 Writing for Biologists</td>
<td>(4)</td>
</tr>
<tr>
<td>BIOL 340 General Genetics</td>
<td>(4)</td>
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<tr>
<td>BIOL 350 Evolution</td>
<td>(4)</td>
</tr>
<tr>
<td>BIOL 360 General Ecology</td>
<td>(4)</td>
</tr>
<tr>
<td>BIOL 380 Cell Biology</td>
<td>(4)</td>
</tr>
<tr>
<td>CHEM 101 General Chemistry I*</td>
<td>(5)</td>
</tr>
<tr>
<td>CHEM 102 General Chemistry II</td>
<td>(5)</td>
</tr>
<tr>
<td>CHEM 103 General Chemistry III</td>
<td>(5)</td>
</tr>
<tr>
<td>CHEM 291A Organic Chemistry**</td>
<td>(3)</td>
</tr>
<tr>
<td>CHEM 291B Organic Chemistry**</td>
<td>(3)</td>
</tr>
<tr>
<td>CHEM 292A Organic Chemistry Lab**</td>
<td>(2)</td>
</tr>
<tr>
<td>CHEM 301 Organic Chemistry**</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 204 Applied Calculus I</td>
<td>(4)</td>
</tr>
<tr>
<td>MATH 205 Applied Calculus II</td>
<td>(4)</td>
</tr>
<tr>
<td>MICR 300A General Microbiology I</td>
<td>(4)</td>
</tr>
<tr>
<td>PHYS 101 Physics</td>
<td>(4)</td>
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<tr>
<td>PHYS 102 Physics</td>
<td>(4)</td>
</tr>
<tr>
<td>PHYS 103 Physics</td>
<td>(4)</td>
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</table>

*Must pass CHEM 101 placement test before enrolling in course; **or one year of organic chemistry with at least one term of lab from an accredited 2-year or 4-year college or university; NOTE: BIOL AP score of 4 or 5 fulfills BIOL 100A requirement Submit all AP scores to ADM 409! [T] = transfer work

### Electives (23-25 units; min. 16 units from BIOL)
Provide course # & units only after enrollment.

### Overall GPA ≥ 2.000: | Units completed at CSULA ≥ 45:
| CSULA GPA ≥ 2.000: | UD units completed at CSULA ≥ 36:
| Major GPA ≥ 2.000: | Units in major completed at CSULA ≥ 18:
| UD units ≥ 60: | Units in GE completed at CSULA ≥ 12:
| Total units completed ≥ 180: |
# BIOLOGY

## PREREQUISITES & CO-REQUISITES FOR REQUIRED COURSES

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<table>
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<tr>
<th>REQUIRED COURSES</th>
<th>PREREQUISITES &amp; CO-REQUISITES</th>
</tr>
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<tbody>
<tr>
<td>BIOL 100A Introductory Biology I (5)</td>
<td>Co-requisites: College-level English + MATH 104A; CHEM 101 recommended</td>
</tr>
<tr>
<td>BIOL 100B Introductory Biology II (5)</td>
<td>Prerequisites: MATH 104A + grade of C or better in BIOL 100A; Co-requisite: MATH 105 recommended</td>
</tr>
<tr>
<td>BIOL 100C Introductory Biology III (5)</td>
<td>Prerequisites: Grades of C or better in BIOL 100A + BIOL 100B</td>
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<tr>
<td>BIOL 300 Biometrics (4)</td>
<td>Prerequisite: MATH 105 recommended</td>
</tr>
<tr>
<td>BIOL 320 Writing for Biologists (4)</td>
<td>Prerequisites: BIOL 300 + WPE (GWAR)</td>
</tr>
<tr>
<td>BIOL 340 General Genetics (4)</td>
<td>Prerequisite: BIOL 300 (may be taken concurrently)</td>
</tr>
<tr>
<td>BIOL 350 Evolution (4)</td>
<td>Prerequisite: BIOL 340</td>
</tr>
<tr>
<td>BIOL 360 General Ecology (4)</td>
<td>Prerequisite: BIOL 300</td>
</tr>
<tr>
<td>BIOL 380 Cell Biology (4)</td>
<td>Prerequisites: BIOL 100C + CHEM 291A</td>
</tr>
</tbody>
</table>
| CHEM 101 General Chemistry I (5) | Prerequisite: Passing score on CHEM 101 placement test*  
Co-requisite: MATH 104A |
| CHEM 102 General Chemistry II (5) | Prerequisite: CHEM 101 |
| CHEM 103 General Chemistry III (5) | Prerequisite: CHEM 102 |
| CHEM 291A Organic Chemistry (3) | Prerequisite: CHEM 103 |
| CHEM 291B Organic Chemistry (3) | Prerequisite: CHEM 291A |
| CHEM 292A Organic Chemistry Lab (2) | Prerequisite: CHEM 291A  
Co-requisite: CHEM 291B |
| CHEM 301 Organic Chemistry (3) | Prerequisite: CHEM 291B |
| MATH 204 Applied Calculus I (4) | Prerequisite: MATH 105 with a grade of C or satisfactory score on exit exam for MATH 105.  
Co-requisite: MATH 204P Applied Calculus I Workshop (1) mandatory for students with a grade below B- in any prerequisite for MATH 204 or students repeating MATH 204. |
| MATH 205 Applied Calculus II (4) | Prerequisite: MATH 204 with a grade of C or satisfactory score on exit exam for MATH 204.  
Co-requisite: MATH 205P Applied Calculus II Workshop (1) mandatory for students with a grade below B- in MATH 204 or students repeating MATH 205. |
| MICR 300A General Microbiology I (4) | Prerequisites: BIOL 100B + CHEM 102 |
| PHYS 101 Physics (4) | Co-requisite: MATH 104A |
| PHYS 102 Physics (4) | Prerequisite: PHYS 101 but professor may waive |
| PHYS 103 Physics (4) | Prerequisite: PHYS 102 but professor may waive |

PREREQUISITES ARE COURSES THAT YOU MUST PASS PRIOR TO TAKING THE INDICATED COURSE.  
CO-REQUISITES ARE COURSES THAT YOU SHOULD TAKE TOGETHER IN SAME QUARTER.  
*If you cannot pass the CHEM 101 Placement test, enroll in CHEM 155.  

OBTAIN LIST OF APPROVED ELECTIVES FOR BIOLOGY MAJORS FROM DEPARTMENT OFFICE  
BEFORE ENROLLING IN ANY ELECTIVE COURSES

Undergraduates apply to graduate TWO quarters before degree will be finished in specific application windows listed in the Schedule of Classes. Schedule an appointment with the Department Principal Undergraduate Advisor.