Bachelor of Science in Biology: Microbiology Option

The purpose of the Degree Roadmap is to serve as a guide for planning one’s academic coursework required to complete a specific major semester by semester. Before enrolling, you can use the Degree Roadmap to get a feel for the courses you’ll take in this major. After enrolling, refer to the University Catalog, Class Schedule and consult with your academic advisor each semester for advisement to specify which courses you will take to fulfill each graduation requirement and are progressing toward graduation in a timely manner as possible. The Degree Roadmap is subject to change and is NOT to be considered a replacement for advisement with an academic advisor. See University Catalog for information on the Graduate Writing Assessment Requirement (GWAR). *See reverse side for General Education (GE) course requirements. **A minimum of 120 units are required for completion of degree.

Upper Division Transfer Requirements

- Complete a minimum 60 transferable semester (or 90 quarter) units with a 2.0 GPA (nonresidents require 2.4 GPA) and be in good standing at the last college or university attended. Within those 60 semester units, complete a minimum of 30 semester (or 45 quarter) units of General Education courses with a 2.0 GPA with a "C" grade or better, including Oral Communication, Written Communication (English Composition), Logic/Critical Thinking and Mathematics/Quantitative Reasoning.
- Complete and submit a CSU Application for Admission by the posted deadline through CSU Mentor at CSUMENTOR.EDU.
- Submit official transcripts from all colleges attended.
- Students applying to an impacted program may have to meet supplementary requirements.
- The following degree roadmap assumes you have junior standing (60 units) and have completed all lower division General Education Courses.
- Minimum of 120 units are required for completion of degree, 30 of which must be taken in residence at CSUDH.

### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 124</td>
<td>3</td>
</tr>
<tr>
<td>BIO 125</td>
<td>1</td>
</tr>
<tr>
<td>BIO 220</td>
<td>3</td>
</tr>
<tr>
<td>BIO 221</td>
<td>1</td>
</tr>
<tr>
<td>BIO 324</td>
<td>3</td>
</tr>
<tr>
<td>BIO 325</td>
<td>1</td>
</tr>
<tr>
<td>CHE 310</td>
<td>4</td>
</tr>
<tr>
<td>CHE 311</td>
<td>1</td>
</tr>
<tr>
<td>Total Units:</td>
<td>60-69</td>
</tr>
</tbody>
</table>

### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 320 Cell</td>
<td>3</td>
</tr>
<tr>
<td>BIO 340</td>
<td>3</td>
</tr>
<tr>
<td>CHE 312</td>
<td>3</td>
</tr>
<tr>
<td>CHE 313</td>
<td>2</td>
</tr>
<tr>
<td>GE F1*</td>
<td>3</td>
</tr>
<tr>
<td>GWAR ENG 350</td>
<td>0-3</td>
</tr>
</tbody>
</table>

### Third Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 426 Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 436 Immunology Lab</td>
<td>1</td>
</tr>
<tr>
<td>GE F2* Studies in the Natural Sciences area</td>
<td>3</td>
</tr>
<tr>
<td>Elective Select TWO upper division BIO or CHE courses</td>
<td>6-9</td>
</tr>
</tbody>
</table>

### Fourth Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 425 Medical Bacteriology</td>
<td>2</td>
</tr>
<tr>
<td>BIO 435 Medical Bacteriology Lab</td>
<td>2</td>
</tr>
<tr>
<td>BIO 490 Senior Project</td>
<td>3</td>
</tr>
<tr>
<td>GE F3/G* Studies in Social Science area/Cultural Pluralism area</td>
<td>3</td>
</tr>
<tr>
<td>Elective Select TWO upper division BIO or CHE courses</td>
<td>6-9</td>
</tr>
</tbody>
</table>

Total Units: 60-69**

NOTE: Upper division elective courses cannot double count for upper division GE courses. Elective (minimum 13 units required): BIO 420 & BIO 419, BIO 421, BIO 422 & BIO 424, BIO 428, BIO 458 & BIO 459, CHE 450 & CHE 451 or CHE 456. All courses applied to B.S. in Biology must be passed with a grade "C" or better.
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Learn More

- To learn more about the B.S. in Biology at CSUDH, call the Department of Biology at (310) 243-3381, visit NSM A-143, or visit NBS.CSUDH.EDU/Biology.
- For more information on applying to CSUDH, visit CSUDH.EDU/FutureStudents.
- Apply online at CSUMENTOR.EDU.
- Career information, visit CSUDH.EDU/CareerCenter.

Faculty

John Thomlinson, Department Chair
Ph.D., University of North Texas

Getachew Kidane, Associate Professor
Ph.D., University of California, Los Angeles

Katherine Bates, Assistant Professor
Ph.D., University of Utah

Thomas Landefeld, Professor
Ph.D., University of Wisconsin, Madison

John Carvalho, Assistant Professor
Ph.D., Washington University

Gus McCarthy, Professor
Ph.D., Texas A&M University

Hee-Kwang Choi, Associate Professor
Ph.D., Boston University

Terrence McGlynn, Associate Professor
Ph.D., University of Colorado

Helen Chun, Associate Professor
Ph.D., University of California, Los Angeles

Davood Soleymani, Professor
Ph.D., Iowa State University

Career Options

A student in the Biology Department will be prepared to pursue a variety of career opportunities, depending on the curricular program chosen. An undergraduate major may choose any of the options. The Microbiology Option provides training in microbiology, medical microbiology, immunology and related courses (virology, mycology and parasitology) for students interested in a career in applied biology, biomedical research or allied fields. Biology graduates from CSU Dominguez Hills have competed successfully for admission to professional and graduate schools in California and elsewhere.

*General Education (GE) Requirements

A. Basic Skills:
Courses must be passed with a grade of "C" or higher.
GE A1: ENG 110, ENG 111 (both required)
GE A2: PHI 120 or PSY 110
GE A3: THE 120
GE A4: CSC 101 or LIB 150 (optional category)

B. Area of the Natural Sciences and Quantitative Reasoning:
Select one course from each category below. Category 4 courses must be passed with a grade of "C" or higher.
GE B1: CHE 102, EAR 100, GEO 200, PHY 100
GE B2: ANT 101, BIO 102
GE B3: BIO 103, EAR 101, CHE 103
GE B4: MAT 105, 131, 153, 171, 191, 193

C. Area of the Humanities:
Select one course from each category below.
In categories 2 and 3, select courses from different departments.
GE C1: HUM 200
GE C2: ART 100, ART 101, CHS 125, COM 130, DAN 130, MUS 101, MUS 110, THE 100, THE 160
GE C3: AFS 200, AFS 231, APP 101, CHS 100, CHS 205, ENG 230, FRE 220, HUM 212, PHI 101, PHI 102, SPA 151, SPA 221

D. Area of the Social Sciences:
Select one course from each category below.
In categories 1 and 2, select courses from different departments.
GE D1: AFS 212, AFS 220, ANT 100, APP 212, CHS 212, PSY 101, SOC 101, SOC 102, WMS 250

GE D2: AFS 201, ANT 102, CHS 200, GEO 100, HIS 120, HIS 121, POL 100
GE D3: HIS 101
GE D4: POL 101

F. Objectives for Lifelong Learning and Self-Development:
Select one course from the following.
GE E: HEA 100, HSC 201, KIN 235, REC 100, UNV 101

G. Cultural Pluralism Requirement:
Within their General Education selections or within other requirements, all students must take one course which addresses cultural pluralism (i.e. the impact of the integration of cultures).

1 SBS 318 satisfies both F3 and G areas. Students will receive only three units credit, but will have met both requirements.