# Cellular, Molecular, and Microbial Biology Ph.D. - Cellular and Developmental Biology

Doctor of Philosophy - Cellular, Molecular, and Microbial Biology; Cellular and Developmental Biology Concentration

Degree Specific Credits: 60

Required Cumulative GPA: 3.0

- All CMMB PhD students have a common set of requirements: students must take a total of 60 semester credits, including 20 semester credits of courses (includes any course other than Dissertation and Research).
- At least three 3-credit (or more) graduate courses at the 500 or 600 level.
- In addition to coursework, all PhD students must teach at least one semester (typically as a Graduate Teaching Assistant) and must rotate in at least two research laboratories.
- The following credit limitations apply:
  - 6 credits of Special Topics (BCH 595, BIOB 595 and BIOM 595).
  - 6 credits of Independent Study (BIOB 596, and BIOM 596).
  - 20 credits of dissertation (BCH 699 and BIOM 699).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BCH 570/BIOM 570</td>
<td>Intro to Research</td>
<td>2</td>
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<tr>
<td>BIOB 547</td>
<td>Experimental Molecular, Cellular, and Chemical Biology</td>
<td>4</td>
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<tr>
<td>BIOM 594</td>
<td>Molecular and Biomedical Sciences Seminar</td>
<td>4</td>
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### Elective Credits - Complete 10 credits of elective courses.

Elective courses can include any graduate-level course in General Biology (BIOB), Microbiology (BIOM), and Biochemistry (BCH). Suggested courses include:

- BCH 582: Proteins and Enzymes
- BCH 584: Nucleic Acids
- BCH 600: Cell Organization & Mechanisms
- BIOB 567: Molecular Analysis of Development
- BIOM 502: Advanced Immunology

### Thesis/Research - Complete 40 credits of thesis or research:

- BCH 597: Research
- BCH 699: Dissertation

| Total Hours | 60 |

Minimum Required Grade: C