Biochemistry Major

Program Directors: Jennifer Palenchar, PhD., James W. Wilson, PhD
Office Location: Mendel Science Center Rm. 215
Telephone: (610) 519-4840
[Website]

About

Biochemistry is an interdisciplinary major requiring comprehensive coursework in both Biology and Chemistry. The biological relevance of chemical concepts is stressed throughout the curriculum. Students are encouraged to pursue one of the many available research experiences.

Program: Biochemistry
Type: Bachelor of Science
MAJOR (69 credits)

Students are accepted into the major as incoming freshmen, or upon consultation with a program director when achieving a 2.0 or better in required courses.

Required Major Courses

Program Notes:

- Students may substitute the sequence of MAT 1500 and MAT 1505 for MAT 1312 and STAT 1313 with permission from the program directors.
- The Biochemistry program offers three mechanisms for participation in research by undergraduate majors. Competitive fellowships for 8-10 weeks of summer research are funded by University, government, or industrial sources. Recipients of these fellowships carry out a research program under the direction of a faculty member. Students may also enroll in research mentored by a faculty member for academic credit during the school year, which fulfills the elective requirement in the relevant department (CHM 4801, 4802, 4803, 4851, 4851 or BIO 6509, 6609). Students may also volunteer in research laboratories. In each case, students should discuss participation in research with Program of Biochemistry faculty members. A student must find a faculty mentor prior to enrolling in these courses.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Title</th>
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<tbody>
<tr>
<td>CHM 1000</td>
<td>Profesl Development Sem</td>
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<tr>
<td></td>
<td>CHM 1151 or CHM 1611</td>
<td>4</td>
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<tr>
<td>CHM 1103</td>
<td>General Chemistry Lab I</td>
<td>1</td>
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<td>CHM 1152</td>
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<td>CHM 1104</td>
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<td>CHM 2201/2211 or CHM 3201/3211</td>
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<td>CHM 3417</td>
<td>Biophysical Chemistry</td>
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<td>CHM 3514</td>
<td>Bioanalytical Chemistry</td>
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<td>Biochem Tech. and Pract.</td>
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<td>CHM 4621</td>
<td>Biochemistry I: Structure</td>
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<td>CHM 4622</td>
<td>Biochemistry II:Metabolism</td>
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<td>CHM 4623</td>
<td>Biochemistry III</td>
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<td>BIO 2105</td>
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<td>BIO 3351</td>
<td>Genetics</td>
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<td>BIO 4505</td>
<td>Molecular Biology</td>
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<td>Approved Biology Elective</td>
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Category Descriptions

CHM 1151 or CHM 1611

Credits: 4

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<td>CHM 1611</td>
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CHM 2201/2211 or CHM 3201/3211

Credits: 4

Choose one sequence.

- Typically Biochemistry students will take CHM 2201/2211. CHM 3201/3211 are restricted to Chemistry majors.

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<td>CHM 2211</td>
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CHM 2202/2212 or CHM 3202/3212

Credits: 4

Choose one sequence.

- Typically Biochemistry students will take CHM 2202/2212. CHM 3202/3212 are restricted to Chemistry majors.

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PHY 2410/2411 or PHY 1100/1101

Credits: 4

Choose 1 pair of lecture + lab courses from the following:

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<td>PHY 2411</td>
<td>Lab: Mechanics</td>
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<td>PHY 1101</td>
<td>General Physics I Lab</td>
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PHY 2412/2413 or PHY 1102/1103

Credits: 4

Choose 1 pair of lecture + lab courses from the following:

<table>
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<td>PHY 2412</td>
<td>Univ Physics: Elec &amp; Mag</td>
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<tr>
<td>PHY 2413</td>
<td>Lab: Elec &amp; Magnetism</td>
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<th>Credits</th>
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<td>PHY 1102</td>
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<tr>
<td>PHY 1103</td>
<td>General Physics II Lab</td>
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Approved Chemistry Elective

Credits: 3

Chemistry Elective (3000 level or above) (3 cr) – Select 1 course of three or more credits from CHM 3000:9999.

Approved Biology Elective

Credits: 2-3

Biology Elective (3000 level or above) (3 cr) – Select 1 course of three or more credits from BIO 3000:9999 or BIO 6509 (2 cr).