### CHEMISTRY, A.C.S. CERTIFIED, BIOCHEMISTRY EMPHASIS, COMPREHENSIVE MAJOR: 100-009

#### In Workflow
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2. AS Dean PreCurrComm (PIM) (cassidml@uwec.edu; lorkao@uwec.edu)
3. AS Dean (PIM) (cassidml@uwec.edu; lorkao@uwec.edu)
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6. Provost/Chancellor (kleinepa@uwec.edu; beckejan@uwec.edu; forciesm@uwec.edu)
7. Institutional Research (herbiskj@uwec.edu)
8. Registrar (PIM) (langfeta@uwec.edu)
9. Reg Cat (none)

#### Approval Path
1. Tue, 14 Sep 2021 03:07:58 GMT
   - James Phillips (phillija): Approved for CHEMISTRY Chair
2. Fri, 24 Sep 2021 15:11:16 GMT
   - Margaret Cassidy (cassidml): Approved for AS Dean PreCurrComm (PIM)
3. Wed, 06 Oct 2021 17:34:15 GMT
   - Margaret Cassidy (cassidml): Approved for AS Dean (PIM)

#### History
1. Jan 14, 2021 by barniejm
3. Mar 25, 2021 by Margaret Cassidy (cassidml)

Date Submitted: Tue, 14 Sep 2021 03:06:24 GMT

**Viewing: 100-009 : Chemistry, A.C.S. Certified, Biochemistry Emphasis, Comprehensive Major**

**Last approved:** Thu, 25 Mar 2021 20:37:47 GMT

**Last edit:** Fri, 17 Sep 2021 22:57:28 GMT

Changes proposed by: James Phillips (phillija)

**Preparer(s)**

<table>
<thead>
<tr>
<th>Preparer Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jim Phillips</td>
</tr>
</tbody>
</table>

**Program Level**
Undergraduate

**Program Type**
Emphasis, Major

**Degree Type**
BA/BS

**Type of Change**
Modification

**Name of Program**
Chemistry, A.C.S. Certified, Biochemistry Emphasis, Comprehensive Major

**Major Type**
Comprehensive

**College**
Arts and Sciences
Effective Catalog Year
2022-2023

Is this content intended to be shared across multiple programs/catalog pages?
No

Program Requirements (Includes Course Lists):

Core Requirements for A.C.S. and Liberal Arts Chemistry Majors

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115</td>
<td>Chemical Principles</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 105 &amp; CHEM 106 &amp; CHEM 109</td>
<td>General Chemistry I Lecture and General Chemistry I Laboratory and General Chemistry II with Lab</td>
<td>12</td>
</tr>
</tbody>
</table>

Required:
- CHEM 213: Quantitative Analysis 4
- CHEM 218: Introduction to Inorganic Chemistry 3
- CHEM 325: Organic Chemistry I with Laboratory 4
- CHEM 326: Organic Chemistry II with Laboratory 4

Additional Required Courses
- PHYS 231 & PHYS 232: University Physics I and University Physics II 10
- MATH 114 & MATH 215: Calculus I and Calculus II 8

Total Credits: 39

Only six credits of the CHEM 105/CHEM 106/CHEM 109 sequence are credited to the major.

Capstone Experience for Chemistry Majors
The capstone experience is met by completing CHEM 411 for chemistry with business emphasis majors, and by CHEM 420, CHEM 438, CHEM 453 or CHEM 497 for other chemistry majors.

Comprehensive Major: Chemistry, A.C.S., Biochemistry Emphasis

Requirements
In addition to the chemistry core and required mathematics/physics courses, students must complete the following course work:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 221</td>
<td>Foundations of Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 223</td>
<td>Foundations of Biological Inquiry</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 433</td>
<td>Physical Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 452 &amp; CHEM 453 &amp; CHEM 454</td>
<td>Biochemistry I and Biochemistry Laboratory and Biochemistry II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 420 &amp; CHEM 438</td>
<td>Advanced Synthesis Laboratory and Physical Analysis Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 318</td>
<td>Bioinorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>or CHEM 361</td>
<td>Molecules and Medicine</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 26
Additional Program Requirements (If Applicable)

Additional Admission Requirements Unique to Program (If Applicable)

Other Catalog Notes/Restrictions (If Applicable)

Rationale

Brief Change Rationale
We are adding “certified” to send a clear message to students that the degree is certified by our professional society so as to make the major more attractive to students concerned with employability (surprisingly, many students and parents fail to see the applicability and employability of the chemistry/biochemistry degree).

CHEM 103 and CHEM 104 have been deleted from the curriculum.

Key: 9