TO: College of Arts and Sciences Curriculum Committee

FROM: Lyle Ford, Chair
Department of Physics and Astronomy

DATE: January 19, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Major: Physics, Applied Physics Emphasis, Liberal Arts

Program Code: 230-203

Date of Department/Program Approval: January 19, 2018


To:

Required courses not counted toward credits in major:

- **MATH 312**
- **MATH 345**
- **CS 163**
  or **CS 170**

Select one of the following:

- **CHEM 115**
- **CHEM 103**
  & **CHEM 104**
  OR
- **CHEM 105**
  & **CHEM 106**
  & **CHEM 109**

1 It is strongly recommended that **CS 163** or **CS 170** be completed within the first three semesters.

Why: To reflect changes made to the chemistry introductory curriculum.
TO: College of Arts and Sciences Curriculum Committee

FROM: Paula Kleintjes Neff, Chair
Department of Biology

DATE: January 16, 2018

RE: Program Changes

We request implementation of the following program changes with the next possible Catalog.

Name of Programs: Comprehensive Major: Biology, Liberal Arts Ecology and Environmental Biology Emphasis; Comprehensive Major: Biology, Liberal Arts Microbiology Emphasis

Program Codes: 080-001; 080-002

Date of Department/Program Approval: January 16, 2018


http://catalog.uwec.edu/undergraduate/arts-sciences/biology/biology-comprehensive-major-microbiology-ba-bs/

To: Core Requirements for Biology, Liberal Arts

All students who pursue a Liberal Arts Comprehensive Major in Biology are also required to complete MATH 114, and CHEM 103 and CHEM 104, or CHEM 105, CHEM 106, and CHEM 109 or CHEM 115, in addition to the 60 credits required for the major.

Why: To reflect changes made to the introductory chemistry curriculum.
TO: College of Arts and Sciences Curriculum Committee

FROM: Paula Kleintjes Neff, Chair
Department of Biology

DATE: January 16, 2018

RE: Program Changes

We request implementation of the following program changes with the next possible Catalog.

Name of Programs: Major: Biology, Liberal Arts

Program Code: 080-203

Date of Department/Program Approval: January 16, 2018

From Current Catalog Web Page: http://catalog.uwec.edu/undergraduate/arts-sciences/biology/biology-major-ba-bs/

To: In addition to the 36 credits in biology, students who pursue the Liberal Arts Major in Biology must complete:

- **MATH 114** Calculus I 4
- **CHEM 103** General Chemistry I 4
- **CHEM 104** General Chemistry II 4

OR

- **CHEM 105** General Chemistry I Lecture 4
- **CHEM 106** General Chemistry I Laboratory 4
- **CHEM 109** General Chemistry II with Lab 4

OR

- **CHEM 115** Chemical Principles 6

Why: To reflect changes made to the introductory chemistry curriculum.
TO: College of Arts and Sciences Curriculum Committee

FROM: Paula Kleintjes Neff, Chair
Department of Biology

DATE: January 16, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Comprehensive Major: Biochemistry/Molecular Biology, Liberal Arts

Program Code: 090-001

Date of Department/Program Approval: January 16, 2018


To: Note 1: CHEM 103 and CHEM 104 or CHEM 105, CHEM 106, and CHEM 109 may be substituted for CHEM 115, but only six of the eight credits count toward the major.

Why: To reflect changes made to the introductory chemistry curriculum.

c: Warren Gallagher, Chair
Department of Chemistry
TO: College of Arts and Sciences Curriculum Committee
FROM: Warren Gallagher, Chair
Department of Chemistry
DATE: January 17, 2018
RE: Program Changes

We request implementation of the following program changes with the next possible Catalog.

Name of Programs: Comprehensive Major: Chemistry, A.C.S., Biochemistry Emphasis; Comprehensive Major: Chemistry, A.C.S., General Emphasis; Comprehensive Major: Chemistry, A.C.S., Materials Science Emphasis; Comprehensive Major: Chemistry, Research Emphasis, Liberal Arts; Major: Chemistry, Liberal Arts

Program Codes: 100-009; 100-007; 100-008; 100-010; 100-201

Date of Department/Program Approval: 10/18/2017

From Current Catalog Web Pages: http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry/chemistry-acs-comprehensive-major-biochemistry-ba-bs/
http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry/chemistry-acs-comprehensive-major-general-ba-bs/
http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry/chemistry-acs-comprehensive-major-material-science-ba-bs/
http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry/chemistry-acs-comprehensive-major-research-ba-bs/
http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry/chemistry-major-ba-bs/

To:
Core Requirements for A.C.S., Liberal Arts and Teaching Chemistry Majors

Chemistry Core
Select one of the following: 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115</td>
<td>Chemical Principles</td>
</tr>
<tr>
<td>CHEM 103</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>&amp; CHEM 104</td>
<td>and-General Chemistry II</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>General Chemistry I Lecture</td>
</tr>
<tr>
<td>&amp; CHEM 106</td>
<td>General Chemistry I Laboratory</td>
</tr>
<tr>
<td>&amp; CHEM 109</td>
<td>General Chemistry II with Lab</td>
</tr>
</tbody>
</table>

1 Only six credits of the CHEM 103/CHEM 104 or CHEM 105/CHEM 106/CHEM 109 sequence are credited to the major.

Why: To reflect changes made to the introductory chemistry curriculum.
TO: College of Arts and Sciences Curriculum Committee

FROM: Warren Gallagher, Chair Department of Chemistry

DATE: January 24, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Minor: Chemistry, Liberal Arts

Program Code: 100-405

Date of Department/Program Approval: 1/24/2018

From Current Catalog Web Page: http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry/chemistry-minor/

To:

<table>
<thead>
<tr>
<th>A minimum of 24 semester credits, including:</th>
</tr>
</thead>
</table>

**Chemistry Core**

<table>
<thead>
<tr>
<th>Select one of the following: ¹</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115</td>
<td>Chemical Principles</td>
</tr>
<tr>
<td>CHEM 103 &amp; CHEM 104</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td></td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>CHEM 105 &amp; CHEM 106 &amp; CHEM 109</td>
<td>General Chemistry I Lecture</td>
</tr>
<tr>
<td></td>
<td>General Chemistry I Lab</td>
</tr>
<tr>
<td></td>
<td>General Chemistry II with Lab</td>
</tr>
<tr>
<td>Additional Required:</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>CHEM 218</strong></td>
<td>Introduction to Inorganic Chemistry</td>
</tr>
<tr>
<td><strong>CHEM 325</strong></td>
<td>Organic Chemistry I with Laboratory</td>
</tr>
<tr>
<td><strong>CHEM 326</strong></td>
<td>Organic Chemistry II with Laboratory</td>
</tr>
<tr>
<td><strong>CHEM 213</strong> or <strong>CHEM 352</strong></td>
<td>Quantitative Analysis or Fundamentals of Biochemistry</td>
</tr>
</tbody>
</table>

| **Total Core Credits**                   | 21               |

<table>
<thead>
<tr>
<th><strong>Elective(s)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Select a minimum of 3 credits:</td>
<td></td>
</tr>
<tr>
<td><strong>CHEM 213</strong></td>
<td>Quantitative Analysis</td>
</tr>
<tr>
<td><strong>CHEM 304</strong></td>
<td>Environmental Chemistry</td>
</tr>
<tr>
<td><strong>CHEM 318</strong></td>
<td>Bioinorganic Chemistry</td>
</tr>
<tr>
<td><strong>CHEM 352</strong></td>
<td>Fundamentals of Biochemistry</td>
</tr>
<tr>
<td><strong>CHEM 361</strong></td>
<td>Molecules and Medicine</td>
</tr>
<tr>
<td><strong>CHEM 406</strong></td>
<td>Biophysical Chemistry</td>
</tr>
<tr>
<td><strong>CHEM 411</strong></td>
<td>Survey of Industrial Chemistry</td>
</tr>
<tr>
<td><strong>CHEM 426</strong></td>
<td>Modern Organic Chemistry</td>
</tr>
<tr>
<td><strong>CHEM 433</strong></td>
<td>Physical Chemistry I</td>
</tr>
<tr>
<td><strong>CHEM 434</strong></td>
<td>Physical Chemistry II</td>
</tr>
<tr>
<td>CHEM 460</td>
<td>Polymer Chemistry</td>
</tr>
<tr>
<td>---------------</td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1Only six credits of the CHEM 103/CHEM 104 or CHEM 105/CHEM 106/CHEM 109 sequence are credited to the minor.
TO: College of Arts and Sciences Curriculum Committee

FROM: Warren Gallagher

DATE: January 17, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Comprehensive Major: Chemistry with Business Emphasis

Program Code: 111-001

Date of Department/Program Approval: 10/18/2017

From Current Catalog Web Page: http://catalog.uwec.edu/undergraduate/arts-sciences/chemistry/chemistry-comprehensive-major-business-ba-bs/

To:
Chemistry Course Requirements 28
Select one of the following: 6

CHEM 115 Chemical Principles
CHEM 103 General Chemistry I
& CHEM 104 and-General Chemistry II ¹
CHEM 105 General Chemistry I Lecture
& CHEM 106 General Chemistry I Laboratory
& CHEM 109 General Chemistry II with Lab ¹

¹ Only six of the eight course credits from CHEM 103 and CHEM 104 or CHEM 105, CHEM 106, and CHEM 109 count toward the major.

Why: To reflect changes made to the introductory chemistry curriculum.
TO: College of Arts and Sciences Curriculum Committee

FROM: Alex Smith, Chair
Department of Mathematics

DATE: January 23, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Comprehensive Major: Mathematics, Research Emphasis

Program Code: 180-003

Date of Department/Program Approval: January 23, 2018


To: Applications of mathematics requirement

Minimum 6 credits in a sequence selected from:

- **BIOL 221**
  Foundations of Biology I
- **& BIOL 222**
  Foundations of Biology II
- **CHEM 115**
  Chemical Principles
- **CHEM 103**
  General Chemistry I
- **& CHEM 104**
  General Chemistry II
- **CHEM 105**
  General Chemistry I Lecture
- **& CHEM 106**
  General Chemistry I Laboratory
- **& CHEM 109**
  General Chemistry II with Lab
- **CS 245**
  Advanced Programming and Data Structures
- **& CS 335**
  Algorithms
- **ECON 103**
  Principles of Microeconomics
- **& ECON 104**
  Principles of Macroeconomics
- **PHYS 231**
  University Physics I
- **& PHYS 232**
  University Physics II

or another sequence approved by the department

Why: To reflect changes made to the chemistry introductory curriculum.
TO: College of Arts and Sciences Curriculum Committee

FROM: Paula Kleintjes Neff, Chair
Department of Biology

DATE: January 16, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Minor: Neuroscience, Liberal Arts

Program Code: 081-401

Date of Department/Program Approval: January 16, 2018

From Current Catalog Web Page: http://catalog.uwec.edu/undergraduate/arts-sciences/interdisciplinary/neuroscience-liberal-arts/

To:

Item 1: Twenty-four semester credits required, including:

Item 2:

² BIOL 221 has a pre/co-requisite of CHEM 103 or CHEM 105 and CHEM 106.

Why: 1. By policy, minor programs require a minimum of 24 credits. Listing 20 credits was an error.

2. To reflect changes made to the introductory chemistry curriculum.


c: Doug Matthews, Chair
Department of Psychology
TO: College of Arts and Sciences Curriculum Committee

FROM: Paula Kleintjes Neff, Chair
Department of Biology

DATE: January 18, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Minor: Pre-Professional Health Science, Liberal Arts

Program Code: 709-400

Date of Department/Program Approval: January 18, 2018

From Current Catalog Web Page: http://catalog.uwec.edu/undergraduate/arts-sciences/interdisciplinary/pre-professional-health-science-minor/

To: See attached document.

Why:
I. Addition of CHEM 109: To reflect changes made to the introductory chemistry curriculum.

2. Footnote 1: For consistency with BIOL 214 course information.

c: Julie Anderson, Director, Health Careers Center
Pre-Professional Health Science, Minor

Liberal Arts (Code 709-400)

For advising, contact one of the pre-professional advisors listed with the pre-professional program of interest or contact the Biology Department for a referral.

This minor is designed for students preparing for post-baccalaureate health profession programs. Students in pre-dentistry, pre-optometry, pre-chiropractic, pre-pharmacy, pre-physical therapy, and other pre-professional health programs, as found in this catalog, may find this minor helpful in planning a baccalaureate degree. Because admission requirements vary widely among graduate programs, it is strongly recommended that the student consult with an advisor listed with the pre-professional program of interest. This minor may not be appropriate preparation for some graduate-level health profession programs.

Twenty-four credits are required from courses outside of the major department. At least eleven credits must be from courses numbered 300 or higher.

Core:

**BIOL 221** Foundations of Biology I 4
**BIOL 222** Foundations of Biology II 3
**BIOL 223** Foundations of Biological Inquiry 2
**CHEM 104** General Chemistry II 4
or **CHEM 109** General Chemistry II with Lab 6
or **CHEM 115** Chemical Principles

**CHEM 325** Organic Chemistry I with Laboratory 4
**CHEM 326** Organic Chemistry II with Laboratory 4
**PHYS 212** General Physics 4
or **PHYS 232** University Physics II

Select one of the following:

**ENGL 312** Topics in Rhetoric and Science
**ENGL 313** Topics in Rhetoric and Technology
**ENGL 314** Topics in Rhetoric and Culture
**ENGL 315** Visual Rhetorics of Science, Technology, and Culture

Remaining credits are to be chosen from the following courses outside of one’s major:

**BIOL 214** Human Anatomy and Physiology I
& **BIOL 314** and Human Anatomy and Physiology II 1
**BIOL 323** Genetics
**BIOL 361** Biology of Microorganisms
**CHEM 213** Quantitative Analysis
**CHEM 352** Fundamentals of Biochemistry
**ECON 280** Health Economics
**ENPH 110** Introduction to Environmental Health
**NRSG 211** Wellness: Food for Fitness
**NRSG 212** Navigating Health Care
**NRSG 213** Body, Mind, Spirit Wellness
**NRSG 220** The Language of Health Care
**NRSG 377** International Dimensions of Health Care
**NRSG 385** Men's Health Issues
**NRSG 389** Cross Cultural Health
**NRSG/WMNS 265** Women's Health Issues
**IDIS 301** Exploring Mind/Body Connections
**MATH 114** Calculus I
**MATH 246** Elementary Statistics
**PHIL 306** Ethics of Health Care
**PSYC 230** Human Development

1 No credit for **BIOL 214** unless **BIOL 314** is taken, and only five credits of **BIOL 214** and **BIOL 314** may be counted toward the minor.
TO: College of Arts and Sciences Curriculum Committee

FROM: Warren Gallagher, Chair
       Department of Chemistry

DATE: January 17, 2018

RE: Program Change

We request implementation of the following program change with the next possible Catalog.

Name of Program: Pre-Professional Program—Pre-Pharmacy

Program Code: 685-900

Date of Department/Program Approval: 10/18/2017

From Current Catalog Web Page: http://catalog.uwec.edu/undergraduate/arts-sciences/pre-professional-programs/#text

To: See attached document.

Why: To reflect changes made to the introductory chemistry curriculum.

c: Julie Anderson, Director, Health Careers Center
Pre-Pharmacy

(Code 685-900)

Advisors: S. Bailey-Hartsel (Chemistry), C. Muller (Chemistry), K. Wiegel (Chemistry).

The pre-pharmacy curriculum blends science and math courses with social science and humanities courses in order to prepare future pharmacists to address medical problems with the people they will serve. Most students now admitted to pharmacy schools enter with a bachelor’s degree, so students should plan to choose a major to be more competitive. A first-year program should include:

Select one of the following:  
**CHEM 115** Chemical Principles  
OR  
**CHEM 103** General Chemistry I  
& **CHEM 104** General Chemistry II  
OR  
CHEM 105 General Chemistry I Lecture  
& CHEM 106 General Chemistry I Laboratory  
& CHEM 109 General Chemistry II with Lab

Required:  
**MATH 114** Calculus I  

Select one of the following:  
**BIOL 221** Foundations of Biology I  
**BIOL 214** Human Anatomy and Physiology I  
& **BIOL 314** Human Anatomy and Physiology II

Select one or more of the following:  
**ECON 103** Principles of Microeconomics  
**SOC 101** Introduction to Sociology  
**ANTH/AIS 161** Introduction to Cultural Anthropology

Required:  
Completion of the University Writing Requirement

The minimum course work admission requirements could be planned in two years if the student is prepared to start in **CHEM 115** and **MATH 114**. More time should be allowed if the student starts in a lower level math course or takes the **CHEM 103/CHEM 104** or CHEM 105/CHEM 106/CHEM 109 sequence. The GPA of students admitted into pharmacy school is typically above 3.50. Pharmacy schools are increasingly emphasizing communication, leadership, and community service in their admissions criteria, so students should pace their work at UW-Eau Claire to develop strong records in both academics and community service. Experience as a pharmacy technician is also helpful. Consult an advisor for information about the Student Pharmaceutical Society and pharmacy school admissions requirements.
TO: College of Arts and Sciences Curriculum Committee

FROM: Paula Kleintjes Neff, Chair
Department of Biology

DATE: January 16, 2018

RE: Program Changes

We request implementation of the following program changes with the next possible Catalog.

Name of Programs: Pre-Professional Programs: Pre-Dentistry, Pre-Medicine, Pre-Optometry; Pre-Veterinary Medicine

Program Code: 705-900; 706-900; 703-900; 708-900

Date of Department/Program Approval: January 16, 2018

From Current Catalog Web Page: http://catalog.uwec.edu/undergraduate/arts-sciences/pre-professional-programs/

To: See attached document

Why: To reflect changes made to the introductory chemistry curriculum.

C: Julie Anderson, Director, Health Careers Center
Pre-Dentistry

(Code 705-900)

Advisors: W. Gallagher (Chemistry), J. Halfen (Chemistry), J. Lyman Gingerich (Biology).

Students should plan to spend at least three years in pre-professional work. Many pre-dentistry students complete a B.S. degree in biology or chemistry. A typical first-year program includes:

Select one of the following: 8-10

CHEM 103 General Chemistry I
& CHEM 104 General Chemistry II

OR

CHEM 105 General Chemistry I Lecture
& CHEM 106 General Chemistry I Laboratory
& CHEM 109 General Chemistry II with Lab

OR

CHEM 115 Chemical Principles
& CHEM 213 and Quantitative Analysis

Required:

BIOL 221 Foundations of Biology I 4

MATH 109 Algebra for Calculus (and/or MATH 112/MATH 113, and/or MATH 114) 4

PSYC 100 Introduction to Psychology 3

Completion of University Writing Requirement

Advanced courses
Select one of the following: 9-10

PHYS 211 General Physics
& PHYS 212 General Physics

OR

PHYS 231 University Physics I
& PHYS 232 University Physics II

Required:

CHEM 325 Organic Chemistry I with Laboratory 4
CHEM 326 Organic Chemistry II with Laboratory 4

Consult an advisor for further recommendations.

NOTE: Students should plan on taking the DAT (Dental Admissions Test) in the late spring or early summer of the year prior to the year for which they are seeking to matriculate in dental school.
Pre-Medicine

(Code 706-900)

Advisors: J. Anderson (Biology), W. Bryant (Biology), W. Gallagher (Chemistry), D. Gingerich (Biology), J. Halfen (Chemistry), D. Janik (Biology), M. Kettler (Biology), J. Rohrer (Biology).

The pre-med curriculum consists of those courses needed to meet the entrance requirements for the majority of medical schools and to prepare students to take the Medical College Admission Test. The majority of students should plan to complete the requirements for a baccalaureate degree. Because of the competition for available places, students are urged to plan programs that will permit alternative career choices if acceptance into medical school is not secured. Typical first-year courses include:

**BIOL 221** Foundations of Biology I 4

Select one of the following: 8-10

**CHEM 115** Chemical Principles
**CHEM 213** and Quantitative Analysis

**OR**

**CHEM 103** General Chemistry I
**CHEM 104** and General Chemistry II

**OR**

**CHEM 105** General Chemistry I Lecture
**CHEM 106** General Chemistry I Laboratory
**CHEM 109** General Chemistry II with Lab

Required:

One or two semesters of mathematics

Completion of the University Writing Requirement

Consult an advisor for further recommendations.

**NOTE 1:** CHEM 103 and CHEM 104 or CHEM 105, CHEM 106, and CHEM 109 may be substituted for CHEM 115 in the will not apply toward the completion of a biochemistry/molecular biology major, but only six of the credits will count toward the major.

**NOTE 2:** Entry into medical schools is based on the following:

1. the student’s academic record,
2. the results of the Medical College Admission Test, which should be taken in the spring of the junior year,
3. recommendations, and
4. interviews.

**NOTE 3:** A limited number of scholarships are available for sophomore, junior, and senior pre-medicine students who meet the scholarship criteria.
Pre-Optometry

(Code 703-900)

Advisor: D. Janik (Biology).

Students should plan to spend at least two years in undergraduate study; the majority of successful applicants have three or four years of college work. A typical first-year program includes:

<table>
<thead>
<tr>
<th>Course</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>CHEM 103</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 104</td>
<td>and General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 105</td>
<td>General Chemistry I Lecture</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 106</td>
<td>General Chemistry I Laboratory</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 109</td>
<td>General Chemistry II with Lab</td>
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<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 115</td>
<td>Chemical Principles</td>
<td></td>
</tr>
</tbody>
</table>

Mathematics course

Completion of the University Writing Requirement

Consult an advisor for further recommendations.

NOTE: The Optometry Admission Test should be taken before the semester in which the student applies for acceptance into a school of optometry. Because of competition for the available places, students are urged to plan programs that will permit alternative career choices if acceptance into an optometry school is not secured.
Pre-Veterinary Medicine

(Code 708-900)

Advisor: S. Showsh (Biology).

Students should plan to spend at least three years in pre-professional work. Many students complete a B.S. degree. A typical first-year program includes:

<table>
<thead>
<tr>
<th>Course</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><strong>Select one of the following:</strong></td>
<td></td>
<td>8-10</td>
</tr>
<tr>
<td>CHEM 103 &amp; CHEM 104</td>
<td>General Chemistry I and General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 105 &amp; CHEM 106 &amp; CHEM 109</td>
<td>General Chemistry I Lecture General Chemistry I Laboratory General Chemistry II with Lab</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 115 &amp; CHEM 213</td>
<td>Chemical Principles and Quantitative Analysis</td>
<td></td>
</tr>
<tr>
<td>Required:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

Completion of University Writing Requirement

Consult an advisor for further recommendations.

NOTE: Most schools of veterinary medicine require experience with animals, such as that gained through a farm background or working as assistant to a veterinarian, as well as the completion of the general test of the Graduate Record Examination. Because of competition for the available places, students are urged to plan a degree program that will permit alternative career choices if acceptance into a school of veterinary medicine is not secured.