General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/gef)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric
   ENGL 101 Introduction to Composition and Rhetoric
   & ENGL 102 and Composition, Rhetoric, and Research
   or ENGL 103 Accelerated Academic Writing

F2A/F2B - Science & Technology
   4-6
F3 - Math & Quantitative Skills
   3-4
F4 - Society & Connections
   3
F5 - Human Inquiry & the Past
   3
F6 - The Arts & Creativity
   3
F7 - Global Studies & Diversity
   3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)
   3

Total Hours
   31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, College B.A. requirements, major requirements, and electives to total a minimum of 120 hours. For complete details on these requirements, visit the B.A. Degrees tab on the Eberly College of Arts and Sciences (http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/#bachelorofartstext) page. Students may not earn both a B.A. and a B.S. in Chemistry.

Departmental Requirements for the B.A. in Chemistry

• Capstone Requirement: The university requires the successful completion of a Capstone. Chemistry majors must take CHEM 401 and CHEM 403.

• Writing and Communication Skills: Chemistry Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103), and two additional SpeakWrite Certified Courses™. CHEM 401 or CHEM 403, and a 2nd course selected from ENGL 304 or ENGL 305.

• Calculation of GPA in the major: A grade of C- or better in all chemistry courses below 300-level is required. In addition, a grade of C- or better is required in the following courses: PHYS 101 and PHYS 102 (or PHYS 111 and PHYS 112); MATH 155 (or MATH 153 and MATH 154) and MATH 156; a 2.0 grade point average must be maintained in all Chemistry 300-level and above courses, excluding Chemistry 490-497 courses.

• Course Requirement: Students in the B.A. program may use AGBI 410 to meet part of the seven-hour chemistry elective requirement; however, at least three hours must be selected from chemistry courses numbered 310 or higher. Students in the B.A. program may take CHEM 346, CHEM 347, and CHEM 348 in lieu of CHEM 341 and CHEM 342 and three hours of chemistry electives. CHEM 349 may be taken as two hours of chemistry elective.

• Benchmarks expectations: For details, go to the chemistry admissions tab (http://catalog.wvu.edu/undergraduate/eberlycollegeofartsandsciences/bennettdpartmentofchemistry/#admissionstext).

Curriculum Requirements

A minimum GPA of 2.0 is required in all CHEM courses

UNIVERSITY REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 191</td>
<td>First-Year Seminar</td>
<td>19</td>
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</table>

GEF: number of credits may vary based on overlap
**ECAS B.A. Requirements**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Units</th>
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<tr>
<td>Foreign Languages</td>
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<tr>
<td>Fine Arts Requirement</td>
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</tr>
<tr>
<td>Global Studies and Diversity Requirement</td>
<td></td>
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</tbody>
</table>

**DEPARTMENTAL REQUIREMENTS**

**Math Requirement**

8 units

- **MATH 153**
  - Calculus 1a with Precalculus
- **MATH 154**
  - and Calculus 1b with Precalculus

or:

- **MATH 155**
  - Calculus 1

and:

- **MATH 156**
  - Calculus 2

**Physics Requirement**

8 units

Select one pair:

- **PHYS 101**
  - Introductory Physics
- **PHYS 102**
  - and Introductory Physics
- **PHYS 111**
  - General Physics
- **PHYS 112**
  - and General Physics

**Core Chemistry Courses**

24 units

Select one of the following options:

- **CHEM 115**
  - Fundamentals of Chemistry
- **CHEM 116**
  - and Fundamentals of Chemistry
- **CHEM 215**
  - and Introductory Analytical Chemistry

OR:

- **CHEM 117**
  - Principles of Chemistry
- **CHEM 118**
  - and Principles of Chemistry

Take all courses:

- **CHEM 233**
  - Organic Chemistry
- **CHEM 234**
  - Organic Chemistry
- **CHEM 235**
  - Organic Chemistry Laboratory
- **CHEM 236**
  - Organic Chemistry Laboratory
- **CHEM 341**
  - Physical Chemistry: Brief Course
- **CHEM 342**
  - Experimental Physical Chemistry

**Chemistry Electives:**

7 units

Select from the following:

- **CHEM 310**
  - Instrumental Analysis
- **CHEM 312**
  - Environmental Chemistry
- **CHEM 313**
  - Instrumental Analysis Laboratory
- **CHEM 335**
  - Methods of Structure Determination
- **CHEM 339**
  - Organic Syntheses
- **CHEM 422**
  - Intermediate Inorganic Chemistry
- **CHEM 423**
  - Inorganic Synthesis Laboratory
- **CHEM 460**
  - Forensic Chemistry
- **CHEM 463**
  - Forensic Chemistry Lab
- **CHEM 490**
  - Teaching Practicum: Peer-Led Team Learning
- **CHEM 490A**
  - Teaching Practicum-CLC
- **CHEM 490B**
  - Teaching Practicum - TA
- **CHEM 496**
  - Senior Thesis
- **CHEM 497**
  - Research
- **CHEM 498**
  - Honors
- **CHEM 514**
  - Mass Spectrometry Principles and Practices
- **CHEM 521**
  - Organometallic Chemistry
- **CHEM 531**
  - Advanced Organic Chemistry 1
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CHEM 532</td>
<td>Advanced Organic Chemistry 2</td>
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<tr>
<td>CHEM 547</td>
<td>Chemical Crystallography</td>
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<tr>
<td>AGBI 410</td>
<td>Introductory Biochemistry</td>
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**Capstone Experience**

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<tbody>
<tr>
<td>CHEM 401</td>
<td>Chemical Literature</td>
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<td>CHEM 403</td>
<td>Undergraduate Seminar</td>
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**GENERAL ELECTIVES:**

Number of elective courses may vary depending on overlap.

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</table>

**FOOTNOTES**

* Only three hours of CHEM 490, CHEM 493, CHEM 496, or CHEM 497, separately or combined, may be counted toward the seven-hour elective requirement.

**Suggested Plan of Study**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 191</td>
<td>3</td>
<td>ENGL 101 (GEF 1)</td>
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<tr>
<td>Foreign Language 101</td>
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<td>Foreign Language 102</td>
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<td>ECAS Global Studies and Diversity Requirement (GEF 7)</td>
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<td>CHEM 116 (GEF 8)</td>
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<td>CHEM 115 (GEF 2)</td>
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<td>MATH 156 (GEF 8)</td>
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<td>MATH 155 (GEF 3)</td>
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**Second Year**

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<th>Fall</th>
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<th>Spring</th>
<th>Hours</th>
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<td>ENGL 102 (GEF 1)</td>
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<tr>
<td>Foreign Language 203</td>
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<td>Foreign Language 204</td>
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<tr>
<td>CHEM 233 &amp; CHEM 235</td>
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<td>CHEM 234 &amp; CHEM 236</td>
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<tr>
<td>PHYS 101 (GEF 8)</td>
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<td>PHYS 102</td>
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**Third Year**

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<th>Spring</th>
<th>Hours</th>
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<td>GEF 5</td>
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<td>ECAS Fine Arts Requirement (GEF 6)</td>
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<td>CHEM 215*</td>
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<td>CHEM 341 &amp; CHEM 342</td>
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<td>Chemistry Elective 1</td>
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<tr>
<td>General Elective</td>
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**Fourth Year**

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<th>Fall</th>
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<td>CHEM 401 (Capstone)</td>
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<td>CHEM 403 (Capstone)</td>
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<tr>
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Total credit hours: 120
If a student qualifies to take CHEM 117 and CHEM 118, these courses can be used in lieu of CHEM 115, CHEM 116, and CHEM 215. The student will need to take an additional 2 credit hours of Electives to reach the required minimum of 120 credit hours for graduation.