

# Chemistry Major

## Area of Emphasis

Students must complete requirements in one of the following areas of emphasis:

- Chemistry
- American Chemical Society Certified Chemistry
- American Chemical Society Certified Environmental Chemistry

## Chemistry

Code	Title	Credits
<b>Supporting Courses</b>		<b>29</b>
CHEM 207	Laboratory Safety	
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory	
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory	
MATH 202	Calculus and Analytic Geometry I	
MATH 203	Calculus and Analytic Geometry II	
PHYSICS 201	Principles of Physics I	
PHYSICS 202	Principles of Physics II	
<b>Upper-Level Courses</b>		<b>28</b>
<b>Core Courses</b>		
CHEM 302 & CHEM 304	Organic Chemistry I and Organic Chemistry Laboratory I	
CHEM 303 & CHEM 305	Organic Chemistry II and Organic Chemistry Laboratory II	
CHEM 311	Analytical Chemistry	
CHEM 320 & CHEM 322	Thermodynamics and Kinetics and Thermodynamics and Kinetics Laboratory	
CHEM 321 & CHEM 323	Structure of Matter and Structure of Matter Laboratory	
CHEM 413	Instrumental Analysis	
<b>Electives (choose 4 credits):</b>		
BIOLOGY 407	Molecular Biology	
BIOLOGY 408	Molecular Biology Laboratory	
CHEM 330	Biochemistry	
CHEM 331	Biochemistry Laboratory	
CHEM 402	Advanced Organic Chemistry	
CHEM 403	Advanced Organic Chemistry Laboratory	
CHEM 410	Inorganic Chemistry	
CHEM 411	Inorganic Chemistry Laboratory	
CHEM 417	Nuclear Physics and Radiochemistry	
CHEM 420	Polymer Chemistry	
CHEM 423	Polymer Chemistry Laboratory	
<b>Total Credits</b>		<b>57</b>

## American Chemical Society Certified

Code	Title	Credits
<b>Supporting Courses</b>		<b>37</b>
CHEM 207	Laboratory Safety	

BIOLOGY 201 & BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes and Principles of Biology Lab: Cellular and Molecular Processes	
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory	
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory	
MATH 202	Calculus and Analytic Geometry I	
MATH 203	Calculus and Analytic Geometry II	
MATH 209	Multivariate Calculus	
PHYSICS 201	Principles of Physics I	
PHYSICS 202	Principles of Physics II	
<b>Upper-Level Courses</b>		<b>35</b>
<b>Core Courses</b>		
CHEM 302 & CHEM 304	Organic Chemistry I and Organic Chemistry Laboratory I	
CHEM 303 & CHEM 305	Organic Chemistry II and Organic Chemistry Laboratory II	
CHEM 311	Analytical Chemistry	
CHEM 320 & CHEM 322	Thermodynamics and Kinetics and Thermodynamics and Kinetics Laboratory	
CHEM 321 & CHEM 323	Structure of Matter and Structure of Matter Laboratory	
CHEM 330 & CHEM 331	Biochemistry and Biochemistry Laboratory	
CHEM 410 & CHEM 411	Inorganic Chemistry and Inorganic Chemistry Laboratory	
CHEM 413	Instrumental Analysis	
CHEM 496	Project/Research Assistantship (3 credits of Research is required)	
<b>Total Credits</b>		<b>72</b>

## American Chemical Society Certified in Environmental Chemistry

Code	Title	Credits
<b>Supporting Courses</b>		<b>48</b>
BIOLOGY 201 & BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes and Principles of Biology Lab: Cellular and Molecular Processes	
BIOLOGY 323 & BIOLOGY 324	Principles of Microbiology and Principles of Microbiology Laboratory	
CHEM 207	Laboratory Safety	
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory	
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory	
ENV SCI 102	Introduction to Environmental Sciences	
GEOSCI 202	Physical Geology	
MATH 202	Calculus and Analytic Geometry I	
MATH 203	Calculus and Analytic Geometry II	
MATH 260	Introductory Statistics	
PHYSICS 201	Principles of Physics I	
PHYSICS 202	Principles of Physics II	
<b>Upper-Level Courses</b>		<b>39</b>
<b>Core Courses</b>		
CHEM 302 & CHEM 304	Organic Chemistry I and Organic Chemistry Laboratory I	

CHEM 303 & CHEM 305	Organic Chemistry II and Organic Chemistry Laboratory II
CHEM 311	Analytical Chemistry
CHEM 320 & CHEM 322	Thermodynamics and Kinetics and Thermodynamics and Kinetics Laboratory
CHEM 321 & CHEM 323	Structure of Matter and Structure of Matter Laboratory
CHEM 330 & CHEM 331	Biochemistry and Biochemistry Laboratory
CHEM 410 & CHEM 411	Inorganic Chemistry and Inorganic Chemistry Laboratory
CHEM 413	Instrumental Analysis
CHEM 496	Project/Research Assistantship (3 credits of Research is required)
ENV SCI 305	Environmental Systems
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<b>Total Credits</b>	<b>87</b>