University Graduation Requirements:
- Complete the All-University Core Curriculum (AUCC)\(^1\) – See back side.
- Earn grades of "C" or higher in the major course requirements (listed below).
- Complete a minimum of 120 credits; a minimum of 42 upper-division credits (300-level +).
- Must have 30 upper-division credits at CSU.
- Fifteen of last 30 credits must be at CSU.
- Keep cumulative and AUCC courses GPA of 2.0+.

Chemistry Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111</td>
<td>General Chemistry I (F, S, SS, AUCC3A)</td>
<td>4</td>
<td>MATH 118</td>
</tr>
<tr>
<td>CHEM 112</td>
<td>General Chemistry I Laboratory (F, S, SS)</td>
<td>3</td>
<td>CHEM 111 or concurrent registration</td>
</tr>
<tr>
<td>CHEM 113</td>
<td>General Chemistry II (F, S, SS, AUCC3A)</td>
<td>3</td>
<td>CHEM 107 or CHEM 111; MATH 124</td>
</tr>
<tr>
<td>CHEM 114</td>
<td>General Chemistry II Laboratory (F, S, SS)</td>
<td>3</td>
<td>CHEM 108 or CHEM 112; CHEM 113 or concurrent registration</td>
</tr>
<tr>
<td>CHEM 345</td>
<td>Organic Chemistry I (F) (Recommended)</td>
<td>4</td>
<td>CHEM 113</td>
</tr>
<tr>
<td>CHEM 346</td>
<td>Organic Chemistry II (S) (Recommended)</td>
<td>4</td>
<td>CHEM 345</td>
</tr>
<tr>
<td>CHEM 341</td>
<td>Modern Organic Chemistry I (F, S, SS)</td>
<td>3</td>
<td>CHEM 113</td>
</tr>
<tr>
<td>CHEM 343</td>
<td>Modern Organic Chemistry II (F, S, SS)</td>
<td>3</td>
<td>CHEM 341</td>
</tr>
<tr>
<td>CHEM 344</td>
<td>Modern Organic Chemistry Lab (F, S, SS)</td>
<td>2</td>
<td>CHEM 114; CHEM 343 or concurrent registration</td>
</tr>
<tr>
<td>CHEM 261</td>
<td>Fundamentals of Inorganic Chemistry (S)</td>
<td>3</td>
<td>CHEM 113</td>
</tr>
<tr>
<td>CHEM 335</td>
<td>Introduction to Analytical Chemistry (F, S)</td>
<td>3</td>
<td>CHEM 113; concurrent registration in CHEM 334</td>
</tr>
<tr>
<td>CHEM 334</td>
<td>Quantitative Analysis Laboratory (F, S)</td>
<td>1</td>
<td>CHEM 114; concurrent registration in CHEM 335</td>
</tr>
<tr>
<td>CHEM 440</td>
<td>Advanced Organic Chemistry Laboratory (F, AUCC4A)</td>
<td>2</td>
<td>CHEM 344 or CHEM 346</td>
</tr>
<tr>
<td>CHEM 462</td>
<td>Inorganic Chemistry Laboratory (S)</td>
<td>2</td>
<td>CHEM 461 or concurrent registration</td>
</tr>
<tr>
<td>CHEM 474</td>
<td>Physical Chemistry I (F)</td>
<td>3</td>
<td>CHEM 113; MATH 261 or MATH 272; PH 142; concurrent registration in CHEM 475</td>
</tr>
<tr>
<td>CHEM 475</td>
<td>Physical Chemistry Laboratory I (F)</td>
<td>1</td>
<td>CBE 333 or CHEM 334; CHEM 474 or concurrent registration or CBE 310 or concurrent registration</td>
</tr>
<tr>
<td>CHEM 476</td>
<td>Physical Chemistry II (S, AUCC4B)</td>
<td>3</td>
<td>CHEM 474</td>
</tr>
<tr>
<td>CHEM 493</td>
<td>Senior Seminar (varies, AUCC4C)</td>
<td>2</td>
<td>CHEM 474</td>
</tr>
</tbody>
</table>

Other Requirements:

- Biological Science\(^1\) – choose 4 credits (including lab) from: BZ104/105, BZ110/111, BZ 120, LIFE 102 (AUCC3A)  
<table>
<thead>
<tr>
<th>Credits</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>none</td>
</tr>
<tr>
<td>MATH 160</td>
<td>Calculus for Physical Scientists (F, S, SS)</td>
</tr>
<tr>
<td>MATH 271</td>
<td>Applied Mathematics for Chemists I (F) (Recommended)</td>
</tr>
<tr>
<td>MATH 272</td>
<td>Applied Mathematics for Chemists II (S) (Recommended)</td>
</tr>
<tr>
<td>MATH 261</td>
<td>Calculus for Physical Scientists II (F, S, SS)</td>
</tr>
<tr>
<td>MATH 262</td>
<td>Calculus for Physical Scientists III (F, S, SS)</td>
</tr>
<tr>
<td>PH 141</td>
<td>Physics for Scientists and Engineers I (F, S, SS, AUCC3A)</td>
</tr>
<tr>
<td>PH 142</td>
<td>Physics for Scientists and Engineers II (F, S, SS)</td>
</tr>
<tr>
<td>Additional mathematics at 300+ level (Codes MATH, STAT or CS)</td>
<td>3</td>
</tr>
<tr>
<td>Advanced science electives(^1)</td>
<td>10</td>
</tr>
</tbody>
</table>

\(^1\) If you plan to attend Pharmacy School, you must take ECON101 or 202 or 204 from AUCC Category 3C. If you plan to attend Medical School, you should take at least 12 credits from AUCC Category 3C.

\(^2\) If you plan to attend Pharmacy School, you must take both BZ104/105 and BZ110/111.

\(^3\) Advanced science electives must be 300-level or higher. All 3++, 4++ and 5++ courses offered by departments in the College of Natural Sciences apply. Courses in other departments may apply as well, please check with a chemistry advisor. If you plan to attend Veterinary School, you must take MIP450. If you plan to attend Medical School, you must take BMS300, BMS301. If you plan to attend Pharmacy School, you must take MIP300/302, BMS300 (LIFE102 is the prerequisite). BMS301. Please, check with a Key Health Professions Advisor for additional professional schools admission requirements.

F = Fall, S = Spring, SS = Summer Session

*** Important Note ***
Remember that ONLY your Degree Progress Audit (DPA) will be used as the basis for awarding your degree. Always check your DPA on RAMWeb to keep on track for your degree.
All-University Core Curriculum (AUCC) Courses

Category 1. Basic Competencies.

A. Oral Communication (Before Fall 2008 only)\(^1\)
  SPCM 200

B. Mathematics (3 credits)\(^1\)
  MATH 117 College Algebra in Context I
  MATH 118 College Algebra in Context II
  MATH 124 Logarithmic and Exponential Functions
  MATH 125 Numerical Trigonometry
  MATH 126 Analytic Trigonometry
  MATH 130 Math in the Social Sciences
  MATH 133 Financial Mathematics
  MATH 135 Patterns of Phenomena I
  MATH 141 Calculus in Management Sciences
  MATH 155 Calculus for Biological Scientists I
  MATH 160 Calculus for Physical Scientists I
  MATH 161 Calculus for Physical Scientists II
  MATH 255 Calculus for Biological Scientists II

Category 2. Additional Communication.

A. Oral Communication (Before Fall 2008 only)\(^2\)
  SPCM 200

B. Advanced Writing (3 credits)\(^2\)
  BUS 300 Business Writing and Communication
  CHEM 301 Advanced Scientific Writing: Chemistry
  CO 300 Writing Arguments
  CO 301A Writing in the Disciplines – Arts and Humanities
  CO 301B Writing in the Disciplines – Sciences
  CO 301A Writing in the Disciplines – Social Sciences
  CO 301A Writing in the Disciplines – Education
  CO 302 Writing Online
  JTC 300 Professional and Technical Communication

Category 3. Foundations and Perspectives.

A. Biological/Physical Sciences (7 credits)\(^3\)
  AA 100 Introduction to Astronomy
  AA 101 Astronomy Laboratory
  ANTH 120 Human Origins and Variation
  ANTH 121 Human Origins and Variation Laboratory
  BISP 102 Insects, Science and Society
  BIOL 101 Humans and Other Animals
  BIOL 104 Basic Concepts of Plant Life
  BIOL 105 Basic Concepts of Plant Life Laboratory
  BIOL 110 Principles of Animal Biology
  BIOL 111 Animal Biology Laboratory
  BIOL 112 Principles of Plant Biology
  CHEM 103 Chemistry in Context
  CHEM 104 Chemistry in Context Laboratory
  CHEM 107 Fundamentals of Chemistry
  CHEM 108 Fundamentals of Chemistry Laboratory
  CHEM 111 General Chemistry I
  CHEM 112 General Chemistry I Laboratory
  FW 104 Wildlife Ecology and Conservation
  GEOL 120 Exploring Earth: Physical Geology
  GEOL 121 Introduction to Geology Laboratory
  GEOL 122 The Blue Planet: Geology of Our Environment
  GEOL 124 Geology of Natural Resources
  HORT 100 Horticultural Sciences
  LAND 220 Fundamentals of Ecology
  LIFE 102 Attributes of Living Systems
  LIFE 201A Introductory Genetics-Applied Genetics
  LIFE 201B Introductory Genetics-Molecular
  LIFE 220 Fundamentals of Ecology
  MIP 101 Introduction to Human Disease
  NR 120A Environmental Conservation
  NR 130 Global Environmental Systems
  NR 150 Oceanography
  PH 110 Descriptive Physics
  PH 111 Descriptive Physics Laboratory
  PH 121 General Physics I
  PH 122 General Physics II
  PH 141 Physics for Scientists and Engineers I
  PH 142 Physics for Scientists and Engineers II
  WR 304 Principles of Watershed Management

B. Arts/Humanities (6 credits)\(^3\)
  ART 100 Introduction to Visual Arts
  D 110 Understanding Dance
  E 140 The Study of Literature
  E 232 Introduction to Humanities
  E 242 Reading Shakespeare
  E 270 Introduction to American Literature
  E 276 Survey of British Literature I
  E 277 Survey of British Literature II
  ETST 240 Native American Cultural Expressions
  HONR 392 Seminar (Must be enrolled in the University Honors Program)

C. Social/Behavioral Sciences (3 credits)\(^3\)
  ANTH 100 Introductory Cultural Anthropology
  AREC 202 Agricultural and Resource Economics
  AREC 240 Issues in Environmental Economics
  ECON 101 Economics of Social Issues
  ECON 202 Principles of Microeconomics
  ECON 204 Principles of Macroeconomics
  ECON 212 Racial Inequality and Discrimination
  ECON 240 Issues in Environmental Economics
  EDUC 275 Schooling in the US
  GR 100 Introduction to Geography
  HDFS 101 Individual and Family Development
  HONR 492 Senior Seminar (Must be enrolled in the University Honors Program)
  JTC 100 Media in Society
  POLS 101 American Government and Politics
  POLS 103 State and Local Government and Politics
  PSY 100 General Psychology
  SOC 100 General Sociology
  SOC 105 Social Problems
  SOWK 110 Contemporary Social Welfare

D. Historical Perspectives (3 credits)\(^3\)
  AMST 206 Self/Community in American Culture, 1600-1877
  AMST 207 Self/Community in American Culture Since 1877
  ANTH 140 Introduction to Prehistory
  ETST 250 African American History
  ETST 252 Asian American History
  ETST 255 Native American History
  HIST 100 Western Civilization, Pre Modern
  HIST 101 Western Civilization, Modern
  HIST 115 Islamic World to 1500
  HIST 120 Asian Civilizations I
  HIST 121 Asian Civilizations II
  HIST 150 US History to 1876
  HIST 151 US History since 1876
  HIST 170 World History, Ancient-1500
  HIST 171 World History, 1500-Present
  HIST 250 African American History
  HIST 252 Asian American History
  HIST 255 Native American History
  NR 320 Natural Resources History and Policy

E. Global and Cultural Awareness (3 credits)\(^3\)
  AGRI 116 Plants and Civilizations
  AGRI 270 World Interdependence-Population and Food
  AM 250 Clothing, Adornment and Human Behavior
  ANTH 200 Cultures in the Global System
  E 238 20th Century Fiction
  E 245 World Drama
  ECON 211 Gender in the Economy
  ETST 100 Introduction to Ethnic Studies
  ETST 205 Ethnicity and the Media
  ETST 253 Chicana/o History and Culture
  ETST 256 Border Crossings: People/Politics/Culture
  HORT 171 Environmental Issues in Agriculture
  IE 116 Plants and Civilizations
  IE 270 World Interdependence-Population and Food
  IE 370 Model United Nations
  LB 170 World Literatures to 1500
  LB 171 World Literatures-The Modern Period
  PHIL 170 World Philosophies
  POLS 131 Current World Problems
  POLS 232 International Relations
  POLS 241 Comparative Government and Politics
  SA 482 Approved Study Abroad Courses
  SOCR 171 Environmental Issues in Agriculture

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\(^1\) This requirement must be completed within the first 60 credits (CU and Transfer) taken.

\(^2\) First-time students entering a college or university on or after July 1, 2008 must take an advanced writing course.

\(^3\) At least one course must have a laboratory component. Sometimes the laboratory component is a separate course number. Credit allowed for only one of the following: GEOL 120, GEOL 122, GEOL 124, GEOL 150, G 130, G 140. Credit allowed for only one of the following: GEOL 121, GEOL 150, G 140. Credit not allowed for both LIFE 201 A and LIFE 201 B. Credit not allowed for both NR 130 and G 130 and NR 130.

\(^4\) No more than three credits of intermediate foreign language (L** 200, L** 201) may be used toward this category.