

CHEMISTRY, B.S. - ENVIRONMENTAL OPTION

Major in Chemistry, BS

| Code | Title | Hours |
|---|--------------------------------------|-----------|
| CHEM 188 | Freshman Seminar in Chemistry | 1 |
| 100 AND 200 LEVEL CHEMISTRY REQUIRED COURSES | | |
| A grade of C or better is required in the 100/200 level courses before proceeding to the courses for which they are pre-requisites. | | |
| CHEM 111 | Introductory Chemistry 1 (C minimum) | 4 |
| CHEM 112 | Introductory Chemistry 2 (C minimum) | 4 |
| CHEM 231 | Organic Chemistry 1 (C minimum) | 4 |
| CHEM 232 | Organic Chemistry 2 (C minimum) | 4 |
| CHEM 251 | Inorganic Chemistry 1 (C minimum) | 3 |
| CHEM 265 | Quantitative Analysis (C minimum) | 4 |
| 300 AND 400 LEVEL CHEMISTRY REQUIRED COURSES | | |
| CHEM 341 | Physical Chemistry 1 | 4 |
| CHEM 342 | Physical Chemistry 2 | 4 |
| CHEM 487 | Seminar in Chemistry 1 | 0.5 |
| CHEM 488 | Seminar in Chemistry 2 | 0.5 |
| Independent Study - Choose 1 hour from: | | 1 |
| CHEM 498 | Independent Study | |
| CHEMISTRY OPTIONS | | |
| Option in Environmental Chemistry - See separate block | | |
| Total Hours | | 34 |

Option in Environmental Chemistry, BS

| Code | Title | Hours |
|--|-----------------------------|-----------|
| CHEM 375 | Environmental Chemistry | 4 |
| CHEM 465 | Analytical Chemistry | 4 |
| CHEM 476 | Environmental Chemistry 2 | 4 |
| Chemistry Electives - Choose 5 hours from: | | 5 |
| CHEM 300 | Co-Op Ed Experience in Chem | |
| CHEM 312 | Chemistry in Nanotechnology | |
| CHEM 324 | Plant Biochemistry | |
| CHEM 326 | Biochemistry 1 | |
| CHEM 327 | Biochemistry 2 | |
| CHEM 328 | Analytical Biochemistry Lab | |
| CHEM 381 | Polymer Chemistry 1 | |
| CHEM 391 | Advanced Laboratory 1 | |
| CHEM 392 | Advanced Laboratory 2 | |
| CHEM 400 | Co-Op Ed Experience in Chem | |
| CHEM 435 | Advanced Organic Chemistry | |
| CHEM 452 | Inorganic Chemistry | |
| CHEM 486 | Topics in Chemistry | |
| CHEM 489 | Honors Course | |
| CHEM 498 | Independent Study | |
| CHEM 499 | Departmental Honors | |
| CHEM 500 | | |
| Total Hours | | 17 |

Req Related for Chemistry, BS

| Code | Title | Hours |
|--|--|--------------|
| MATHEMATICS | | |
| Calculus I or Honors Calculus - Choose 1 of the following: | | 4-5 |
| MATH 161 | Calculus 1 | |
| MATH 163H | Honors Calculus 1 | |
| MATH 211 | Calculus 2 | 4 |
| MATH 311 | Calculus 3 | 4 |
| PHYSICS | | |
| PHYS 231 | Physics 1 with Calculus | 5 |
| PHYS 232 | Physics 2 with Calculus | 5 |
| BIOLOGY COMPETENCY | | |
| General Biology | | |
| Competency may be demonstrated with credits earned for BIOL 100 through any of the following: 1) a successful score on either the national AP Biology exam or the Biology CLEP exam. 2) a passing grade for General Biology (BIOL 100) or equivalent. | | |
| Environmental Chemistry Related Directed Electives | | |
| undefined - Choose 2 of the following: | | 6-8 |
| BIOL 211 | Concepts of Zoology | |
| BIOL 221 | Concepts of Botany | |
| BIOL 241 | Principles of Ecology | |
| BIOL 340 | Prspctv in Environm Awareness | |
| BIOL 343 | Principles of Ecology & Evolution | |
| ESCI 245 | Environmental Meteorology | |
| ESCI 322 | Environmental Hydrology | |
| ESCI 349 | Chemistry of the Atmosphere | |
| ESCI 426 | Groundwater Resources and Contamination | |
| GEOG 202 | Environmental Sustainability | |
| GEOG 230 | Physical Geography | |
| GEOG 304 | Water Resources Management | |
| OSEH 321 | Environmental & Industrial Hygiene I - Chemical and Biological Hazards | |
| OSEH 422 | Environmental & Industrial Health II - Physical Hazards | |
| OSEH 435 | Environmental Health | |
| Other relevant environmental courses may also be selected by consulting with your academic advisor and submitting an exception to graduation requirements. A related minor may be earned by completing the minor requirements that include courses from the disciplines above. | | |
| Total Hours | | 28-31 |

American Chemical Society Certification - Optional

| Code | Title | Hours |
|--|-------|-------|
| THIS BLOCK IS NOT REQUIRED FOR DEGREE COMPLETION. The following block contains courses which are required/recommended to students opting for ACS Certification. While not required, an introductory Economics course, elementary German or Russian (GERM/RUSS 101 and 102) are recommended for inclusion in the core Liberal Arts core requirements for general education. Students must take a minimum of two hours of CHEM 489, 498, or 499 (Research) under Chemistry Electives. This means you will need a total of 3 credits in CHEM 489, 498 or 499. | | |
| REQUIRED COURSES FOR ACS CERTIFICATON | | |

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|--|-----------------------|----------|
| CHEM 326 | Biochemistry 1 | 4 |
| CHEM 392 | Advanced Laboratory 2 | 1 |
| Required Independent Research - Choose 3 hours from: | | 3 |
| CHEM 489 | Honors Course | |
| CHEM 498 | Independent Study | |
| CHEM 499 | Departmental Honors | |
| RECOMMENDED COURSES FOR ACS CERTIFICATION | | |
| Introductory Economics - Optional Recommended | | 0 |
| Elementary Language German or Russian - Optional Recommended | | 0 |
| Total Hours | | 8 |