



Winona State University Four-Year Program Map

Created on 5/24/2017
Effective Fall 2017

Program: Chemistry - General (BS CHEG)
Emphasis (optional):

| | Fall Semester | | | Spring Semester | | |
|---|--|--------------------|---|--|------------------------|-------|
| | Course | Requirement Met | SH | Course | Requirement Met | SH |
| Year 1 | CHEM 212 Principles of Chemistry I | Major/GE Goal 3 | 4 | CHEM 213 Principles of Chemistry II | Major/GE Goal 3 | 4 |
| | MATH 120 Precalculus or 212 Calculus I (Major) | GE Goal 4 | 4 | MATH 212 Calculus I or 213 Calculus II | Major | 4 |
| | ENG 111 College Reading & Writing | GE Goal 1 | 4 | CMST 191 Public Speaking | GE Goal 1 | 3 |
| | General Education | GE Goals 5-9 | 3 | PHYS 201 Gen Physics I or 221 Univ Physics I | Major | 4 |
| | Orientation | Recommended | 1 | | | |
| | NOTE: Math Requirements are based on the major; however, a student's math placement is based on ACT score. It may be necessary for a student to take more than one major course. | | | NOTE: | | |
| First-Year Fall Semester Credit Hour Total | | | 16 | First-Year Spring Semester Credit Hour Total | | 15 |
| Year 2 | CHEM 360 Chemical Information | Major/OI | 2 | CHEM 340 Organic Chemistry Survey or CHEM 351* | Major | 4 |
| | PHYS 202 Gen Physics II or 222 Univ Physics II | Major | 4 | CHEM 320 Environmental Chemistry* OR | Major/GE Goal 10 | 3-4 |
| | MATH 213 Calculus II or General Education | Major/GE Goals 5-9 | 3-4 | General Education | GE Goals 5-9 | |
| | CHEM 350* or General Education | Major/GE Goals 5-9 | 3-4 | General Education | GE Goals 5-9 | 3 |
| | Physical Development & Wellness | PDW | 2-3 | General Education | GE Goals 5-9 | 3 |
| | NOTE: GE Goals 5-10 and Physical Development & Wellness can be taken in any semester. CHEM 350 may be taken instead of CHEM 340 if planning to take CHEM 351 as an elective. | | | NOTE: Students must earn a minimum of 40 credits at the 300-400 level. CHEM 320 offered alternating years. | | |
| Second-Year Fall Semester Credit Hour Total | | | 14-17 | Second-Year Spring Semester Credit Hour Total | | 13-14 |
| Year 3 | CHEM 412 Physical Chemistry I | Major/CAI | 3 | CHEM 414 & 415 Physical Chemistry AND Lab AND/OR | Major/WI | 4-9 |
| | CHEM 413 Physical Chemistry I Lab | Major/WI | 1 | CHEM 426 Analytical Chemistry II OR General Elective | Major/WI | 3-4 |
| | CHEM 425 Analytical Chemistry I | Major | 4 | CHEM/BIOL Elective OR | Major Elective | 3-4 |
| | CHEM/BIOL Elective | Major Elective | 4 | CHEM 320 Environmental Chemistry* OR | Major/GE Goal 10 | |
| | General Education | GE Goals 5-9 | 3 | CHEM/BIOL Elective | Major Elective | 3-4 |
| | | | | | | |
| NOTE: Students must earn 16 credits of CHEM/BIOL electives for major. | | | NOTE: CHEM 320 offered alternating years. | | | |
| Third-Year Fall Semester Credit Hour Total | | | 15 | Third-Year Spring Semester Credit Hour Total | | 13-18 |
| Year 4 | CHEM 405 Biochemistry AND CHEM 406 Biochem Lab OR | Major | 4 | CHEM 475 Seminar in Chemistry | Major/OI | 1 |
| | CHEM 450 Advanced Inorganic Chemistry | | | CHEM/BIOL Elective/General Electives | Major/Gen Elective | 6 |
| | CHEM/BIOL Electives | Major Electives | 2-4 | General Education/General Electives | GE Goals 5-9/Gen Elect | 6-10 |
| | General Education | GE Goals 5-9 | 3 | | | |
| | General Education | GE Goals 5-9 | 3 | | | |
| | General Education | GE Goals 5-9 | 3 | | | |
| NOTE: | | | NOTE: | | | |
| Fourth-Year Fall Semester Credit Hour Total | | | 15-17 | Fourth-Year Spring Semester Credit Hour Total | | 13-17 |

Total Credit Hours (SH): 120

Guide to 4 Year Major Maps

- 4 Year Major Maps are intended to show a recommended four-year pathway to a degree. Students must be fulltime, college ready, and ready to declare a major to follow the map exactly as shown. Maps are only a sample; there may be other pathways that lead to completion of the degree in four years.
- Major Maps are NOT intended to take the place of meetings with advisors.
- Major Maps are NOT intended to take the place of the Degree Audit System (DARs).

All courses listed on a major map will be labelled as one or more of the following:

| GE Goal | General Education Goal Area | Indicates that the course meets one of the 10 General Education Goals |
|------------|-----------------------------------|--|
| Gen Elec | General Elective | Indicates that the course does not meet a General Education, Major or Minor requirement but does count toward the degree |
| Major | Major Requirement | Indicates that the course meets a Major requirement |
| Major Elec | Major Elective | Indicates that the course counts toward the major as an elective, must be chosen from list of approved courses |
| Minor | Minor Requirement | Indicates that the course meets a Minor requirement |
| CAI | Critical Analysis Intensive | Indicates that the course counts as a Critical Analysis Intensive |
| OI | Oral Intensive | Indicates that the course counts as an Oral Intensive |
| WI | Written Intensive | Indicates that the course counts as a Written Intensive |
| PDW | Personal Development and Wellness | Indicates that the course counts as a Personal Development and Wellness Requirement |

General Education Goal Areas:

| | | Minimum credits required |
|---------|---|--------------------------|
| Goal 1 | Communication | 7 credits |
| Goal 2 | Critical Thinking (Met with completion of all other goal areas) | -- |
| Goal 3 | Natural Science | 7 credits |
| Goal 4 | Mathematics | 3-4 credits |
| Goal 5 | History, Social/Behavioral Sciences | 9 credits |
| Goal 6 | Humanities and Fine Arts | 9 credits |
| Goal 7 | Human Diversity | 3 credits |
| Goal 8 | Global Perspective | 3 credits |
| Goal 9 | Ethic and Civic Responsibility | 3 credits |
| Goal 10 | People and the Environment | 3 credits |

Graduation Requirements:

- Minimum of 120 total credits (semester hours) required for Bachelors' Degree
- Minimum of 40 General Education credits required
- Minimum of 40 Upper Division credits required
- Minimum of 30 Residence credits required in Junior/Senior years
- Minimum WSU cumulative grade point average of 2.00; some programs require higher grade point averages

Major Maps are not contracts. Winona State University reserves the right to make changes at any time, without prior notice, to programs, policies, procedures and information described in this major map. Students should consult the appropriate academic department or college for currently accurate program information.