

Chemistry and Science Education Grades 4-12, Major

Major in Chemistry and Science Education Grades 4–12

College of Education students majoring in Middle/Secondary Education must complete the following courses for licensure by the Wisconsin Department of Public Instruction to teach middle school and high school science.

Code	Title	Hours
Required Chemistry Courses		
CHEM 1013 or CHEM 1001	General Chemistry 1 for Majors General Chemistry 1	4
CHEM 1014 or CHEM 1002	General Chemistry 2 for Majors General Chemistry 2	4
CHEM 2113 or CHEM 2111	Organic Chemistry for Majors 1 Organic Chemistry 1	4
CHEM 2114 or CHEM 2112	Organic Chemistry for Majors 2 Organic Chemistry 2	4
CHEM 3201	Foundations of Analytical Chemistry	4
CHEM 4431	Physical Chemistry: Fundamentals with Applications in Biological Sciences	3
Chemistry Electives: Choose two additional Chemistry courses. ¹		6-8
Required Cognate Courses		
BIOL 1001	General Biology 1	3
BIOL 1002	General Biology 2	3
MATH 1450 or MATH 1410	Calculus 1 Calculus for the Biological Sciences	4
PHYS 1001 or PHYS 1003 or PHYS 1013	General Physics 1 General Physics with Introductory Calculus 1 Classical and Modern Physics with Calculus 1	4
PHYS 1002 or PHYS 1004 or PHYS 1014	General Physics 2 General Physics with Introductory Calculus 2 Classical and Modern Physics with Calculus 2	4
PHYS 1009	Earth and Environmental Physics	3
Total Credit Hours:		50-52

¹ Suggested electives include CHEM 4530 Biochemistry 1: Macromolecular Structure and Function or BIOL 3101 Biochemistry and the Molecular Basis of Biology, CHEM 3210 Advanced Methods and Instrumentation for Chemical Analysis, CHEM 4130 Characterization of Organic Compounds, CHEM 4230 Forensic Chemistry, CHEM 4630 Introduction to Polymer Science, CHEM 4956 Undergraduate Research in Chemistry and CHEM 4995 Independent Study in Chemistry.

University Policies

- Academic Advising (<https://bulletin.marquette.edu/policies/academic-advising/>)
- Academic Censure - Undergraduate (<https://bulletin.marquette.edu/policies/academic-censure/undergraduate/>)
- Academic Integrity (<https://bulletin.marquette.edu/policies/academic-integrity/>)
- Academic Misconduct (<https://bulletin.marquette.edu/policies/academic-misconduct-policy/>)
- Academic Program Definitions (<https://bulletin.marquette.edu/policies/academic-programs-defined/>)
- Academic Standing (<https://bulletin.marquette.edu/policies/academic-standing/>)
- Accelerated Degree Programs (<https://bulletin.marquette.edu/policies/accelerated-degree-programs/>)
- Advanced Standing Credit - Undergraduate (<https://bulletin.marquette.edu/policies/advanced-standing-undergraduate/>)
- Attendance - Undergraduate (<https://bulletin.marquette.edu/policies/attendance/undergraduate/>)
- Audit - Undergraduate (<https://bulletin.marquette.edu/policies/audit/>)
- Awarding Diplomas and Certificates (<https://bulletin.marquette.edu/policies/awarding-diplomas-certificates/>)

- Background Checks, Drug Testing (<https://bulletin.marquette.edu/policies/background-checks-drug-testing/>)
- Class Rank (<https://bulletin.marquette.edu/policies/class-rank/>)
- Classification - Undergraduate (<https://bulletin.marquette.edu/policies/classification-undergraduate/>)
- Commencement (<https://bulletin.marquette.edu/policies/commencement/>)
- Conferral of Degrees and Certificates (<https://bulletin.marquette.edu/policies/conferral-degrees-certificates/>)
- Course Levels (<https://bulletin.marquette.edu/policies/course-levels/>)
- Credit Hour (<https://bulletin.marquette.edu/policies/credit/>)
- Credit Load - Undergraduate (<https://bulletin.marquette.edu/policies/credit-load/undergraduate/>)
- Examinations (Midterm and Final) - Undergraduate (<https://bulletin.marquette.edu/policies/examinations-midterm-final-undergraduate/>)
- Faculty Grading (<https://bulletin.marquette.edu/policies/faculty-grading/>)
- Family Education Rights and Privacy Act-FERPA (<https://bulletin.marquette.edu/policies/ferpa/>)
- Grade Appeals (<https://bulletin.marquette.edu/policies/grade-appeals/>)
- Grading System - Undergraduate and Health Science Professional (<https://bulletin.marquette.edu/policies/grading-system/undergraduate-healthscienceprofessional/>)
- Graduation - Undergraduate (<https://bulletin.marquette.edu/policies/graduation/undergraduate/>)
- Immunization and Tuberculosis Screening Requirements (<https://bulletin.marquette.edu/policies/immunization-and-tuberculosis-screening/>)
- Last Date of Attendance/Activity (<https://bulletin.marquette.edu/policies/last-dateof-attendance-activity/>)
- Major and Minor Declaration - Undergraduate (<https://bulletin.marquette.edu/policies/major-declaration/>)
- Medical Withdrawal (<https://bulletin.marquette.edu/policies/medical-withdrawal/>)
- Military Call to Active Duty or Training (<https://bulletin.marquette.edu/policies/militarycall-active-duty-training/>)
- Non-Degree Undergraduate Students (<https://bulletin.marquette.edu/policies/non-degree-undergraduate-students/>)
- Readmission - Undergraduate (<https://bulletin.marquette.edu/policies/readmission/>)
- Registration - Undergraduate (<https://bulletin.marquette.edu/policies/registration/undergraduate/>)
- Repeated Courses - Undergraduate (<https://bulletin.marquette.edu/policies/repeated-courses/undergraduate/>)
- Second Language Course Placement - Undergraduate (<https://bulletin.marquette.edu/policies/second-language-course-placement-undergraduate/>)
- Second/Additional Bachelor Degree (<https://bulletin.marquette.edu/policies/second-additional-bachelor-degree/>)
- Student Data Use and Privacy (<https://bulletin.marquette.edu/policies/student-data-use-privacy/>)
- Study at Other Institutions - Undergraduate (<https://bulletin.marquette.edu/policies/study-institutions/>)
- Transcripts-Official (<https://bulletin.marquette.edu/policies/transcripts-official/>)
- Transfer (Internal) to Another Undergraduate College within the University (<https://bulletin.marquette.edu/policies/transfer-internal-another-undergraduate-college-within-university/>)
- Transfer Course Credit - Undergraduate (<https://bulletin.marquette.edu/policies/transfer-course-credit-policy/undergraduate/>)
- Withdrawal - Undergraduate (<https://bulletin.marquette.edu/policies/withdrawals/undergraduate/>)

College of Arts and Sciences Policies

- Absences from Final Examinations (<https://bulletin.marquette.edu/arts-sciences/policies/absences-final-examinations/>)
- Academic Dismissal/Probation/Academic Alert (CAA) (<https://bulletin.marquette.edu/arts-sciences/policies/dismissal-probation-alert/>)
- Academic Integrity (<https://bulletin.marquette.edu/arts-sciences/policies/academic-integrity/>)
- Advisers (<https://bulletin.marquette.edu/arts-sciences/policies/advisers/>)
- Attendance (<https://bulletin.marquette.edu/arts-sciences/policies/attendance/>)
- Credit Overload (<https://bulletin.marquette.edu/arts-sciences/policies/credit-overload/>)
- Degrees Offered (<https://bulletin.marquette.edu/arts-sciences/policies/degrees-offered/>)
- Elective Courses (<https://bulletin.marquette.edu/arts-sciences/policies/elective-courses/>)
- Grade Minimums (<https://bulletin.marquette.edu/arts-sciences/policies/grade-minimums/>)
- Independent Study Courses (<https://bulletin.marquette.edu/arts-sciences/policies/independent-study-courses/>)
- Interdisciplinary Programs (<https://bulletin.marquette.edu/arts-sciences/policies/interdisciplinary-programs/>)
- Majors and Minors (<https://bulletin.marquette.edu/arts-sciences/policies/majors-minors/>)
- Transfer Credit Policy (<https://bulletin.marquette.edu/arts-sciences/policies/transfer-credit-policy/>)