

# CGS CHEMISTRY (CGS CHE)

## CGS CHE 100 Chemical Science

4 cr.

Introductory course in general inorganic chemistry.

**Prerequisites:** Math Placement Level 30 or grade of C or better in CGS MAT 105, CGS MAT 108 or CGS MAT 116.

**Course Rules:** Designed to prepare students with little or no previous science training for success in CGS CHE 145/CGS CHE 155 or CGS CHE 125/CGS 204. Not open to students with credit in CGS CHE 112, CGS CHE 125, CGS CHE 145, CHEM 100 or CHEM 102.

**General Education Requirements:** NS

**Last Taught:** Summer 2023, Spring 2023.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

## CGS CHE 103 Survey of Biochemistry

5 cr.

A foundational course in the chemical makeup and metabolic processes of living organisms. Consists of lectures and laboratories and may also include discussions and demonstrations.

**Prerequisites:** grade of C- or better in CGS CHE 125 or C- or better in CGS CHE 145 with consent of instructor; or consent of instructor.

**Course Rules:** Previously CGS CHE 204. Together CGS CHE 125 and CGS CHE 204 constitute a year course with emphasis on organic and biological chemistry. CGS CHE 204 is equivalent to the combination of CGS CHE 203 and CGS CHE 211. A student may not earn more than four credits by taking CGS CHE 203/CGS CHE 211 and CGS CHE 204, or CGS CHE 204 and CGS CHE 250. A student may not earn more than three credits by taking CGS CHE 203 and CGS CHE 250.

**General Education Requirements:** NS+

**Last Taught:** Spring 2023, Spring 2022.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

## CGS CHE 112 Foundations of Chemistry

2 cr.

Designed to prepare students with limited science backgrounds for success in CGS CHE 125, the CGS CHE 145/ CGS CHE 155 sequence, or CGS CHE 165. Through lectures and discussions, this course emphasizes fundamental chemical concepts, chemical nomenclature and problem-solving skills.

**Prerequisites:** none.

**Last Taught:** Fall 2022.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

## CGS CHE 123 Chemistry and Society

3 cr.

A course for non-science majors that covers basic chemistry concepts in a social context. May include explorations of how chemistry impacts the environment, public health, energy policies, and other contemporary social issues. Consists of lectures and may also include discussions and demonstrations.

**Prerequisites:** None.

**Course Rules:** Not a suitable prerequisite for higher-level chemistry courses or pre-professional programs. A student may not earn more than four credits by taking CHE 121, CHE 123 and CHE 124.

**General Education Requirements:** NS

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

## CGS CHE 124 Applied Chemistry and Society

4 cr.

A course for non-science majors that covers basic chemistry concepts in a social context. May include explorations of how chemistry impacts the environment, public health, energy policies, and other contemporary social issues. Consists of lectures and laboratories and may also include discussions and demonstrations.

**Prerequisites:** none.

**Course Rules:** Not a suitable prerequisite for higher-level Chemistry courses or pre-professional programs. A student may not earn more than four credits by taking CGS CHE 121, CGS CHE 123 and CGS CHE 124.

**General Education Requirements:** NS+

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

## CGS CHE 124X Applied Chemistry and Society

4 cr.

A course for non-science majors that covers basic chemistry concepts in a social context. May include explorations of how chemistry impacts the environment, public health, energy policies, and other contemporary social issues. Consists of lectures and laboratories and may also include discussions and demonstrations.

**Prerequisites:** none.

**Course Rules:** Not a suitable prerequisite for higher-level Chemistry courses or pre-professional programs. A student may not earn more than four credits by taking CGS CHE 121, CGS CHE 123 and CGS CHE 124.

**General Education Requirements:** NS+

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

## CGS CHE 125 Introductory Chemistry

5 cr.

General chemistry with an emphasis on organic chemistry. Designed for students in nursing and related fields.

**Prerequisites:** One year of high school chemistry, CGS CHE 112(P), CGS CHE 100(P), or another preparatory chemistry course and Math Placement Level 30, or grade of C or better in CGS MAT 105(P), CGS MAT 108(P), or CGS MAT 116(P).

**Course Rules:** Students may not count both CGS CHE 125 and CGS CHE 145 toward the natural science or laboratory science requirement for the associate degree. Does not serve as a prerequisite for CGS CHE 155.

**General Education Requirements:** NS+

**Last Taught:** Fall 2022, Summer 2022.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

## CGS CHE 145 General Chemistry I

5 cr.

For students whose programs require a year of college chemistry or who plan to take advanced courses in chemistry.

**Prerequisites:** Demonstrated competency at MAT 105 level or concurrent MAT 105 enrollment or cons. instr. One year of recent high school chemistry, CHE 112, or another preparatory chemistry course is recommended, but not required.

**Course Rules:** Students may not count both CHE 125 and CHE 145 toward the Natural Sciences or Laboratory Science degree designation requirement for the Associate of Arts and Science degree.

**General Education Requirements:** NS+

**Last Taught:** Fall 2022, Summer 2022.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 155 General Chemistry II**

5 cr.

The second semester of a one-year course in college chemistry. Consists of lectures, discussions, and laboratories.

**Prerequisites:** a grade of C- or better in CGS CHE 145(P) or consent of instructor.

**Course Rules:** For students whose programs require a year of college chemistry or who plan to take further courses in chemistry.

**General Education Requirements:** NS+

**Last Taught:** Spring 2023, Summer 2022.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 165 Chemistry for Engineers**

5 cr.

A one-semester chemistry course for engineering students. Topics include measurements, atomic theory, stoichiometry, molecular structure, thermochemistry, electrochemistry, solid state, material science, and organic chemistry.

**Prerequisites:** Grade of C- or better in CHE 112 or CHE 125 or grade of B or higher in high school chemistry and a grade of C or better in MAT 110 or MAT 124 or placement into MAT 221 based on placement test score, or cons. instr. Not a suitable substitute for the CHE 145/155 prerequisite for organic chemistry.

**General Education Requirements:** NS+

**Last Taught:** Spring 2023.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 203 Survey of Biochemistry**

3 cr.

A foundational course in the chemical makeup and metabolic processes of living organisms. Consists of lectures and may also include discussions and demonstrations.

**Prerequisites:** A grade of C- or better in CGS CHE 125 or C- or better in CGS CHE 145 with cons. instr. or cons. instr.

**Course Rules:** Together CGS CHE 125 and CGS CHE 203 constitute a year course with emphasis on organic and biological chemistry. A student may not earn more than four credits by taking CGS CHE 203/211 and CGS CHE 204, or CGS CHE 204 and CGS CHE 250. A student may not earn more than three credits by taking CGS CHE 203 and CGS CHE 250.

**General Education Requirements:** NS

**Last Taught:** Summer 2020, Spring 2020.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 214 Physiological Chemistry**

3 cr.

Lectures and demonstrations on elementary aspects of organic and physiological chemistry. Covers topics typical of a biochemistry course such as biological molecules, metabolism, nutrition, protein function, and molecular biology. For students interested in physical therapy who have not had CGS CHE 343 or CGS CHE 363.

**Prerequisites:** A grade of C- or better in CGS CHE 125 or C- or better in CGS CHE 145 with cons. instr. or cons. instr.

**General Education Requirements:** NS

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 250 Review and Updates in Chemistry and Biochemistry**

3 cr.

This course was designed specifically for the nursing consortium and is to be taken primarily by RNs already accepted into their BSN degree completion program.

**Prerequisites:** none.

**Course Rules:** This course is not a substitute for the CGS CHE 125/CGS CHE 203 sequence required of students at the beginning of their academic careers, even if planning to enter the nursing profession. CGS CHE 250 begins with a review of relevant topics in chemistry, both general and organic, and then covers topics typical of a biochemistry course such as biological molecules, metabolism, nutrition, protein function, and molecular biology. A student may not earn more than four credits by taking CGS CHE 203/CGS CHE 211 and CGS CHE 204, or CGS CHE 204/CGS CHE 250. A student may not earn more than three credits by taking CGS CHE 203/CGS CHE 250.

**General Education Requirements:** NS

**Last Taught:** Spring 2020.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 299 Independent Study in Chemistry**

1-3 cr.

Independent study in Chemistry.

**Prerequisites:** consent of instructor.

**General Education Requirements:** NS

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 343 Organic Chemistry I**

3 cr.

The first semester of a year course in organic chemistry. Consists of lectures and may also include discussions and demonstrations.

**Prerequisites:** a grade of C- or better in CGS CHE 155 or cons. instr.

**General Education Requirements:** NS

**Last Taught:** Fall 2022, Fall 2021.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 351 Organic Chemistry Laboratory Part I**

1 cr.

Three to four hours of laboratory per week. The first semester of a year course in organic chemistry laboratory.

**Prerequisites:** CGS CHE 343 or concurrent enrollment.

**Course Rules:** A student may not earn more than 2 credits by taking CGS CHE 351, CGS CHE 352 and CGS CHE 361.

**General Education Requirements:** NS

**Last Taught:** Fall 2021, Fall 2020.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 352 Organic Chemistry Laboratory**

2 cr.

Basic laboratory techniques for organic chemistry including commonly used synthetic methods, purification and characterization of reaction products. Six to eight hours of laboratory per week.

**Prerequisites:** A grade of C- or better in CHE 343 or cons. instr.

**Course Rules:** CHE 352 is equivalent to the combination of CHE 351 and CHE 361. A student may not earn more than two credits by taking CHE 351, CHE 352 and CHE 361. Recommended: A grade of C- or better in CHE 363 or concurrent registration.

**General Education Requirements:** NS+

**Last Taught:** Summer 2022, UWinterIM 2022.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 361 Organic Chemistry Laboratory Part II**

1 cr.

Three to four hours of laboratory per week; second semester of a year course in organic chemistry laboratory.

**Prerequisites:** A grade of C- or better in CGS CHE 351 or consent of instructor.

**Course Rules:** A student may not earn more than two credits by taking CGS CHE 351, CGS CHE 352 and CGS CHE 361.

**General Education Requirements:** NS+

**Last Taught:** Spring 2022, Spring 2020.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>

**CGS CHE 363 Organic Chemistry II**

3 cr. Undergraduate.

Continuation of Organic Chemistry I. Consists of lectures and may also include discussions and demonstrations.

**Prerequisites:** A grade of C- or better in CHE 343 or cons. instr. NS; if combined with CHE 361 or CHE 352, also LS

**General Education Requirements:** NS

**Last Taught:** Spring 2022, Spring 2020.

**Current Offerings:** <https://catalog.uwm.edu/course-search/>