Chemistry Department Course Flowchart

Note: Nature of Chemistry (10-806-102) may substitute for General Chemistry (10-806-134).

LEGEND
Course Name
Course Number (credits)
Prerequisites (PR): All PR courses require a grade of C or better.

Liberal Arts Transfer

Liberal Arts Chemistry
20-806-200 (5)
PR: Compass reading score 75+; Recommended: 1 yr high school algebra

Organic Chemistry 1
20-806-213 (5)
PR: 20-806-212

Organic Chemistry 2
20-806-214 (5)
PR: 20-806-213

College Chemistry 1
20-806-209 (5)
PR: Inter. Algebra (20-804-201) or 66+ on algebra Compass; Gen Chem (10-806-134) or 1 year high school chemistry

College Chemistry 2
20-806-212 (5)
PR: College Chem 1 (20-806-209); Inter. Algebra (20-804-201)

Survey of Biochemistry
20-806-265 (4)
PR: 20-806-201 or 20-806-209

General, Organic, Biological Chemistry
20-806-201 (5)
PR: 10-804-110 or 10-804-107 or Compass algebra score 30+; Compass reading score 75+; Gen Chem (10-806-134) or 1 year high school chemistry

Nursing (BSN)
Dental Hygiene
Clinical Lab Tech
Biotech

General Chemistry
10-806-134 (4)
PR: 10-804-110 or 10-804-107 or Compass algebra score 30+; 10-808-101 or 20-801-201 or 10-801-195 or Compass reading score 75+

BSN

Survey of Biochemistry

Other Programs

Life Science Chem.
10-806-178 (5)
PR: Gen Chem (10-806-134) or 1 year high school chemistry; Compass algebra score 30+

Veterinary Tech

updated 11/19/2010 KDC
10-806-134  General Chemistry
This course covers the fundamentals of chemistry. Topics include: the metric system; problem solving; periodic relationships; chemical reactions; chemical equilibrium; acids bases and salts; and gas laws. Prerequisite: Elementary Algebra w Apps (10-804-110) or College Mathematics (10-804-107) with a C or better or an algebra COMPASS score of 30+; College Reading Strategies (10-808-101) or English 1 (20-801-201) or Written Communications (10-801-195) or 75+ on COMPASS reading. Transfers as a Chemistry Elective to UW-Madison.

10-806-178  Life Science Chemistry
Covers a wide range of topics including inorganic and organic. Topics included during the inorganic portion of the course included measurements and conversions, matter and the kinetic molecular theory, periodic table, chemical bonding, chemical reactions, solubility, gases, problem solving and solutions, equilibrium and acid-base behavior. The organic chemistry portion introduces chemical structure as well as physical and chemical behavior of organic molecules. Many of these topics are related to the field of animal science. Basic laboratory skills and techniques are emphasized. Prerequisite: A COMPASS score of Algebra 30+ AND General Chemistry, 10-806-134 or Nature of Chemistry, 10-806-102 or one year of high school chemistry with a "C" or better within the last five years.

20-806-200  Liberal Arts Chemistry
This course is designed for non-science majors seeking a one-semester chemistry course to fulfill the college-level lab science requirement. It consists of four hours of lecture, a two-hour laboratory and a one-hour quiz section each week. Emphasis on application of chemical concepts to phenomenon observed in everyday life, technology, and related social issues. Includes discussion of measurement, classifying matter, physical and chemical changes, chemical symbols, writing equations, atomic structure, nuclear changes, periodicity, states of matter, chemical bonding, the mole, solutions, acids and bases, redox reactions, fossil fuels and the history and methodology of chemistry. This course is not acceptable as a replacement for General Chemistry, 10-806-134, or College Chemistry, 20-806-209. Prerequisite: 75+ on Compass reading. Recommended: One year of high school algebra with a C or better. Transfers as Chem 108 to UW-Madison.

20-806-201  General, Organic and Biological Chemistry
This course covers a broad range of topics suitable for many allied-health fields. Topics covered during the general chemistry portion of the course include measurement, problem solving, periodic table, chemical reactions, radioactivity, gases, solutions and acid-base behaviors. The organic chemistry portion introduces the structure and chemical behavior of major types of organic molecules. Also introduces the structure and function of major biological molecules such as carbohydrates, lipids and proteins. Although suitable for many programs, this course will generally not substitute for College Chemistry 1 if a program specifically requires that course or its equivalent. Prerequisites: Elementary Algebra w. Apps (10-804-110) or College Mathematics (10-804-107) with a C or better or a score of 30+ on the algebra component of COMPASS and General Chemistry (10-806-134) or Nature of Chemistry (10-806-102) with a C or better or one year of high school chemistry with a C or better; a Compass reading score of 75+. Transfers as Chem 108 to UW-Madison.

20-806-209  College Chemistry 1
The first semester of a two-semester sequence in college chemistry that includes the topics of measurement, chemical nomenclature, chemical reactions and stoichiometry, atomic structure, gas laws, thermochmistry, chemical bonding and solution chemistry. This course is for students who need one or two semesters of what is typically considered freshman college chemistry. Laboratory work assists in understanding chemical concepts and developing problem-solving skills. Students may complete the year of college chemistry with 20-806-212. Prerequisites: Intermediate Algebra (20-804-201) including exponentials and logarithms, or a score of 66+ on the algebra component of COMPASS and General Chemistry (10-806-134) with a C or better or one year of high school chemistry with a C or better. Transfers as Chem 103 to UW-Madison.

20-806-212  College Chemistry 2
College Chemistry 2 is a continuation of 20-806-209. This course covers the principles and applications of organic chemistry, reaction kinetics, equilibrium, thermodynamics, electrochemistry, coordination compounds, nuclear chemistry, and environmental chemistry. Lab activities explore traditional analytical chemistry techniques, making extensive use of computer-assisted data analysis. This course involves rigorous quantitative problem solving, and a solid mathematics background is recommended. Prerequisites: College Chemistry 1 (20-806-209) and Intermediate Algebra (20-804-201) or its equivalent, including exponentials and logarithms, both with a C or better. Transfers as Chem 104 to UW-Madison.

20-806-213  Organic Chemistry 1
Organic Chemistry 1 is the first semester of a two-semester organic chemistry sequence. It includes the electronic structure and bonding of atoms and molecules; stereochemistry; acids and bases; oxidation and reduction; the nomenclature, reactions, and properties of the following classes of compounds - alkanes, alkenes, alkynes, alkyl halides, alcohols, ethers, and epoxides. Also included are the theory and interpretation of IR spectrophotometry and mass spectrometry. This course includes a three-hour per week laboratory component as well as four hours per week lecture/discussion. Prerequisite: College Chemistry 2 (20-806-212) or equivalent with a C or better. Transfers as Chem 343 and Chem 344 to UW-Madison.

20-806-214  Organic Chemistry 2
Organic Chemistry 2 is a continuation of Organic Chemistry 1. It includes the theory and interpretation of NMR and UV-VIS spectrophotometry, the nomenclature, mechanisms, reactions and properties of alkanes, aromatic, aldehydes, ketones, enols/enolates, carboxylic acids, carboxylic acid derivatives, amines, aryl halides, and phenols. It includes a three-hour per week laboratory component as well as four hours per week lecture/discussion. Prerequisite: Organic Chemistry 1 (20-806-213) or equivalent with a grade C or better. Transfers as Chem 345 to UW-Madison.

20-806-265  Survey of Biochemistry
Survey of Biochemistry is a one-semester survey of basic biochemistry, especially appropriate for nursing students. It discusses the structures and functions of amino acids, proteins, carbohydrates, lipids and nucleic acids. Other topics include acid-base properties, buffers, enzyme function, membrane structure and transport, bioenergetics, hormones, metabolism, nutrition, the synthesis of nucleic acids, the regulation of gene expression and protein synthesis. Prerequisite: General, Organic, Biological Chemistry (20-806-201) or College Chemistry 1 (20-806-209) or equivalent with a C or better. Transfers as Biochem 201 to UW-Madison.

(Edited Nov. 2010)