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| **威斯康星大学（University of Wisconsin–Madison）** | [返回](http://59.72.66.9/services/wjzx/ktyj/mgdx.html) |

For students needing 2 or more semesters of chemistry, **Chem 103-104** is usually the sequence chosen. If you plan to major in a chemistry, biochemistry or related science, premed, or chemical engineering and have had one or more years of high school chemistry and place into Math 327 or higher, or are in the Honors Program you should consider **Chem 109-329** or **Chem 115-116** . Students who need only ONE semester of chemistry or using chemistry solely as a science requirement may choose to take **Chem 108** .   
学生需2或更多学期化学课，选103-104。如果计划选专业为化学、生物化学及相关学科、医学院、化工，考虑109-329，或115-116。   
**课程描述（Course Descriptions）**  
**103 General Chemistry**. I, II, SS; 4 cr (P-E). Introduction. Stoichiometry and the mole concept, the behavior of gases, liquids and solids, thermochemistry, electronic structure of atoms and chemical bonding, descriptive chemistry of selected elements and compounds, chemical equilibrium. For students taking one year or more of college chemistry; serves as a prereq for Chem 104; lecture, lab and discussion. P: Placement above Math 112 or completion of Math 112 or equiv & 1 yr HS chem recommended. Open to Fr. From Chem 103, 108, & 109 only 4-5 cr for degree credit.   
  
**104 General Chemistry and Qualitative Analysis**. I, II, SS; 5 cr (P-E). Principles and application of chemical equilibrium, coordination chemistry, oxidation-reduction and electrochemistry, kinetics, nuclear chemistry, introduction to organic chemistry. Lecture, lab, and discussion. P: Chem 103 & placement above Math 112 or completion of Math 112 or equiv. Open to Fr. Not for credit for those who have taken Chem 109 or 115.   
  
**108 General Chemistry**. I, II; 5 cr (P-E). Introduction to chemistry. A one-semester survey of inorganic and organic chemistry. Emphasis is on relevance to biological and social issues. Not intended for students who expect to take additional chemistry courses. P: Open only to those taking only 1 sem of chem, no HS chem req, 1 yr HS chem is permitted. Open to Fr. Only 4-5 crs from Chem 103, 108, & 109 will be accepted for degree cr.   
  
**109 General and Analytical Chemistry I**. I; 5 cr (r-P-E). A modern introduction to chemical principles that draws on current research themes. For students with good chemistry and math background preparation who desire a one-semester coverage of general chemistry. Recommended for students intending majors in chemistry or allied fields. Lecture, lab, and discussion. P: 1 yr HS chem, 3 yr HS math; suitable math placement score. Open to Fr. Only 4-5 credits from Chem 103, 108, & 109 will be accepted for degree credit.   
  
**115 Chemical Principles I**. I; 5 cr (r-P-E). For specially well qualified students majoring in chemistry or chemical engineering. Lecture, lab, and quiz. P: Adv placement or adv HS chem, cr or con reg in Math 221 or cons inst. Open to Fr.   
  
**116 Chemical Principles II**. II; 5 cr (P-I). Continuation of Chemistry 115. Chemistry 115 and 116 satisfy the requirements for general chemistry and introductory analytical chemistry; lecture, lab, and discussion. P: Chem 115 or cons inst. Open to Fr.