

# CHE

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## Courses

### **CHE 100 Basic Chemistry**

**6 Credits. 5 Lecture Hours. 3 Lab Hours.**

An introductory chemistry course including math applications used in science. Topics include: dimensional analysis, writing and manipulating formulas, metric system conversions, the periodic table, stoichiometry, solutions, acids and bases, buffers, and equilibrium.

Prerequisites: AFL 085 and AFM 095 or appropriate placement test score

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=100subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=100subject_code=CHE))

### **CHE 110 Fundamentals of Chemistry**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A college-level general chemistry course for non-majors. Topics include: atomic structure, bonding, chemical reactions, properties and states of matter, acids and bases, and equilibrium.

Prerequisites: AFL 085 and AFM 095 (minimum grade B) or MAT 120 (minimum grade C) or CHE 100 (minimum grade C) or appropriate placement test score

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=110subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=110subject_code=CHE))

### **CHE 111 Bio-Organic Chemistry**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

Study of foundational concepts of organic chemistry and biochemistry. Topics include: types of organic compounds and representative reactions, and biochemical compounds and reactions.

Prerequisites: CHE 110 (minimum grade C) or CHE 121 and CHE 131 (minimum grade C)

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=111subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=111subject_code=CHE))

### **CHE 115 General, Organic, and Biological Chemistry**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A survey of basic general, organic, and biological chemistry. Topics include: dimensional analysis, problem-solving strategies, atomic structure, chemical bonding, reactions, acid-base chemistry, attractive forces, functional groups, structure/reactions of major macromolecules, and metabolism.

Prerequisites: AFM 095 (minimum grade B) and AFL 085 (minimum grade C), or appropriate placement test scores

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=115subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=115subject_code=CHE))

### **CHE 121 General Chemistry 1**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A general chemistry course for science majors. Topics include: measurement systems; composition, properties, and reactions of elements and compounds; states of matter; atomic structure and bonding; and solution chemistry.

Prerequisites: AFL 085 and High School Chemistry (within three years, minimum grade B) or CHE 100 (minimum grade B) or CHE 110 (minimum grade C) and MAT 121 or MAT 151 (minimum grade C for both), or appropriate placement test score

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=121subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=121subject_code=CHE))

### **CHE 122 General Chemistry 2**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of CHE 121. Topics include: kinetics, chemical equilibrium, acid-base chemistry, acid-base and solubility equilibrium, thermodynamics, electrochemistry, and chemistry of transition elements.

Prerequisites: CHE 121 and CHE 131 (minimum grade C for both) and MAT 125 or MAT 151 or MAT 153 (minimum grade C for all)

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=122subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=122subject_code=CHE))

### **CHE 131 General Chemistry 1 Lab**

**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies CHE 121.

Prerequisites: CHE 100 or CHE 110 (minimum grade C) and MAT 150 or appropriate placement test score

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=131subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=131subject_code=CHE))

### **CHE 132 General Chemistry 2 Lab**

**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies CHE 122.

Prerequisites: CHE 121 and CHE 131 (minimum grade C for both)

View Sections ([http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course\\_number=132subject\\_code=CHE](http://webapps.cincinnati-state.edu/wwwTools/MCL/default.aspx?course_number=132subject_code=CHE))

**CHE 198 First Year Special Topics in Chemistry****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Chemistry, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=198subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=CHE))

**CHE 199 First Year Independent Project in Chemistry****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Chemistry that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Chemistry faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=199subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=CHE))

**CHE 201 Organic Chemistry 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An organic chemistry course for students preparing for science-related employment or additional science education. Topics include: principles of carbon chemistry including bonding, structure, mechanisms, properties, reactions, synthesis, acids, and bases.

Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=201subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=201subject_code=CHE))

**CHE 202 Organic Chemistry 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of CHE 201. Topics include: mass spectrometry; infrared, ultraviolet/visible, and NMR spectroscopies; aromaticity; chemistry of benzene, carboxylic acids, amines, aldehydes, and ketones; and oxidation and reduction.

Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=202subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=202subject_code=CHE))

**CHE 211 Organic Chemistry 1 Lab****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A laboratory course that accompanies CHE 201. Laboratory experiences include: general organic laboratory techniques; isolation, purification, and identification of organic compounds; simple synthesis; and determination of unknowns.

Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=211subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=211subject_code=CHE))

**CHE 212 Organic Chemistry 2 Lab****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A laboratory course that accompanies CHE 202. Laboratory experiences include: simple, complex, and multistep synthesis; and isolation, purification, analysis, and identification of organic compounds.

Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=212subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=212subject_code=CHE))

**CHE 298 Second Year Special Topics in Chemistry****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Chemistry, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=298subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=298subject_code=CHE))

**CHE 299 Second Year Independent Project in Chemistry****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Chemistry that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Chemistry faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

View Sections ([http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course\\_number=299subject\\_code=CHE](http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=299subject_code=CHE))