Pre-Pharmacy - Science with Chemistry Concentration Program

Associate in Science

Minimum of Minimum of 61-64 Credits credit hours

As a pharmacist, it will be your job not only to dispense drugs prescribed by doctors to your customers, but also to advise doctors on dosages and the effects of medication. Today, pharmacists are also becoming more involved in counseling patients and planning drug therapy programs. The pharmaceutical business is booming, with researchers discovering new drugs for a variety of ailments every day. At Oklahoma City Community College, you can earn an associate degree in chemistry with a pre-pharmacy option. Then, you’ll be ready to transfer to a four-year college or university to complete any additional prerequisites before applying to a college of pharmacy.

Course Sequence

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<th>Course ID</th>
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Course Grouping

Major Courses: (15 credit hours) CHEM 1215 (C); CHEM 2114 (C); CHEM 2122 (C); CHEM 2124 (C)
General Education Courses: (40 credit hours) English: ENGL 1113; ENGL 1213; History: HIST 1483 or HIST 1493; Political Science: POLSC 1113; Chemistry: CHEM 1115 (C); Physics: PHYS 1114; Biological Science: BIO 1124; Humanities: Six credit hours; Social Sciences: PSY 1113; Mathematics: MATH 1513(C); MATH 1743
Life Skills Courses: (1 credit hour) Life Skills: SCL 1001
Support Courses: (5-8 credit hours) One or two Faculty Advisor Approved Support Electives chosen from BIO, ECON, or PHYS
(C) A grade of "C" or higher must be achieved.

Program Notes

Notes: This program is designed for students planning to continue their education at a four-year college or university. See the front general section for information and requirements about University Parallel/Transfer Programs.
(C) Indicates a grade of "C" or higher must be achieved.
** BIO 2125- Microbiology is a prerequisite for admission to the College of Pharmacy at the University of Oklahoma Health Science Center.
BIO 1124 - GENERAL BIOLOGY I  
(Majors)  
Prerequisites: ENGL 0203 or adequate placement score or by meeting determined placement measures; MATH 0403 or adequate math placement test score.  
4 Credits  
This course is the first of a two-semester sequence of organic chemistry for science and chemical engineering majors as well as students seeking to enter the fields of medicine, dentistry, pharmacy, and veterinary medicine. Students will master the fundamental concepts of structure, functional groups, and reactions of aliphatic compounds along with selected reaction mechanisms.

4 Credits  
This is the second of a two-semester sequence of organic chemistry for science and chemical engineering majors as well as students seeking to enter the fields of medicine, dentistry, pharmacy, and veterinary medicine. Students will master the concepts of structural theory, reactions, and reaction mechanisms of the principal functional groups of organic compounds which were not included in the first course.

CHEM 2115 - GENERAL CHEMISTRY II  
Prerequisites: CHEM 1115 with a grade of “C” or better; MATH 1513 or MATH 1533 with a grade of “C” or better.  
5 Credits  
This course is a continuation of CHEM 1115 with emphasis on thermochemistry, intermolecular forces, properties of solutions, acid/base properties, kinetics, equilibrium, thermodynamics, electrochemistry, and organic chemistry. Laboratory is an integral part of the course.

CHEM 2114 - ORGANIC CHEMISTRY I  
Prerequisites: CHEM 1215 with a grade of “C” or better.

CHEM 2122 - ORGANIC CHEMISTRY LABORATORY  
Prerequisites: CHEM 2124 with a grade of “C” or better.  
2 Credits  
This laboratory course is intended for science and chemical engineering majors as well as students seeking to enter the fields of medicine, dentistry, pharmacy, and veterinary medicine. Students will master common laboratory techniques used to synthesize, separate, purify, and characterize organic compounds.

CHEM 2124 - ORGANIC CHEMISTRY II  
Prerequisites: CHEM 2114 with a grade of “C” or better.  
4 Credits  
This course is the second of a two-semester sequence of organic chemistry for science and chemical engineering majors as well as students seeking to enter the fields of medicine, dentistry, pharmacy, and veterinary medicine. Students will master the concepts of structural theory, reactions, and reaction mechanisms of the principal functional groups of organic compounds which were not included in the first course.

ENGLISH COMPOSITION I  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures  
3 Credits  
The student will write well-developed compositions which demonstrate the principles of unity, coherence, and organization and which contain specific details and vivid language. The students will locate library material and incorporate researched materials into compositions.

ENGLISH COMPOSITION II  
Prerequisites: ENGL 1103 or ENGL 1113 taken within the last year, with strong encouragement for immediate continuation.  
3 Credits  
In this advanced writing course, students will write essays that explore and evaluate a variety of issues and perspectives suggested by fiction, poetry, drama, essays, and other types of cultural texts. Students will refine and augment the writing techniques they learned in ENGL 1113 or ENGL 1103 to develop well-reasoned, well-structured arguments in a clear, fluid, and engaging prose style.

FA SUPPORT - FACULTY APPROVED SUPPORT ELECTIVES  
Prerequisites:  
3 Credits  
Faculty approved support electives

HIST 1493 - U.S. HISTORY SINCE THE CIVIL WAR  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures  
3 Credits  
After analyzing events in American history from 1400 to 1870 in such areas as revolution, geographic and social mobility, political reform, government precedents and war, the student will be able to identify patterns of present day mobility, describe governmental operations in his society and help resolve conflict in society based on the students search for change, precedents, and conflict in the American past.

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HUM - HUMANITIES ELECTIVE  
Prerequisites:  
3 Credits  
Humanities elective

MATH 1513 - COLLEGE ALGEBRA FOR BUSINESS, LIFE SCIENCES AND SOCIAL SCIENCES  
Prerequisites: MATH 0403 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures  
3 Credits  
The student will demonstrate an understanding of the general concepts of relation and function and specifically of polynomial, exponential, and logarithmic functions; the ability to solve systems of equations by utilizing matrices and determinants; and the ability to solve practical problems using algebra.

MATH 1743 - CALCULUS I FOR BUSINESS, LIFE SCIENCES, AND SOCIAL SCIENCES
Prerequisites: MATH 1513 or adequate math placement test score.
3 Credits This is the first of a two-semester sequence in elementary calculus in which students use the concepts of differential and integral calculus to solve theoretical and applied problems in business, life sciences, and social sciences.

PHYS 1114 - COLLEGE PHYSICS I
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures and MATH 1513 or higher or APPM 1223, within the last two years or by evaluation. § Criteria for evaluation is in division office.
4 Credits Students will demonstrate their understanding of useful concepts of kinematics and dynamics, energy and momentum, waves and sound, fluids and thermodynamics by (1) developing numerical and graphical descriptions of physical phenomena, (2) numerically predicting the results of physical occurrences, and (3) applying laboratory skills to analyze real situations. Numerical computations will utilize algebra and basic trigonometry where appropriate.

POLSC 1113 - AMERICAN FEDERAL GOVERNMENT
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits A study of the principles, structure, processes and functions of the United States federal government.

PSY 1113 - INTRODUCTION TO PSYCHOLOGY
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits A survey of the major areas of study in psychology such as motivation, learning, physiology, personality, social psychology, abnormal behavior, perception, memory, cognition/thought, and treatment.

SCL 1001 - SUCCESS IN COLLEGE AND LIFE
Prerequisites: ENGL 0106 or adequate reading/writing assessment scores
1 Credit Students will learn best practices for academic, career, and personal success. Students will discover their individual strengths, interests, and values to create a personalized plan; select and utilize resources that are applicable to their growth and success; and engage as active and responsible members of the academic community. This course should be taken during a student's first semester of college work at Oklahoma City Community College and is a required course in degree plans to satisfy the Life Skills requirement.