# ARRUPE CHEMISTRY (ACCHM)

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**ACCHM 100 Introductory Chemistry (3 Credit Hours)**
A course emphasizing the general principles and theories of chemistry, including fundamentals of inorganic chemistry, atomic structure and states of matter, bonding, stoichiometry, acid-base concepts, periodicity and solution chemistry.
*Outcomes:*
Understand the structure of matter and the chemical changes it undergoes, and predict those changes based on the periodic nature of the elements; Solve problems using chemical calculations concerning mass or concentration; Describe strong and weak acids and bases, and carry out related calculations; Develop the academic skills needed for future science courses including problem-solving, taking and reviewing notes, and multiple choice exams

**ACCHM 101 General Chemistry I (3 Credit Hours)**
*Pre-requisites:* ACMAT 117 (C- or higher); Corequisite: ACCHM 111
This course focuses on building a conceptual understanding of fundamental chemical principles. Topics include the periodic table of the elements, atomic structure, nuclear chemistry, basic concepts of quantum theory, bonding, stoichiometry of compounds and reactions, thermochemistry, solutions, acids and bases, and the gaseous state.
*Course equivalencies:* ACCHM / CHEM 101
*Outcomes:*
Build conceptual understanding of fundamental chemical principles

**ACCHM 102 General Chemistry II (3 Credit Hours)**
*Pre-requisites:* ACCHM 101 and ACMAT 118; Corequisite of ACCHM 112
Topics include the basic concepts of the liquid and solid states, solutions, reaction kinetics, equilibria, acid-base equilibria, solubility equilibria, reaction thermodynamics, and electrochemistry.
*Course equivalencies:* ACCHM / CHEM 102
*Outcomes:*
Continue building on conceptual understanding of fundamental chemical principles

**ACCHM 111 General Chemistry Lab I (1 Credit Hour)**
*Co-requisites:* ACCHM 101
This laboratory course translates theory and topics covered in the lecture (ACCHM 101) to application. Students will be introduced to basic chemical laboratory skills and techniques. Topics include lab safety, measurements and calculations, basic statistics, pH and titration, calorimetry, spectrophotometry, and a variety of chemical reactions.
*Course equivalencies:* ACCHM / CHEM 111
*Outcomes:*
Students will be able to apply proper lab safety and proper procedures for handling and disposal of chemicals, demonstrate proper manipulation of common equipment, as well as use and understand selected instrumentation

**ACCHM 112 General Chemistry Lab II (1 Credit Hour)**
*Co-requisites:* ACCHM 102
The second semester of general chemistry laboratory exposes students to qualitative analysis and continues the process of experimenting and collecting data to test the validity of theories and models presented in lecture, including the liquid and solid states, solutions, equilibrium, acid-base equilibria, solubility equilibria, kinetics, thermodynamics, and electrochemistry.
*Course equivalencies:* ACCHM / CHEM 112
*Outcomes:*
Formulate or evaluate hypotheses, plan and conduct experiments, make systematic observations, interpret and analyze data, draw conclusions, and communicate results