Chemistry

Suggested Course of Study for University Transfer Students (66-69 Credit Hours)

Freshman Year	Sophomore Year
CHEM 1411 CHEM 1412 ENGL 1301 ENGL 1302 HIST 1301 HIST 1302 (MATH 1314)* PHED 1134 PHED Activity (1 Credit Hour) Social/Behavioral Science (3 Credit Hours) SPCH 1315 or 1321	CHEM 2423 CHEM 2425 (MATH 1316)* MATH 2413, 2414 or 2415 PHYS 1401 PHYS 1402 Visual/Fine Arts (3 Credit Hours) Humanities (3 Credit Hours)

*Students with two years of high school algebra and trigonometry may start with MATH 2413. **Note:** Completion of the Field of Study may require an additional term(s). These courses may be required by some universities: COSC 1401, MATH 2414, CHEM 2423, and CHEM 2425.

CHEM 1405 Introductory Chemistry I (40.0501.51 03) 4.3.4
Survey course introducing chemistry. General principles, problems, fundamental laws and theories. Topics may include inorganic, organic and environmental and consumer chemistry. Designed for non-science students. (Does not fulfill core curriculum lab science). Lab. Fee charged.

CHEM 1406 Introductory Chemistry I (40.0501.51 03) 4.3.4
Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry and food/physiological chemistry. Designed for non-science and allied health students. Allied health emphasized. (Does not fulfill core curriculum lab science). Lab. Fee charged.

CHEM 1407 Introductory Chemistry II (40.0501.51 03) 4.3.4
A continuation of CHEM 1405. Topics may include organic chemistry, environmental chemistry, biochemistry and food chemistry. (Does not fulfill core curriculum lab science). Lab. Fee charged.

CHEM 1411 General Chemistry (Inorganic) (40.0501.52 03) 4.3.4
Designed for students who plan to major or minor in science, engineering, mathematics, medicine or medical science. Fundamental laws and theories of chemistry used to systematize descriptive chemistry. Atomic structure and bonding, symbols, formulas and equations; states of matter, acid, base theory

and equilibrium. In the laboratory analytical experiments involving quantitative gravimetric and volumetric experiments are provided. Fee charged. Prerequisite: concurrent enrollment in MATH 1314. Core Curriculum satisfied for Natural Lab Sciences.

CHEM 1412 General Chemistry (Inorganic) (40.0501.52 03) **4.3.4**
A continuation of CHEM 1411. Reaction rates, elementary thermodynamics, solution and solution equilibria, electrochemistry, chemistry of the representative elements and nuclear chemistry. The laboratory is a continuation with emphasis on optical and electrical measurements of quantitative experiments; in this term use is also made of a system of qualitative analysis. Fee charged. Prerequisite: CHEM 1411. Core Curriculum satisfied for Natural Lab Sciences.

CHEM 2423 Organic Chemistry (40.0504.52 03) **4.3.4**
Present-day theories and principles of organic chemistry. An integrated introductory course stressing nomenclature of the main classes of compounds; the determination of structure, stereochemistry, resonance and molecular orbital method of chemical bonding; reaction mechanisms and techniques or organic synthesis. Fee charged. Prerequisite: CHEM 1412 or 1407 with consent of instructor. Core Curriculum satisfied for Natural Lab Sciences.

CHEM 2425 Organic Chemistry (40.0504.52 03) **4.3.4**
Continuation of CHEM 2423. Emphasis on reaction mechanisms, carbohydrates, fats, amino acids, heterocyclic, alkaloids and natural products. The laboratory emphasis is organic qualitative analysis. Fee charged. Prerequisite: CHEM 2423. Core Curriculum satisfied for Natural Lab Sciences.

Computer Information Systems

With the continual development and use of computers in business and industry, the need is increasing for personnel proficient in business programming, networking, equipment repair, software applications, as well as computer operations. To address these skills, the Computer Science Department offers two Associate of Applied Science workforce degrees (AAS), an Associate of Science transfer degree (AS), and two workforce certificate programs.

The Associate of Science (AS) degree is designed to prepare students for transfer to a four-year university as a Computer Science or Computer Information Systems major. The program will provide students with a background in basic academic areas such as mathematics and the sciences, as well as introductory work in the computer areas of logic design, programming concepts, and programming languages.

The department offers an Associate of Applied Science (AAS) degree and a certificate in Computer Information Systems that provides training for careers in business programming, database support, software applications, and computer operations.