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THE MAJOR

Chemistry is called the central science. It addresses problems raised in related fields such as biology, geology, physics, and engineering. Chemists attack such problems by analyzing substances, synthesizing new substances, and by measuring the properties of materials.

CAREERS

A degree in chemistry will enable you to work as a professional chemist in a chemical facility synthesizing compounds, analyzing qualitatively and quantitatively the content of various materials, and measuring the properties of chemical substances. A degree in biochemistry will enable you to work in the developing field of genetic engineering. A degree in environmental chemistry will help you pursue a career in the area of environmental protection. In addition, any of the degree options in chemistry will enable you to enter professional schools such as medical, dental, or pharmacy schools.

For additional information on the program, see the 2006-2008 university catalog.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN BIOCHEMISTRY

Students should consult course descriptions to determine whether course prerequisites have been met.

Entry of any student into Chemistry 101/101L is subject to a satisfactory score on the Chemistry Placement Test (see catalog section on the Chemistry Placement Test). This requirement may also be satisfied by passing Chemistry 100 at this University with a grade of "C" or better. (A grade of "C-" is unacceptable.)

LOWER DIVISION REQUIRED COURSES (32 UNITS)

MATH 255A/255B	Calculus I and II	6
PHYS 100A/L	General Physics I/Lab	4
PHYS 100B/L	General Physics II/Lab	4
CHEM 101/L	General Chemistry I/Lab	5
CHEM 102/L	General Chemistry II/Lab	5
BIOL 106/L	Biological Principles I/Lab	4
BIOL 107/L	Biological Principles II/Lab	4

UPPER DIVISION REQUIRED COURSES (39 UNITS)

CHEM 321/L	Chemical Analysis I/Lab	4
CHEM 422/L	Chemical Analysis II/Lab	4
CHEM 333/L & R	Principles of Organic Chemistry I	5
CHEM 334/L & R	Principles of Organic Chemistry II	5
CHEM 355	Fundamentals of Physical Chemistry	3
CHEM 355L	Experimental Physical Chemistry	1
CHEM 401	Inorganic Chemistry	3
CHEM 461	Biochemistry I	4
CHEM 462	Biochemistry II	4
CHEM 465	Topics in Biochemistry	3
BIOL 380	Cell Biology	3

UPPER DIVISION ELECTIVES (10 UNITS)

A minimum of 3 units of upper division electives selected from the following courses:

CHEM 411	Synthesis
CHEM 433	Organic Analysis
CHEM 471	Chemical Literature and Presentation
CHEM 481	Nuclear and Radiochemistry
CHEM 495 A-C	Directed Undergraduate Research
CHEM 499 A-C	Independent Study
CHEM 538	Natural Products

A minimum of 7 units of upper division electives is required. Because many of these courses have prerequisites, please check with the instructor to make sure that you have an acceptable background for the course. Other appropriate courses may also fulfill this elective requirement, but can be taken only with the approval of your advisor. Possible elective courses:

BMPH 304	Introductory Biomedical Physics
BMPH 405	Biomedical Physics I
BMPH 406	Biomedical Physics II
BIOL 360	Genetics
BIOL 381	Cell Biology Laboratory
BIOL 410/L	Medical Microbiology
BIOL 417/L	Microbial Physiology
BIOL 468	Human Genetics

BIOL 470 Biotechnology
BIOL 482/L Animal Physiology
BIOL 485/L Immunology
BIOL 544 Biology of Viruses
BIOL 561 Molecular Genetics of Microorganisms
BIOL 562 Molecular Genetics of Eukaryotic Organisms
BIOL 564 Human Biochemical Genetics
BIOL 567 Medical Genetics
BIOL 571 Molecular Diagnostics
BIOL 572/L Recombinant DNA Techniques
BIOL 577/L Cell and Tissue Culture
BIOL 580/L Cellular Physiology
BIOL 582/L Principles of Neurophysiology

TOTAL UNITS IN THE MAJOR (81 UNITS)

GENERAL EDUCATION (36 UNITS)

Basic Skills Mathematics and the entire Natural Sciences section are fulfilled by required courses in the major.

TITLE 5 (6 UNITS)

ADDITIONAL UNITS (3)

TOTAL UNITS REQUIRED FOR B.S. DEGREE IN BIOCHEMISTRY: 120