CHEMISTRY (B.S.)

BS-AS CHE

Chemistry Department
Bachelor of Science (HEGIS 1905)

SAMC 164
(716) 878-5204

The chemistry B.S. degree program offers students a strong background in chemistry while providing students with two concentration options, traditional chemistry and biochemistry. Both concentrations are approved by the American Chemical Society. Graduates of this program are fully prepared to assume entry-level positions as chemists with industrial or governmental laboratories, or to begin more specialized programs of study at the graduate level. The biochemistry concentration prepares students for both professional programs in health-related professions and advanced studies in biochemistry.

Admission Requirements

Transfer Admission Requirements

Transfer students from two-year colleges should have earned credit for courses equivalent to the following to avoid possible delays in the completion of the degree program.

Code	Title	Credit Hours
CHE 111	FUNDAMENTALS OF CHEMISTRY I	3
CHE 112	FUNDAMENTALS OF CHEMISTRY II	3
CHE 113	LABORATORY FOR FUNDAMENTALS OF CHEMISTRY I	1
CHE 114	LABORATORY FOR FUNDAMENTALS OF CHEMISTRY II	1
CHE 201	ORGANIC CHEMISTRY I	3
CHE 202	ORGANIC CHEMISTRY II	3
CHE 203	ORGANIC CHEMISTRY LABORATORY I	1
CHE 204	ORGANIC CHEMISTRY LABORATORY II	1
CHE 301	ANALYTICAL CHEMISTRY (recommended)	4
MAT 161	CALCULUS I	4
MAT 162	CALCULUS II	4
PHY 111	UNIVERSITY PHYSICS I	5
PHY 112	UNIVERSITY PHYSICS II	5
BIO 211	INTRODUCTION TO CELL BIOLOGY AND GENETICS (Biology course required for biochemistry concentration only)	4

Transfer students must complete a minimum of 10 credits in chemistry at Buffalo State. Chemistry courses taken elsewhere may be substituted for similar courses at Buffalo State only if they have the same or equivalent prerequisites. Grades of C or better in CHE 111 and CHE 112 are required for transfer into the Chemistry B.S. program.

Chemistry courses not meeting these criteria may be transferred as elective credit.

Program Requirements

Code	Title	Credit Hours
Intellectual Foundations Requirements **(**http://ecatalog.buffalostate.edu/undergraduate/collegewide-degree-requirements-baccalaureate-degrees/#IF_Courses**)**		
33-39 credit hours		33-39
Chemistry Major Requirements (44-48 credit hours)		
Required Courses (28 credit hours)		
CHE 111	FUNDAMENTALS OF CHEMISTRY I	3
CHE 112	FUNDAMENTALS OF CHEMISTRY II	3
CHE 113	LABORATORY FOR FUNDAMENTALS OF CHEMISTRY I	1
CHE 114	LABORATORY FOR FUNDAMENTALS OF CHEMISTRY II	1
CHE 201	ORGANIC CHEMISTRY I	3
CHE 202	ORGANIC CHEMISTRY II	3
CHE 203	ORGANIC CHEMISTRY LABORATORY I	1
CHE 204	ORGANIC CHEMISTRY LABORATORY II	1
CHE 301	ANALYTICAL CHEMISTRY (recommended)	4
CHE 305	PHYSICAL CHEMISTRY I	3
CHE 306	PHYSICAL CHEMISTRY II	3
CHE 307	PHYSICAL CHEMISTRY LABORATORY I	1

CHE 308	PHYSICAL CHEMISTRY LABORATORY II	1
Concentration Courses		
Students are required to complete one of the following concentrations:		16-20
Chemistry Concentration (17 credit hours)		
CHE 310	LITERATURE OF CHEMISTRY	
CHE 360	INTRODUCTION TO INORGANIC CHEMISTRY	
CHE 403	INSTRUMENTAL ANALYSIS	
CHE 404	INSTRUMENTAL ANALYSIS LAB	
CHE 462	ADVANCED INORGANIC CHEMISTRY	
CHE 470	BIOCHEMISTRY I	
CHE 471	BIOCHEMICAL TECHNIQUES	
Biochemistry Concentration (20 credit hours)		
CHE 310	LITERATURE OF CHEMISTRY	
CHE 360	INTRODUCTION TO INORGANIC CHEMISTRY	
CHE 470	BIOCHEMISTRY I	
CHE 471	BIOCHEMICAL TECHNIQUES	
CHE 472	BIOCHEMISTRY II	
Select two from the following:		8
BIO 303	GENETICS	
BIO 305	MOLECULAR BIOLOGY	
BIO 314	ADVANCED CELL BIOLOGY	
BIO 316	GENERAL MICROBIOLOGY	
BIO 450	RECOMBINANT DNA TECHNOLOGY	
CHE 403 & CHE 404	INSTRUMENTAL ANALYSIS and INSTRUMENTAL ANALYSIS LAB	
Required Credit Hours in Other Fields (25-29 credit hours)		
MAT 161	CALCULUS I	
BIO 211	INTRODUCTION TO CELL BIOLOGY AND GENETICS	
MAT 162	CALCULUS II	
MAT 163	USING TECHNOLOGY TO EXPLORE CALCULUS I	
MAT 164	USING TECHNOLOGY TO EXPLORE CALCULUS II	
MAT 263	CALCULUS III	
MAT 264	USING TECHNOLOGY TO EXPLORE CALCULUS III	
PHY 111	UNIVERSITY PHYSICS I	
PHY 112	UNIVERSITY PHYSICS II	
Note: BIO 211 is required only for the biochemistry concentration.		
All College Electives		
4-18 credit hours		4-18
Total Credit Hours 120		