CHEMISTRY (BS) - SECONDARY EDUCATION

Program Map

Course	Title	Credit Hours
First Year		
Fall		
CHEM 1211	Principles of Chemistry I (minimum grade of C)	3
CHEM 1211L	Principles of Chemistry I Lab (minimum grade of C)	1
MATH 1113	Pre-Calculus (minimum grade of C)	4
ENGL 1101	English Composition I (minimum grade of C)	3
Arts, Humanities, and Ethics	Fine Arts	3
KINS 1106 or PHED 1205	Lifetime Wellness or Concepts of Fitness	2
CHEM 1715	Introductory Chemistry Seminar (Area G) [1]	1
	Credit Hours	**17**
Spring		
CHEM 1212	Principles of Chemistry II (minimum grade of C) [2]	3
CHEM 1212L	Principles of Chemistry II Lab (minimum grade of C) [2]	1
MATH 1131	Calculus with Analytic Geometry I	4
ENGL 1102	English Composition II (minimum grade of C)	3
HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
Health and Wellness	PEDS Physical Education	1
Institutional Priorities	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
	Credit Hours	**16**
Second Year		
Fall		
CHEM 3111	Organic Chemistry I (minimum grade of C) [3]	3
CHEM 3311	Organic Chemistry I Lab (minimum grade of C) [3]	1
PHYS 1111	Introductory Physics I (minimum grade of C)	3
PHYS 1311	Introductory Physics I Lab (minimum grade of C)	1
BIOL 1231K		4
Arts, Humanities, and Ethics	Humanities Elective (ITDS 2125 recommended) [4]	3
UTCH 1201	Step I: Inquiry Approaches to Teaching	1
	Credit Hours	**16**
Spring		
PHYS 1112	Introductory Physics II (minimum grade of C)	3
PHYS 1312	Introductory Physics II Lab (minimum grade of C)	1
BIOL 1232K		4
Institutional Priorities	COMM 1110 Public Speaking or foreign language 1001, 1002, 2001, 2002 [5]	3
UTCH 1202	Step II: Inquiry-Based Lesson Design	1
Social Sciences	World Culture Elective	3
	Credit Hours	**15**
Third Year		
Fall		
CHEM 2115	Quantitative Chemical Analysis (minimum grade of C) [6]	3
CHEM 2315	Quantitative Chemical Analysis Lab (minimum grade of C) [6]	1
UTCH 2105	Knowing and Learning in Mathematics and Science	3
Program Requirements	Foreign Language (1002)	3
POLS 1101	American Government	3
Select one of the following:		3
ITDS 2125 or UTCH 2203	Historical Perspectives on the Philosophy of Science and Mathematics (if not taken in Area C) [7] or Step III: Technological and Pedagogical Content Knowledge	
	Credit Hours	**16**
Spring		
CHEM 4175	Instrumental Methods of Chemical Analysis (minimum grade of C) [8]	3
CHEM 4375	Instrumental Methods of Chemical Analysis Lab (minimum grade of C)	1
CHEM 3135	Inorganic Chemistry (minimum grade of C)	3
CHEM 3335	Inorganic Chemistry Lab (minimum grade of C)	1
STAT 1401	Elementary Statistics	3
Program Requirements	Foreign Language (2001)	3
UTCH 3205	Classroom Interactions	3
	Credit Hours	**17**
Fourth Year		
Fall		
UTCH 3215	Research Methods	3
UTCH 4205	Inquiry-Based Instruction	3
Social Sciences	Behavioral Science Elective	3
CHEM 4115	Foundations of Physical Chemistry (minimum grade of C)	3
CHEM 4315	Foundations of Physical Chemistry Lab (minimum grade of C)	1
CHEM 4794	Capstone Seminar (minimum grade of C)	1
	Credit Hours	**14**
Spring		
UTCH 4485	Student Teaching	9

UTCH 4795	Student Teaching Seminar	1
SPED 4115	Teaching Math and Science to Exceptional Learners (see note below)	2
There is a recent rule change for certification from the GaPSC. As of July 1, 2019, students must make a B or higher in the Exceptional Children's course. The course could be any of the following depending on your major: SPED 2256, EDCI 6228, KINS 4245, SPED 4115, PHED 6219 This rule change will not affect your graduation but you cannot become a certified educator with the state of Georgia until you receive the grade of B or higher in this course.		
	Credit Hours	**12**
	Total Credit Hours	**123**

1 This course can be taken Fall 1 or Spring 1, depending on when course is offered.

2 The Principles of Chemistry sequence are offered each semester and summer. These must be completed by the summer.

3 Organic Chemistry 1 and the co-requisite lab are only offered in the fall semester.

4 ITDS 2125 Historical Perspectives on the Philosophy of Science and Mathematics is required for this degree track. It can be taken either as a Humanities course (in the Arts/Humanities/Ethics course choice) or in Program Requirements, as extra credits added to the degree program.

5 Enroll in foreign language 1001 if you need a refresher course or want to start a new language.

6 Quantitative Chemical Analysis and the co-requisite lab are only offered in the fall semester.

7 If ITDS 2125 Historical Perspectives on the Philosophy of Science and Mathematics is not taken in Fall 2 as an Area C Humanities course, then take it in Fall 3 as an Area G requirement.

8 Instrumental Analysis and the co-requisite lab are only offered in the spring semester.

- To graduate, a student must have 39 credits of upper-division courses (3000 level or higher). These courses may be in any discipline.
- A grade of "C" or higher is required for all chemistry courses.
- The prerequisite for Principles of Chemistry 1 (CHEM 1211 Principles of Chemistry I) and its co-requisite lab is College Algebra (MATH 1111 College Algebra) with a grade of "C" or higher or placement in MATH 1113 Pre-Calculus or higher.
- Introductory Physics 1 and 2 are required for completion of the B.S. in chemistry.
- The prerequisite for Introductory Physics 1 (PHYS 1111 Introductory Physics I) and its lab is pre-calculus (MATH 1113 Pre-Calculus) or higher.
- The prerequisite for Organic Chemistry 2 (CHEM 3112 Organic Chemistry II) and its co-requisite lab (CHEM 3312 Organic Chemistry II Lab) are Organic Chemistry 1 (CHEM 3111 Organic Chemistry I) and its co-requisite lab (CHEM 3311 Organic Chemistry I Lab) with a "C" or higher in each.
- The prerequisite for Biochemistry 1 (CHEM 3141 Biochemistry I) and its co-requisite lab (CHEM 3345 Biochemistry Lab I) are Organic Chemistry 1 (CHEM 3111 Organic Chemistry I) and its co-requisite lab (CHEM 3311 Organic Chemistry I Lab) with a "C" or higher in each.
- The prerequisite for Inorganic Chemistry (CHEM 3135 Inorganic Chemistry) and its co-requisite lab (CHEM 3335 Inorganic Chemistry Lab) are Organic Chemistry 2 (CHEM 3112 Organic Chemistry II) and its co-requisite lab (CHEM 3312 Organic Chemistry II Lab) with a "C" or higher.
- The prerequisite for Foundations of Physical Chemistry (CHEM 4115 Foundations of Physical Chemistry and its co-requisite lab (CHEM 4315 Foundations of Physical Chemistry Lab are Calculus 1 (MATH 1131 Calculus with Analytic Geometry I) and Introductory Physics 2 (PHYS 1112 Introductory Physics II) and its lab with a "C" or higher.
- Foundations of Physical Chemistry lecture and lab may be offered at night, i.e. 4:30 - 5:45 for the lecture and 6:00 - 8:50 for lab.
- The prerequisite for Instrumental Methods of Chemical Analysis (CHEM 4175 Instrumental Methods of Chemical Analysis and its co-requisite lab (CHEM 4375 Instrumental Methods of Chemical Analysis Lab are Quantitative Chemical Analysis (CHEM 2115 Quantitative Chemical Analysis) and its co-requisite lab (CHEM 2315 Quantitative Chemical Analysis Lab), Organic Chemistry 2 and its co-requisite Lab (CHEM 3312 Organic Chemistry II Lab), and Calculus 1 (MATH 1131 Calculus with Analytic Geometry I). A minimum grade of "C" or higher is required to satisfy the prerequisite requirement.
- Inorganic Chemistry and its co-requisite lab (CHEM 3135 Inorganic Chemistry and CHEM 3335 Inorganic Chemistry Lab) may be offered in the fall or spring semester.
- Quantitative Analysis and its co-requisite lab (CHEM 2115 Quantitative Chemical Analysis and CHEM 2315 Quantitative Chemical Analysis Lab) are only offered in the fall semester.
- Instrumental Methods of Chemical Analysis (CHEM 4175 Instrumental Methods of Chemical Analysis) is only offered in the spring semester.
- Inorganic Chemistry and its co-requisite lab (CHEM 3135 Inorganic Chemistry and CHEM 3335 Inorganic Chemistry Lab) may be offered in the fall or spring semester.
- Organic Chemistry 1 and its co-requisite lab (CHEM 3111 Organic Chemistry I and CHEM 3311 Organic Chemistry I Lab) are only offered in the fall semester and Organic Chemistry 2 and its co-requisite lab (CHEM 3112 Organic Chemistry II and CHEM 3312 Organic Chemistry II Lab) are only offered in the spring semester.

Program Map