

CHEMISTRY (BS) - FORENSIC TRACK

Program Map

Course	Title	Credit Hours
First Year		
Fall		
CHEM 1211	Principles of Chemistry I (minimum grade of C) ¹	3
CHEM 1211L	Principles of Chemistry I Lab (minimum grade of C) ¹	1
MATH 1113	Pre-Calculus (minimum grade of C)	4
CHEM 1715	Introductory Chemistry Seminar (Area H, minimum grade of C) ²	1
ENGL 1101	English Composition I (minimum grade of C)	3
POLS 1101	American Government	3
Credit Hours		15
Spring		
CHEM 1212	Principles of Chemistry II (minimum grade of C) ¹	3
CHEM 1212L	Principles of Chemistry II Lab (minimum grade of C) ¹	1
MATH 1131	Calculus with Analytic Geometry I (minimum grade of C)	4
ENGL 1102	English Composition II (minimum grade of C)	3
Area B2	ITDS 1779 (2), LEAD 1705 (2), PERS 1506 (1; may be repeated with different topic), PERS 1507 (2)	1
AREA B1	COMM 1110 Public Speaking or foreign language 1001, 1002, 2001, 2002	3
Credit Hours		15
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 2211	Principles of Physics I	3
PHYS 2311	Principles of Physics I Lab	1
MATH 1132	Calculus with Analytic Geometry II (minimum grade of C)	4
BIOL 1231K		4
Credit Hours		16
Spring		
CHEM 3112	Organic Chemistry II (minimum grade of C) ⁴	3
CHEM 3312	Organic Chemistry II Lab (minimum grade of C) ⁴	1
PHYS 2212	Principles of Physics II	3
PHYS 2312	Principles of Physics II Lab	1
CRJU 1105	Introduction to Criminal Justice	3

KINS 1106 or PHED 1205	Lifetime Wellness or Concepts of Fitness	2
Select one PEDS course (https://catalog.columbusstate.edu/course-descriptions/peds/#peds)		1

Credit Hours 14

Third Year		
Fall		
CHEM 2115	Quantitative Chemical Analysis (minimum grade of C) ⁵	3
CHEM 2315	Quantitative Chemical Analysis Lab (minimum grade of C) ⁵	1
CHEM 3141	Biochemistry I (minimum grade of C)	3
CHEM 3345	Biochemistry Lab I (minimum grade of C)	1
BIOL 3215K	Cell Biology	4
AREA C	Humanities (ENGL 2111, ENGL 2112, ITDS 1145, ITDS 1155, ITDS 1774, ITDS 2125, or PHIL 2010)	3
AREA I	Elective	1

Credit Hours 16

Spring		
CHEM 4175	Instrumental Methods of Chemical Analysis (minimum grade of C) ⁶	3
CHEM 4375	Instrumental Methods of Chemical Analysis Lab (minimum grade of C) ⁶	1
BIOL 3216K	Genetics	4
AREA C	Fine Arts (ARTH 1100, ARTH 2125, ARTH 2126, ITDS 1145, MUSC 1100, THEA 1100)	3
AREA I	Electives	3

Credit Hours 14

Fourth Year		
Fall		
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
AREA E	Behavioral Science (ECON 2105, ECON 2106, PHIL 2030, PSYC 1101, SOCI 1101)	3
HIST 2111 or HIST 2112	U. S. History to 1865 or U. S. History since 1865	3
CRJU 4177	Principles of Forensic Science: Human Identification (minimum grade of C)	3
AREA I	Elective	3

Credit Hours 17

Spring		
CHEM 3135	Inorganic Chemistry (minimum grade of C)	3
CHEM 3335	Inorganic Chemistry Lab (minimum grade of C)	1
Area E	World Culture (ANTH 1105, ANTH 1107, ANTH 2105, ANTH 2136, ENGL 2136, GEOG 1101, HIST 1111, HIST 1112, or ITDS 1156)	3
AREA I	Electives	3

STAT 1401	Elementary Statistics	3
CRJU 4719	Principles of Forensic Science: Lethal Agents and Crimes (minimum grade of C)	3
This semester includes milestone EST Major Field Test.		
Credit Hours		16
Total Credit Hours		123

¹ The Principles of Chemistry sequence are offered each semester and summer. These must be completed by the summer.

² Introductory Chemistry Seminar is only offered in the fall semester.

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

⁴ Organic Chemistry 2 and the co-requisite lab are only offered in the spring semester.

⁵ Quantitative Chemical Analysis and the co-requisite lab are only offered in the fall semester.

⁶ 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 with the co-requisite labs 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) and its co-requisite lab (CHEM 4375 Instrumental Methods of Chemical Analysis Lab) are 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.
- Biochemistry 1 and its co-requisite lab (CHEM 3141 Biochemistry I and CHEM 3345 Biochemistry Lab I) are only offered in the fall semester and Biochemistry 2 with its co-requisite lab (CHEM 3142 Biochemistry II and CHEM 3346 Biochemistry II Lab) are only offered in the spring semester.
- Supervised Undergraduate Research (CHEM 4899 Supervised Undergraduate Research) is offered as a 1, 2, or 3 credit hour course. The course may be repeated with a different topic up to 9 credits.
- Additional courses in astronomy, biology, chemistry, computer science, engineering, geology, or mathematics courses may be selected as program electives as approved by advisor and the department chair.