

Chemistry

Associate of Science

General Program Information: 410 287-1000 or information@cecil.edu

The Associate of Science in Chemistry program provides a strong foundation in the principles and practices of modern chemistry by emphasizing fundamental topics in chemistry-related STEM courses. This program gives students the discipline and hands-on experience of testing theories in the laboratory and prepares students for admission into a chemistry or related science baccalaureate program, pre-medical/dental program, pharmacy school or secondary teaching.

	<i>General Education Requirements</i> <i>(31 credits)</i>	<i>General Education Code</i>	<i>Credits</i>
CHM 103	General Chemistry I	S	3
CHM 113	General Chemistry I Lab		1
CHM 104	General Chemistry II	S	3
CHM 114	General Chemistry II Lab		1
EGL 101	College Composition	E	3
EGL 102	Composition & Literature	H	3
HUM 101	Introduction to Critical Inquiry	H	3
MAT 191	Precalculus ¹	M	4
MAT 201	Calculus I with Analytic Geometry	M	4
SOC SCI	Social Science Electives ²	SS	6

	<i>Chemistry Concentration</i> <i>(29 credits)</i>	<i>General Education Code</i>	<i>Credits</i>
CHM 203	Organic Chemistry I with Lab	SL	4
CHM 204	Organic Chemistry II with Lab	SL	4
CSC 109	Introduction to Programming		3
MAT 202	Calculus II with Analytic Geometry	M	4
PHY 217	General Calculus Physics I with Lab	SL	4
PHY 218	General Calculus Physics II with Lab	SL	4
ELECT	Electives ³		6

¹ Students who test out of MAT 191 may replace MAT 191 with any S/SL/M elective(s); students *must* satisfy the credit requirements.

² Courses must be from two different disciplines.

³ Students should take at least 6 credits that align with their chosen transfer institution; however, MAT, PHY, PHE, CSC or AIS courses are encouraged.

	<i>Biochemistry Concentration</i> (29 credits)	<i>General Education Code</i>	<i>Credits</i>
BCH 222	Biochemistry Analytical Lab		1
BIO 130	Principles of Biology I	S	3
BIO 131	Principles of Biology I Lab		1
BIO 132	Principles of Biology II	S	3
BIO 133	Principles of Biology II Lab		1
CHM 203	Organic Chemistry I with Lab	SL	4
CHM 204	Organic Chemistry II with Lab	SL	4
MAT 202	Calculus II with Analytic Geometry	M	4
PHY 217	General Calculus Physics I with Lab	SL	4
PHY 218	General Calculus Physics II with Lab	SL	4

Program Outcomes

Upon successful completion of this program, students will be able to:

- Communicate scientifically in an ethical and organized manner through written and /or verbal formats.
- Apply principles and theories in the basic areas of chemistry.
- Employ appropriate research methodologies and critical thinking skills to collect, analyze, and interpret data, draw conclusions, and solve problems.
- Implement safe laboratory practices and correct use of instrumentation and equipment to execute scientific experimentation.
- Use scientific literature to research a problem and select appropriate supporting information.

Additional Outcomes – Area of Concentration in Chemistry

- Design and implement programs that leverage fundamental computer principles to analyze and manage quantitative/qualitative data.
- Describe and utilize the techniques applicable to chemistry research projects.

Additional Outcomes – Area of Concentration in Biochemistry

- Apply major concepts, theoretical principles, and experimental findings in principles of Chemistry and Biology.
- Apply biological and chemical knowledge in a real-world capacity.