

### Physical Science, Chemistry, A.S.

Carroll Community College	Year 1	Fall Semester		Spring Semester	
		Course	Credits	Course	Credits
		*CHEM105 - Principles of General Chemistry I	4	*CHEM106 - Principles of General Chemistry II	4
ENGL101 - College Writing	3	ENGL102 - Writing About Literature	3		
*BIOL101 - Fundamentals of Biology I	4	*MATH136 - Calculus of a Single Variable II	4		
*MATH135 - Calculus of a Single Variable I	4	**Elementary Foreign Language I (Arts and Humanities)	3		
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>14</b>		
Year 2		Course	Credits	Course	Credits
		*CHEM201 - Organic Chemistry I	5	*CHEM202 - Organic Chemistry 2	5
		*PHYS111 - Physics I for Scientist & Engineers	4	*PHYS212 - Physics 2 for Scientist & Engineers	4
Social & Behavioral Science	3	*MATH205 - Multivariable Calculus	4		
**Elementary Foreign Language II (Arts and Humanities)	3	Social & Behavioral Science	3		
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16</b>		

**Articulation Notes:**

\* Course can be used to satisfy UMBC major requirements when completed with a "C" or better.

\*\* **Foreign Language Requirement:** The language requirement consists of completion of a foreign language through the 201 level or demonstrated proficiency at that level. The proficiency requirement is met by previous experience as follows: 1) completion of level 4 or higher of a language in high school, or 2) corresponding AP, IB or CLEP credit, or 3) completion of a language through the 201 level at a regionally accredited college or university.

### Chemistry, B.S.

UMBC	Year 3	Fall Semester		Spring Semester	
		Course	Credits	Course	Credits
		CHEM300 - Analytical Chemistry I	4	CHEM302 - Physical Chemistry 2	3
CHEM301 - Physical Chemistry I	4	CHEM312L - Advanced Laboratory 2	3		
CHEM311L - Advanced Laboratory I	3	CHEM405 - Inorganic Chemistry	3		
**Intermediate Foreign language I	3	Arts and Humanities GEP Requirement	3		
		Elective	3		
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>15</b>		
Year 4		Course	Credits	Course	Credits
		CHEM405L - Advanced Inorganic Chemistry Laboratory	3	CHEM461 - Advanced Instrumental Analysis	4
		Chem Biochemistry Elective or other Elective	3	Chem Biochemistry Elective or other Elective	3
Social Science GEP Requirement	3	Elective	3		
Elective	3	Elective	3		
Elective or Research	3	Elective or Research	3		
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16</b>		

With questions at Carroll Community College, contact Sithy Maharooof at smaharooof@carrollcc.edu or 410-386-8290

With questions at UMBC, contact Paul Smith at pjsmith@umbc.edu at 410-455-2519

Updated: 9/22/2020

Carroll Community College - AS in Physical Science, Chemistry  
 UMBC - Chemistry B.S.  
 Catalog Year: 2019-2020

Carroll Community College			UMBC Equivalency		
CODE	TITLE	Credits	Course	GEP	Credits
*CHEM-105 & *CHEM-106		8	CHEM 101 + CHEM 102 + CHEM 102L	S+SL	8
ENGL-101	College Writing	3	ENGL 100 - Composition	EN	3
*BIOL-101	Fundamentals of Biology 1	4	BIOL 141 - Foundations of Biology I	SL	4
*MATH-135	Calculus of a Single Variable 1	4	MATH 151 - Calculus and Analytic Geometry I	M	4
ENGL-102	Writing About Literature	3	ENGL 210 - Introduction to Literature	AH	3
*MATH-136	Calculus of a Single Variable 2	4	MATH 152 - Calculus and Analytic Geometry II	M	4
**Elementary Foreign Language I (Arts and Humanities)		3	Introductory Foreign Language I	AH	3
*CHEM-201	Organic Chemistry 1	5	CHEM 351 + CHEM 351L	SL	5
*PHYS-111	Physics 1 For Scientists And Engineers	4	PHYS 121 - Introductory Physics I	S	4
Social & Behavioral Science		3		SS	3
**Elementary Foreign Language II (Arts and Humanities)		3	Introductory Foreign Language II	C	3
*CHEM-202	Organic Chemistry 2	5	CHEM 352 + CHEM 352L	SL	5
*PHYS-212	Physics 2 For Scientists And Engineers	4	PHYS 122 - Introductory Physics II	S	4
*MATH-205	Multivariable Calculus	4	MATH 251 - Multivariable Calculus		4
Social & Behavioral Science		3		SS	3
Total Credits at Carroll Community College:		60	Transferrable credits to UMBC (Maximum 60):		60

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