

**CHEMISTRY**

Associate in Science (AS) Degree

Minimum Credits: 61.0

Contact Hours: 76.0

**INTRODUCTION:** This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

**GENERAL EDUCATION COURSES****( MEETS GRADUATION REQUIREMENTS AND MTA )**

COURSE	TITLE	CREDITS	CONTACT HOURS
ENG 111 or ENG 121	English Composition I or Advanced English Composition I	3.0	3.0
ENG 112 or ENG 122	English Composition II or Advanced English Composition II	3.0	3.0
MTH 131	Analytic Geometry & Calculus	5.0	5.0
PLS 221 or PLS 222 or HST 221 & HST 222	American Government Requirement	3.0-6.0	3.0-6.0
SPE 121	Speech Communication	3.0	3.0
	Humanities/Fine Arts Requirement	3.0-4.0	4.0-5.0
CEM 121	General & Inorganic Chemistry	4.0	7.0
PHY 221	Physics	<u>5.0</u>	<u>7.0</u>

GENERAL EDUCATION CREDITS/CONTACT HOURS: 29.0-33.0 35.0-39.0

**CORE PROGRAM COURSES****( MEET WITH ACADEMIC ADVISOR TO DETERMINE CORE PROGRAM COURSES FOR CONCENTRATION AND TRANSFER )**

COURSE	TITLE	CREDITS	CONTACT HOURS
CEM 122	Inorganic Chemistry & Qualitative Analysis	4.0	7.0
CEM 221	Organic Chemistry	4.0	6.0
CEM 222	Organic Chemistry	5.0	7.0
MTH 132	Analytical Geometry & Calculus	5.0	5.0
MTH 231	Analytic Geometry & Calculus	5.0	5.0
MTH 232	Differential Equations	4.0	4.0
PHY 222	Physics	<u>5.0</u>	<u>7.0</u>

CORE PROGRAM CREDITS/CONTACT HOURS: 32.0 41.0

TOTAL MINIMUM PROGRAM CREDITS/CONTACT HOURS: 61.0 76.0

**SUGGESTED SEQUENCING OF COURSES**

YEAR 1 (FALL SEMESTER) <u>15.0-16.0</u> CREDITS		CREDITS	CONTACT HRS	YEAR 1 (SPRING SEMESTER) <u>12.0</u> CREDITS		CREDITS	CONTACT HRS
ENG 111 or ENG 121 English Comp	3.0	3.0	ENG 112 or ENG 122 English Comp	3.0	3.0		
CEM 121 General & Inorganic Chemistry	4.0	7.0	CEM 122 Inorganic Chemistry &	4.0	7.0		
MTH 131 Analytic Geometry & Calculus	5.0	5.0	Qualitative Analysis				
Humanities/Fine Arts Requirement	<u>3.0-4.0</u>	<u>4.0-5.0</u>	MTH132 Analytical Geometry & Calculus	<u>5.0</u>	<u>5.0</u>		
TOTAL	15.0-16.0	19.0-20.0	TOTAL	12.0	15.0		
YEAR 2 (FALL SEMESTER) <u>17.0</u> CREDITS		CREDITS	CONTACT HRS	YEAR 2 (SPRING SEMESTER) <u>17.0</u> CREDITS		CREDITS	CONTACT HRS
CEM 221 Organic Chemistry	4.0	6.0	CEM 222 Organic Chemistry	5.0	7.0		
MTH 231 Analytic Geometry & Calculus	5.0	5.0	MTH 232 Differential Equations	4.0	4.0		
PHY 221 Physics	5.0	7.0	PHY 222 Physics	5.0	7.0		
American Government Requirement	<u>3.0-6.0</u>	<u>3.0-6.0</u>	SPE 121 Speech Communication	<u>3.0</u>	<u>3.0</u>		
TOTAL	17.0-20.0	21.0-24.0	TOTAL	17.0	21.0		

**NOTES:**

A total of 10 semester credits are required in combination from Group III/Social Sciences and Group IV/Humanities/Fine Arts with a minimum of three credits from each group. Political Science or U.S. History courses used to satisfy the American Government Requirement can be included.