

## Chemistry, AS

### School of Math, Science and Engineering

The Chemistry AS is designed to prepare students for a rigorous four-year Chemistry program. This program focuses on the study of principles of chemistry, problem solving, critical thinking, laboratory skills and technical communication. It is designed primarily for transfer to a Pennsylvania Transfer and Articulation Oversight Committee (TAOC) four-year institution.

### Program Learning Outcomes

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

- Safely conduct chemical experiments and analyze and interpret the results.
- Apply fundamental concepts of chemical reactivity.
- Apply the knowledge of chemical substances to predict properties and interactions.
- Demonstrate proficiency in writing formulas and names for inorganic, bioorganic and organic chemical compounds using the IUPAC system of nomenclature.
- Make use of dimensional analysis to solve chemical calculation problems.
- Evaluate technical references critically and apply concepts in peer-reviewed scientific literature.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	PHY 255	Engineering Physics I	5	PHY 110 or HS Physics & Co-Requisite MTH 172	
	3	CHM 150	General Chemistry I Lecture	3	CHM 107 or HS Chemistry & MTH 052 or MTH 052A, or Placement	
	4	CHM 151	General Chemistry I Lab	1	CHM 150 (co)	
	5	MTH 172	Analytical Geometry & Calculus I	4	MTH 109 or MTH 157 & MTH 167 or MTH 170 or Placement	
1st Spring	6	ENG 161	College Writing	3	ENG 085 or Placement	
	7	MTH 173	Analytical Geometry & Calculus II	4	MTH 172	
	8	PHY 256	Engineering Physics II	5	PHY 255	
	9	CHM 160	General Chemistry II Lecture	3	CHM 150	
	10	CHM 161	General Chemistry II Lab	1	CHM 160 (co)	
2nd Fall	11	Elective	Humanities Elective	3		Page 25 Column II Recommendation: ENG 164
	12	CHM 260	Organic Chemistry I Lecture	3	CHM 160	
	13	CHM 261	Organic Chemistry I Lab	1	CHM 260 (co)	
	14	BIO 155 or CPT 160	General Biology I or Introduction to Programming	3-4		
	15	MTH 271	Analytical Geometry & Calculus III	4	MTH 173	
	16	PHY 259	Thermodynamics & Fluid Mechanics	3	PHY 255	
	17	Elective	Social Science Elective	3		Page 25 Column III
2nd Spring	17	CHM 270	Organic Chemistry II Lecture	3	CHM 260	
	18	CHM 271	Organic Chemistry II Lab	1	CHM 270 (co)	
	19	SPC 155	Effective Speech	3		
	20	STM 296	STEM Seminar	1	9 credits of Natural Science and/or Math with at least one of these courses at the 200-level	
	21	Elective	Social Science Elective	3		Page 25 Column III

Total Program Credits

60-61

CHM