

# Chemistry, AS

## School of Math, Science and Engineering

### Program Description

The Chemistry AS degree 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. It is designed to be the first two years of a bachelor's degree in Chemistry, but may also serve as preparation for other programs and some entry-level positions in STEM-related fields.

### 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	ENG 161	College Writing	3	ENG 085 with Permission of Instructor, ENG 095 or Placement	
	3	CHM 150	General Chemistry I Lecture	3	HS chemistry (C or better) or CHM 107, MTH 052 or Placement	
	4	CHM 151	General Chemistry I Lab	1	Co: CHM 150	
	5	MTH 172	Analytical Geometry & Calculus I	4	MTH 109, MTH 167 or MTH 170 (C or better) or Placement	
1st Spring	6	PHY 255	Engineering Physics I	5	PHY 110 or HS Physics (C or better) & Co: MTH 172	
	7	MTH 173	Analytical Geometry & Calculus II	4	MTH 172 (C or better)	
	8	Elective	Humanities Elective	3	Varies	Page 21 Column II Recommendation: ENG 164
	9	CHM 160	General Chemistry II Lecture	3	CHM 150/151	
	10	CHM 161	General Chemistry II Lab	1	Co: CHM 160	
2nd Fall	11	PHY 256	Engineering Physics II	5	PHY 255	
	12	CHM 260	Organic Chemistry I Lecture	3	CHM 160/161	
	13	CHM 261	Organic Chemistry I Lab	1	Co: CHM 260	
	14	MTH 271	Analytical Geometry & Calculus III	4	MTH 173 (C or better)	
	15	SPC 155	Effective Speech	3		
2nd Spring	16	CHM 270	Organic Chemistry II Lecture	3	CHM 260/261	
	17	CHM 271	Organic Chemistry II Lab	1	Co: CHM 270	
	18	PHY 259	Thermodynamics & Fluid Mechanics	3	PHY 255	
	19	STM 296	STEM Seminar	1	9 credits of Natural Science and/or Math with at least one of these courses at the 200-level	
	20	Elective	Social Science Elective	3	Varies	Page 21 Column III
	21	BIO 155 or CPT 160	General Biology I or Introduction to Programming	3-4	Varies	

Minimum Program Credits

60-61

CHM