

Mathematics, AS

School of Math, Science and Engineering

Program Description

The Mathematics AS degree is designed to prepare students for a rigorous four-year Mathematics Bachelor program. This program focuses on the study of the mathematics, physics and computer science principles necessary for a firm foundation that will allow students who complete the program to 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:

- Demonstrate strong analytical, problem solving, organizational, and communication skills in various mathematical disciplines.
- Show competence in the skills and problem solving involved in the discipline of calculus.
- Apply concepts of mathematics in physics and computer programming.
- Utilize logical reasoning and foundational properties of mathematics to read proofs of mathematical theorems and create proofs of mathematical theorems.
- Apply standards of ethics concerning intellectual property in mathematical papers and proofs.

Sugg. Term	Seq #	Course ID	Course Title	Cr	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 171	Career Pathway Exploration	3		
	2	MTH 172	Analytical Geometry and Calculus I	4	"C" Grade or Better in MTH 109, MTH 167 or MTH 170 or Placement	
	3	PHY 255	Engineering Physics I	5	PHY 110 or HS Physics; Co: MTH 172	
	4	CPT 160	Introduction to Programming	3		
1st Spring	5	Elective	Lab Science Elective	4-5		BIO 155, BIO 171, BIO 210, CHM 107, CHM 150/151, PHY 256, EPS 150
	6	CPT 180	C++ Programming	3	CPT 160	
	7	ENG 161	College Writing	3	ENG 085 or Placement	
	8	MTH 173	Analytical Geometry and Calculus II	4	MTH 172	
2nd Fall	9	Elective	Social Science Elective	3		Page 28 Column III See Recommendations**
	10	SPC 155	Effective Speech	3		
	11	MTH 271	Analytical Geometry and Calculus III	4	MTH 173	
	12	Elective	General Elective	3		Page 28
	13	Elective	Humanities Elective	3		Page 28 Column II Recommendation: PHL 202 or FRN 155
2nd Spring	14	MTH 277	Discrete Mathematics	3	MTH 172	
	15	MTH 275 or MTH 276	Linear Algebra or Ordinary and Partial Differential Equations	3-4	MTH 172, MTH 173	
	16	Elective	Humanities Elective	3		Page 28 Column II Recommendation: PHL 202 or FRN 155
	17	STM 296	STEM Seminar	1	9 credits of Natural Science and/or Math with at least one of these courses at the 200-level	
	18	Elective	Social Science Elective	3		Page 28 Column III See Recommendations**
	19	Elective	General Elective	3		Page 28

Minimum Program Credits

61-62

MTH

**Recommendations for Social Science

For Mathematics Secondary Education:
PSY 160 General Psychology, PSY 165 Educational Psychology

For Actuarial Mathematics or Mathematics with Economics:
ECN 255 Macroeconomics, ECN 256 Microeconomics