

**CALIFORNIA UNIVERSITY  
OF PENNSYLVANIA**

**Program: Professional Science Masters: Applied Mathematics**

**Start: Fall (August) Start**

**Total Credits: 30**

<b>Semester 1</b>	<b>Credits</b>
Elective	3
PSM 675 Project Management	3
PSM 645 Applied Cryptography	3
	9
<b>Semester 2</b>	
Elective	3
PSM 760 Leadership and Professional Development	3
PSA 671 Advanced Multivariate Statistics	3
	9
<b>Semester 3</b>	
Elective	3
PSA 611 Optimization and Operations Research I	3
	6
<b>Semester 4</b>	
PSM 799 PSM Capstone Course	6
	6
<b>Total Credits</b>	<b>30</b>

**Elective Courses**

PSA 711: Optimization and Operations Research II  
PSA 715: Advanced Time Series and Stochastic Processes  
PSA 723: Advanced Nonparametric Statistics  
PSA 724: Advanced Numerical Analysis and Empirical Modeling  
PSA 725: Data Mining and Simulation Modeling  
PSM 721: Database Systems

**Data Science Certificate students may substitute the following as electives:**

MAT 601: Advanced Data Preparation and Cleaning  
MAT 602: Advanced Data Visualization  
MAT 603 Advanced Big Data

*Updated August 23, 2021*