

Data Science with MS in Data Science 4+1

Recommended Five-Year Plan (Fall 2020)

The recommended four-year plan is designed to provide a blueprint for students to complete their degrees within four years. Students must meet with their Major Advisor to develop a more individualized plan to complete their degree. This plan assumes that no developmental courses are required. If developmental courses are needed, students may have additional requirements to fulfill which are not listed in the plan and may extend degree completion.

NOTE: This recommended Four-Year Plan is applicable to students admitted into the major during the 2020-2021 academic year. To enroll, visit <https://www.ramapo.edu/data-science/4plus1/>

First Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
Gen Ed: MATH 121-Calculus I	4		CMPS 130-Sci Problem Solving-Python	4	
Gen Ed: INTD 101-First Year Seminar	4		MATH 237-Discrete Structures or MATH 205-Mathematical Structures WI	4	
Gen Ed: CRWT 102-Critical Reading and Writing II	4		Gen Ed: AIID 201-Studies in the Arts & Humanities	4	
DATA 101-Introduction to Data Science	4		Gen Ed: SOSC 110-Social Science Inquiry	4	
			Career Pathways: SCIN 001 – Career Pathways Module 1	Degree Rqmt.	
Total:	16		Total:	16	

Second Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
CMPS 240-Data Analytics in Python	4		Minor Requirement*	4	
MATH 262-Linear Algebra WI	4		Gen Ed: Scientific Reasoning	4	
Gen Ed: Historical Perspectives	4		Gen Ed: Global Awareness	4	
Minor Requirement*	4		Elective	4	
Career Pathways: SCIN 002 – Career Pathways Module 2	Degree Rqmt.		Career Pathways: SCIN 003 – Career Pathways Module 3	Degree Rqmt.	
Total:	16		Total:	16	

Third Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
DATA 225-Ethics of Technology WI	4		MATH 370-Applied Statistics	4	
Gen Ed (Choose one): Culture & Creativity, Systems Sustainability & Society, OR Values & Ethics	4		CMPS 364-Database Design	4	
Minor Requirement*	4		Gen Ed (Choose one): Culture & Creativity, Systems Sustainability & Society, OR Values & Ethics (Must be outside of TAS)	4	
Minor Requirement*	4		Minor Requirement*	4	
Elective (for missing 3 credits senior year)	2		Elective (for missing 3 credits senior year)	2	
Total:	18		Total:	18	

Fourth Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
DATA 301-Data Analysis & Visualization	4		DATA 450-Data Science Capstone Project WI	4	
CMPS 320-Machine Learning	4		DATA Elective	4	
DATA 601-Intro to Data Science (MS)	3		Minor Requirement*/Elective	4	
MATH 570-Applied Statistics (MS) OR CMPS 530-Python for Data Science (MS)	3		DATA 620-Ethics for Data Science (MS)	3	
Total:	14		Total:	15	

Fifth Year					
Fall Semester	HRS	✓	Spring Semester	HRS	✓
CMPS 530-Python for Data Science OR MATH 570-Applied Statistics	3		CMPS 664-Advanced Database and Big Data	3	
MATH 680-Advanced Mathematical Modeling	3		Data Science Elective at 600/700 level	3	
Data Science Elective at 600/700 level	3		DATA 750-Data Science Thesis	3	
Elective	3				
Total:	12		Total:	9	

Total Undergraduate Credits Required: 128 credits

GPA Required: 2.0

WI: Writing Intensive-3 required in the major

* As part of their degree requirements, Data Science majors are also required to complete a minor or double major to gain domain knowledge in a particular field, to better contextualize their data studies. Most minor programs require 5-6 courses. Any minor or second major can be selected: <https://www.ramapo.edu/majors-minors/a-z/>

Total Graduate Credits Required: 30 credits

GPA Required: 2.0