Master of Data Analytics – Big Data Systems Option
Required and Elective Courses

The Master of Data Analytics – Big Data Systems Option degree will be awarded upon successful completion of the 30-credit curriculum below and completion the SARI Requirement. The courses are not listed in sequential order. **The capstone course, DAAN 888, will only be available in fall semesters.**

If you have any questions throughout your studies, please email EngHelp@psu.edu.

Course #	Course Title	Semester	Grade
	9 Credits ~ Core Curriculum *(Required Courses)*		
STAT 500	Applied Statistics **(*Should be one of first courses taken*)**		
DAAN 545	Data Mining *(formerly SWENG 545) / (INSC 521 is NOT a prerequisite.)*		
IE 575	Foundations of Predictive Analytics ***(Required Prerequisite: STAT 500)***		
	9 Credits ~ Prescribed Curriculum *(Required Courses)*		
DAAN 822	Data Collection and Cleaning ***(Required Prerequisite: STAT 500)***		
DAAN 825	Large-Scale Database and Warehouse *(Note: INSC 521 is NOT a prerequisite.)*		
DAAN 826	Large-Scale Databases for Real-Time Analytics ***(Required Prerequisite: DAAN 825)***		
	9 Credits ~ Elective Courses *(see list on next page)*		
	3-Credit Capstone Course *(Required)*		
DAAN 888	Design and Implementation of Analytic Systems ***(Required Prerequisites: ALL 6 Core and Prescribed Courses*** ***NOTE: DAAN 888 is only offered in FALL Semesters.***		

Scholarship and Research Integrity (SARI) Requirement	
SARI (Scholarship and Research Integrity) Required Online Activity	**Semester Completed**
Note: The SARI Module is only offered in Spring & Fall semesters.	

NOTE: Students must maintain a minimum grade point average of 3.0 (B) throughout the program. A 3.0 cumulative GPA is required to graduate.

Questions & Advising – General questions should be sent to EngHelp@psu.edu. For advising topics, students may contact their faculty advisor.

Master of Data Analytics – Big Data Systems Option
Elective Courses

9 Credits ~ Electives *(Choose 3 courses from the following list)*	
A-I 570	Deep Learning ***(Required Prerequisite: STAT 500 /*** *Recommended Prerequisite: DAAN 862)*
A-I 572	Reinforcement Learning
A-I 574	Natural Language Processing ***(Required Prerequisites: STAT 500 and A-I 570 or DAAN 570)***
A-I 596	Individual Studies
A-I 801	Foundations of Artificial Intelligence ***(Required Prerequisite: STAT 500 /*** *Recommended Prerequisite: DAAN 862)*
A-I 804	Ethics of Artificial Intelligence
A-I 879	Machine Vision
DAAN 846	Network and Predictive Analytics for Socio-Technical Systems
DAAN 871	Data Visualization
DAAN 862	Analytics Programming in Python (*Recommended Prerequisite: STAT 500)*
DAAN 881	Data-Driven Decision Making ***(Required Prerequisite: STAT 500)***
DAAN 897	Enterprise Analytics Strategies
INSC 521	Database Design Concepts
SWENG 805/ SYSEN 805	Software/Technical Project Management *(formerly SWENG 505/SYSEN 505)*

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