Doctor of Philosophy in Data Science & Analytics

KENNESAW STATE UNIVERSITY

Updated 6/5/2025

Catalog Year: 2025 **Total Degree Credit Hours:** 72

Kennesaw State University's Ph.D. with a major in Data Science and Analytics is an advanced degree, which trains individuals to translate large, structured and unstructured, complex data into information to improve decision-making, and become independent researchers. This highly interdisciplinary curriculum includes heavy emphasis on programming, machine learning, artificial intelligence, data mining, statistical modeling, the mathematical foundations to support these concepts and more.

For admissions requirements and important dates/deadlines, please visit *www.kennesaw.edu/admissions/graduate/*

Required Core (18 hours)

Course Number/Title	Prerequisite	Credits	✔
CS 8265: Advanced Big Data Analytics	Admission to Program	3	
CS 8267: Advanced Machine Learning	Admission to Program	3	
MATH 8020: Graph Theory	Admission to Program	3	
MATH 8030: Applied Discrete & Combinatorial Mathematics for Data Analysts	Admission to Program	3	
STAT 8240: Data Mining I	Admission to Program	3	
STAT 8250: Data Mining II	STAT 8240	3	

Research Requirement (33 credit hours)

Students will take a minimum of 15 hours of DS 9900 in order to graduate. You must be progressing to candidacy and get permission of the instructor (dissertation advisor) to be able to register for DS 9900.

Course Number/Title	Semesters	Topic	Credits	✔
DS 9700: Doctoral Internship Or			1-6	
DS 9800: Advanced Research in Data Science & Analytics Or			1-3	
DS 9900: PhD Dissertation Research			1-9	

All degree requirements must be completed within 10 years from the time you first register for a graduate-level (5000-9000) course after admission to the PhD program.

Electives and Concentration (21 credit hours)

Select 21 credit hours/7 courses of 8000-9000 level coursework from the prefixes DS, STAT, MATH, CS, or IT. A portion of these credit hours may be completed by selecting one of the concentrations on the back of this sheet. Students may apply up to 9 credit hours of 6000-7000 level coursework from the prefixes DS, STAT, or CS with permission of the program director. Courses from other disciplines may be approved by permission of the program director.

Course Number/Title	Prerequisite	Credits	✔
		3	
		3	
		3	
		3	
		3	
		3	
		3	

Computer Science Concentration

Students interested in pursuing a concentration in Computer Science must take at least 15 credit hours in CS courses at 8000 or 9000 levels (except CS 9900).

Course Number/Title	Prerequisite	Credits	✔
CS 8025: Advanced Operating Systems	Admission to Program	3	
CS 8027: Advanced Networking & Architecture	Admission to Program	3	
CS 8041: Advanced Theory of Computation	Admission to Program	3	
CS 8045: Advanced Design and Analysis of Algorithms	Admission to Program	3	
CS 8050: Principles of Software Design & Programming Languages	Admission to Program	3	
CS 8125: Advanced Cloud Computing	Admission to program	3	
CS 8172: Advanced Parallel and Distributed Computing	CS 8025 (may take concurrent)	3	
CS 8253: Advanced Graph Algorithms	CS 8045 (may take concurrent)	3	
CS 8260: Advanced Database Systems and Applications	Admission to program	3	
CS 8263: Advanced Information Retrieval	CS 8045 (may take concurrent)	3	
CS 8265: Advanced Big Data Analytics	Admission to program	3	
CS 8267: Advanced Machine Learning	Admission to program	3	
CS 8347: Advanced Natural Language Processing	CS 8041 (may take concurrent)	3	
CS 8357: Advanced Neural Networks and Deep Learning	CS 8045 (may take concurrent)	3	
CS 8367: Advanced Computer Vision	CS 8045 (may take concurrent)	3	
CS 8375: Advanced Artificial Intelligence	CS 8045 (may take concurrent)	3	
CS 8540: Advanced Network Security	CS 8027 (may take concurrent)	3	
CS 8545: Advanced AI for Security and Privacy	CS 8045 (may take concurrent)	3	
CS 8990: Advanced Special Topics in Computer Science	Depends on topic	3	
CS 8992: Advanced Directed Studies	Admission to program	1-3	
CS 8998: Advanced Research in Computer Science	Varies	1-3	

Statistics Concentration

Students interested in pursuing a concentration in Statistics must take at least 15 credit hours in STAT courses at 8000 or 9000 levels.

Course Number/Title	Prerequisite	Credits	✔
STAT 8220: Time Series Forecasting	STAT 7020 & STAT 7210	3	
STAT 8235: Advanced Longitudinal Data Analysis	STAT 8250 or Permission of Dir.	3	
STAT 8320: Applied Multivariate Data Analysis	STAT 7220 & STAT 7210	3	
STAT 8330: Applied Binary Classification	STAT 7210	3	
STAT 8350: Structural Equation Modeling	Admission to Program	3	
STAT 8450: Multilevel Statistical Modeling	Admission to Program	3	

mHealth Concentration

Students interested in pursuing a concentration in mHealth must complete the following courses.

Course Number/Title	Prerequisite	Credits	✔
HHS 8000: Introduction to mHealth	None	3	
HHS 8010: Ethical Issues in mHealth, Healthcare, & HSR	None	3	
STAT 8235: Advanced Longitudinal Data Analysis	STAT 8250 or Permission of Dir.	3	
HHS 8050: Advanced Research in mHealth	HHS 8020 or HHS 8030	3	
HHS 8020: mHealth Applications Or **HHS 8030**: Advanced Special Topics in mHealth	Admission to Program	3	