

Prerequisite Table for MS in Data Science

(Parenthesis is not listed but is equivalent)

Core Course	Course Prerequisite	Subject Prerequisite
MATH612 Solving Linear Equations and Optimization (F)	(MATH349, CISC106)	Elementary linear algebra and programming.
MATH630		One semester of advanced calculus.
MATH637 Mathematical Techniques in Data Science (S)	(MATH243, MATH349)	Probability theory and basic statistics (e.g. MATH 350), Multivariable calculus (e.g. MATH 243), Linear Algebra (e.g. MATH 349), Optimization background (e.g. MATH 529) desirable but not necessary, basic computing skills.
MATH672 Vector Spaces	MATH349	(Undergraduate linear algebra)
CISC621 Algorithm Design and Analysis (F/S)	(CISC220, MATH210)	Undergraduate algorithms and discrete math courses
CISC637 Database Systems (F/S)	CISC220 and CISC304 or equivalent	(Undergraduate algorithms; logic and programming)
CISC683 Introduction to Data Mining (F)	None listed	(None listed)
CISC684 Introduction to Machine Learning (S)	(MATH350 or MATH205)	Basic background in probability and statistics.
STAT611 Regression Analysis (F)	MATH202 or STAT371	(basic undergraduate statistics)
STAT617 Multivariate Methods (F)	STAT 602 and permission of instructor. (STAT602 needs STAT601.)	(Mathematical statistics is 602; Probability Theory for Operations Research and Statistics is 601, which is required for 602).
STAT674 Applied Data Base Management (F/S)		Requires permission of instructor.
STAT675 Logistic Regression (S)		Requires permission of instructor. (emphasizes SAS and packages)
STAT613 Applied Multivariate Statistics	none listed	none listed