College of Science - Computational and Data Sciences, BS				
Catalog Year: 2024 - 2025			**Grades**	
Mason Core Requirements (43 credits)	**Course Information**	Credits	Earned	Needed
Written Communication:	ENGH 101 (100)	3		
Oral Communication:	COMM 100 or 101	3		
*Quantitative Reasoning	*Satisfied by Major Requirements			
*Information Technology	*Satisfied by Major Requirements			
Arts		3		
Global History		3		
Global Understanding		3		
Literature		3		
*Natural Science	*May be partially satisfied by CDS 101/102	0-7		
Social & Behavioral Sciences		3		
Western Civilization/World History		3		
Written Communication	ENGH 302	3		
Writing-Intensive Course				
Synthesis/Capstone	CDS 492	3		
Major Requirements (66 credits)				
CDS 130	Computing for Scientists	3		
CDS 151	Data Ethics in an Information Society	1		
CDS 230	Modeling and Simulation I	3		
CDS 301	Scientific Information and Data Visualization	3		
CDS 302	Scientific Data and Databases 1	3		
CDS 303	Scientific Data Mining	3		
Extended Core Courses (24 credits) from the following:				
CDS 201	Introduction to Computational Social Science	3		
CDS 205	Intro to Agent-based Modeling and Simulation	3		
CDS 251	Introduction to Scientific Programming	3		
CDS 292	Introduction to Social Network Analysis	3		
CDS 403	Machine Learning Applications in Science	3		

CDS 411	Modeling and Simulation II	3		
CDS 421	Computational Data Science	3		
CDS 461	Molecular Dynamics and Monte Carlo Simulations	3		
CDS 468	Image Operators and Processing	3		
CDS 486	Topics in Computational and Data Sciences	3		
CSI 500	Computational Science Tools	3		
CSI 501	Introduction to Scientific Programming	3		
Mathematics Courses (10-11 credits) from the following:				
MATH 113	Analytic Geometry and Calculus I	4		
MATH 114	Analytic Geometry and Calculus II	4		
MATH 125	Discrete Mathematics I	3		
MATH 203	Linear Algebra	3		
MATH 446	Numerical Analysis I	3		
Statistics Courses (6 credits) from the following:				
STAT 250	Introductory Statistics I	3		
STAT 350	Introductory Statistics II	3		
STAT 344	Probability and Statistics for Engineers and Scientists I	3		
STAT 346	Probability for Engineers	3		
Science and Engineering Courses (6 credits): Additional Mason Core: Natural Science or Mason Core: Information Technology courses. OR Any course offered by the College of Science or the Volgenau School of Engineering.				
Science and Engineering Course #1:				
Science and Engineering Course #2:				
Degree Notes				
Any remaining credits may be completed with elective courses to bring the degree total to 120 with 45 of these credits at the 300/400 level.				
Advisor Notes:				