

# DATA SCIENCE B.S. MAJOR

## MATHEMATICS AND STATISTICS DEPARTMENT

### MAJOR CHECKLIST FALL 2020 – SUMMER 2021

*This checklist aids in placement of students into their major coursework and it documents the department evaluation of transferred credit and course waivers, based on coursework listed on the Degree Audit Report (DARs). A student must complete General Education & Liberal Studies along with other graduation requirements for graduation – refer to your DARs.*

Student Name	Metro State ID #

### PRE-MAJOR FOUNDATION REQUIREMENTS: 12 CREDITS

*In order to declare the Data Science major, students must earn grades of C- or higher and have a cumulative GPA of 2.5 or higher in following three courses.*

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
ICS 140	Computational Thinking with Programming				
STAT 201	Statistics I				
MATH 215	Discrete Mathematics				

### CORE REQUIREMENTS: 48 CREDITS

*Once admitted into the major, these lower and upper division courses are required. Take note of prerequisites prior to registering for courses 300-level or higher.*

### MATH AND STATISTICS COURSES

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
DATA 211	Data Science and Visualization				
STAT 301	Analysis of Variance and Multivariate Analysis				
STAT 311	Regression Analysis				
MATH 315	Linear Algebra and Applications				
DATA 401	Statistical Machine Learning				

## COMPUTER SCIENCE COURSES

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
ICS 141	Programming with Objects				
ICS 240	Introduction to Data Structures				
ICS 311	Database Management				
ICS 352	Machine Learning				
ICS 412	Computational Data Mining				

## MANAGEMENT INFORMATION SYSTEMS COURSES

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
MIS 380	Business Intelligence and Analytics				
MIS 480	Predictive Analytics				

### ELECTIVE COURSE REQUIREMENT: 4 CREDITS

*One of the following courses is also required. With approval from your academic advisor, other upper division mathematics courses may also fulfill this requirement.*

Course #	Title	Credits	✓	Course #	Title	Credits	✓
STAT 331	Nonparametric Statistical Methods	4		ICS 455	Social Network Analysis	4	
STAT 341	Analysis of Categorical Data	4		MIS 310	Principles of Management Information Systems	4	
STAT 411	Time Series Analysis and Forecasting	4		MIS 320	Information Systems Analysis and Design	4	
ICS 340	Algorithms and Data Structure	4		MIS 335	Management and Use of Databases	4	
ICS 411	Big Data Storage and Processing	4					

### SENIOR CAPSTONE OR STATICAL CONSULTING: 4 CREDITS

*One of the following courses is also required.*

Course #	Title	Credits	✓
STAT 480	Statistical Consulting	4	
DATA 499	Data Science Capstone	4	

## ADDITIONAL NOTES, CREDIT TOTALS OR COMMENTS:

Academic advisor notes:

## GRADUATION REQUIREMENTS

*The following is a summary of graduation requirements, reference your DAR's for specific details.*

Major Requirements Checklist	In Progress	Completed
56 Major Credits		
20 Metro State Major Credits		

University Requirements Checklist	In Progress	Completed
120 Total Credits (minimum), and GPA of 2.0 or better		
30 Metro State Credits		
40 Upper Division (300 or higher)		
48 Credits GELS	See DARs for details	
3 Credits Racial Issues Graduation Requirement (RIGR)		

## CONTACT US

*For specific questions about this major program or equivalencies of prior coursework at other institutions, contact the Chair of the Mathematics & Statistics Department at:*

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## METROPOLITAN STATE UNIVERSITY

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