

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 (GELS) along with other graduation requirements for graduation – refer to your DARs.

Student Name	Metro State ID #

PRE-MAJOR FOUNDATION REQUIREMENTS: 16 CREDITS

Students must complete the following courses with grades C- or higher and with a cumulative GPA of 2.50 or higher in order to be admitted into the program.

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
ICS 140	Computational Thinking with Programming				
STAT 201	Statistics I				
MATH 210	Calculus I				
MATH 215	Discrete Mathematics				

CORE REQUIREMENTS: 39-41 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.

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
ICS 141	Programming with Objects				
STAT 252 or DATA 211	Statistical Programming or, Data Science and Visualization			2 or 4	
STAT 311	Regression Analysis				
MATH 211	Calculus II				

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
MATH 230	Introduction to Mathematical Modeling				
MATH 310	Calculus III: Multivariable Calculus				
MATH 315	Linear Algebra and Applications				
MATH 320	Probability				
MATH 330	Optimization				
MATH 355	Introduction to Stochastic Processes				
MATH 420	Numerical Analysis				
MATH 430	Advanced Mathematical Modeling				

ELECTIVE COURSE REQUIREMENT: 8 CREDITS

Choose TWO of the following courses. At least one MUST have a MATH subject designation.

Course #	Title	Credits	✓	Course #	Title	Credits	✓
MATH 301	Introduction to Analysis			ICS 311	Database Management Systems		
MATH 350	Ordinary Differential Equations			ICS 340	Algorithms and Data Structures		
MATH 375	Complex Variables			ICS 365	Organization of Programming Languages		
MATH 405	Partial Differential Equations			ICS 372	Object-Oriented Design and Implementation		
MATH 471	Abstract Algebra			ICS 411	Big Data Storage and Processing		
STAT 301	Analysis of Variance			ICS 440	Parallel and Distributed Algorithms		
STAT 321	Biostatistics			ICS 460	Networks and Security		
STAT 331	Nonparametric Statistical Methods			ICS 462	Operating Systems		
STAT 341	Analysis of Categorical Data			PHYS 211	Calculus Based Physics I		
STAT 353	Environmental Statistics			PHYS 212	Calculus Based Physics II		

Course #	Title	Credits	✓	Course #	Title	Credits	✓
STAT 411	Time Series Analysis and Forecasting			PHYS 351	Thermodynamics		
FIN 390	Principles of Finance			PHYS 355 and 357	Modern Physics with lab		
MIS 380	Principles of Finance						
MIS 480	Predictive Analytics						

INTEGRATIVE EXPERIENCE: 4 CREDITS

Students must complete 4 credits of integrative experience from the following. Consult the University Catalog to determine the prerequisites for each of these courses. Note that STAT 301 is not a required course in the major, but is one of the prerequisites for STAT 480. Consult with academic advisor to determine an appropriate course.

Course #	Title	Transfer Equivalent Details	Grade	Credits	✓
STAT 480	Statistical Consulting			4	
MATH 499	Mathematics Capstone			4	
MATH 350I	Mathematics Internship			4	
STAT 350I	Statistics Internship			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
51-53 Major Credits		
20 Metro State Major Credits		

University Requirements Checklist	In Progress	Completed
120 Total Credits (minimum), and GPA of 2.0 or better		

University Requirements Checklist	In Progress	Completed
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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