Data Science and Statistics Specialization Checklist

Fall 2025

1. Required Core Courses:

_____MAT 128 Calculus B

_____MAT 229 Multivariable Calculus

_____MAT 200 Proof Writing Through Discrete Mathematics

_____MAT 205 Linear Algebra

_____STA 215 Statistical Inference & Probability

_____MAT 275 Sophomore Seminar

_____STA 305 Regression

_____MAT 316 Probability

_____STA 410 Mathematical Statistics

_____STA 498 Capstone
(*Capstone Prerequisite*: attendance at 4 seminars in junior/senior year)

2. MAT/STA Options

Students can take at most one course unit of independent study, guided study, or independent research as one of the five course units (MAT/STA 39x/49x).

_____Any STA course with a Data Science designation (below).

_____Any course at the 300 or 400 level with a STA prefix.

_____Any course at the 300 or 400 level with a STA prefix.

_____Any course at the 300 or 400 level with MAT or STA prefix.

_____Any course at the 300 or 400 level with MAT or STA prefix, **OR** a course from outside the Mathematics & Statistics Department on the approved list (below).

3. Correlates:

_____CSC 120 Foundation of Computational Thinking or MAT 203 Introduction to Mathematical Computing.

_____A lab course in Biology, Chemistry, or Physics numbered 200 or above, with departmental approval.

Data Science Options List:

STA 306 Applied Multivariate Statistics

STA 307 Data Mining and Predictive Modeling

Outside Courses Approved as a Statistics Option:

CSC 315 Database Systems

CSC 426 Machine Learning

ECO 420 Econometrics

FIN 365 Quantitative Finance and Risk Management

ISTG 615 Business Analytics (Regression Modeling II)

PBHG 652 Biostatistics for Public Health

PUBG 511 Program Evaluation and Causal Inference for Policy Analysis

SOC 302 Quantitative Research Methods