Data Science and Statistics Specialization Checklist

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

- **At most one of the five courses may have a non-MAT or STA prefix.**
- **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 course from the Data Science Options list (below)

_____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

_____Any course at the 300 or 400 level with MAT or STA prefix, **OR**
BIO 471/CSC 471, CHE 372, CSC 335, CSC 445, FIN 360, PHY 401

3. Correlates:

_____CSC 220 Computer Science or MAT 270 Introduction to Programming

_____BIO 201, CHE 201, PHY 201, or any other lab course in biology, chemistry, or physics numbered 200 or higher (except PHY306 or PHY390) and approved by the department.

_____CSC 230 Computer Science OR MAT 341 Computational Mathematics OR an additional biology, chemistry, or physics course numbered 200 or higher (except PHY306 or PHY390) and approved by the department.

Note: Students who use MAT 341 to satisfy the correlate requirement may NOT use MAT 341 as one of their MAT/STA course options in item 2.

4. Additional recommendations for those interested in data science:

Students should choose additional options or electives from the following list, as they are able:

STA 306, STA 307, STA 404, MAT 341, CSC 315, CSC 335

Data Science Options List:

STA 306 Applied Multivariate Statistics

STA 307 Data Mining and Predictive Modeling

STA 404 Computational and Bayesian Statistics