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

\_\_\_\_\_\_\_\_\_\_\_\_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

 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 deparment.

 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