Applied Mathematics Specialization Checklist

*(for students declaring the specialization on or after **Fall 2025**)*

1. Required Core Courses:

_____MAT 127 Calculus A

_____MAT 128 Calculus B

_____MAT 229 Multivariable Calculus

_____MAT 200 Proof Writing Through Discrete Mathematics

_____MAT 205 Linear Algebra

_____MAT 275 Sophomore Seminar

_____MAT 310 Real Analysis

_____MAT 326 Differential Equations

_____STA 215 Statistical Inference

_____MAT 498 Capstone (must be the Applied Mathematics section of Capstone)

(*Capstone Prerequisite*: attendance to 4 seminars in junior/senior year)

2. MAT/STA Options

- **At most two of the six courses may have an STA prefix.**
- **At most one of the six 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 six course units (MAT/STA 39x/49x). However, this will not count as an applied math elective course**

_____400 level course from the Applied Math Options list

_____300 or 400 level course from the Applied Math Options list

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

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

3. Choose one of the following options for the computer science correlate:

_____ CSC 120/Foundations of Computational Thinking or MAT 203/Introduction to Mathematical Computing (grade of C- or better for either)

_____ CSC230/Computer Science II or MAT341/Computational Mathematics

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. Choose one of the following options for the lab science correlate:

_____BIO 201 Foundations of Biological Inquiry

_____CHE 201 General Chemistry I

_____PHY 201 General Physics I

_____Any other lab course in Biology, Chemistry, or Physics numbered 200 or higher except PHY390 (with departmental approval).

Applied Math Options List:

MAT 303 Cryptography and Coding Theory

MAT 315 Topics in Linear Algebra

MAT 316 Probability

* MAT 317 Linear Programming

** MAT 318 Mathematical Statistics

MAT 330 Mathematical Biology

MAT 331 Numerical Analysis

MAT 341 Computational Mathematics

MAT 426 Partial Differential Equations

MAT 430 Seminar in Dynamical Systems

MAT 454 Seminar in Applied Mathematics

STA 318 Operations Research

** Offered occasionally*

*** For students in the Applied Mathematics Specialization, they must enroll in MAT318 instead of STA410. This course does not count as a 400-level Applied Mathematics option.*

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