

Applied Mathematics Specialization Checklist

(for students declaring the specialization on or after **Fall 2024**)

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
- _____ 300 or 400 level course from the Applied Math Options list
- _____ 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 prefix, **OR**
BIO 471/CSC 471, CHE 372, CSC 335, CSC 445, FIN 360, PHY 401

3. Computer science correlates:

_____ CSC 220 Computer Science I or MAT 270 Introduction to Programming

_____ CSC 230 Computer Science II or MAT 341 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.

(for any option: grade of C- or better in CSC220)

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 PHY306 or 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