

FREDERICK MORRISON

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SUMMARY

Mathematics senior at Arizona State University graduating May 2026 with a Summa Cum Laude GPA and a Certificate in Cryptology. Passionate about the mathematical foundations of cryptography, with coursework spanning elliptic curves, abstract algebra, and combinatorics.

EDUCATION

Arizona State University

Bachelor of Science, Mathematics
Certificate, Cryptology

Expected Graduation May 2026

Summa Cum Laude

RELEVANT CLASSES

MAT 447 & 448 - Cryptography I & II

Fall 2025 & Spring 2026

- Mathematical underpinnings of contemporary cryptosystems, electronic signatures, key exchange, primality testing and factorization algorithms.

MAT 512 Intro to Combinatorics

Fall 2025

- Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Polya theory and combinatorial structures.

MAT 419 - Intro to Linear Optimization

Spring 2025

- Simplex method, duality, and network flows. Applications to game theory, geometry, combinatorics, graph theory, and posets.

MAT 542 - Elliptic Curves

Spring 2026

- Geometry and arithmetic of elliptic curves, points of finite order, the group of rational points, curves over finite fields, complex multiplication.

MAT 442 - Advanced Linear Algebra

Fall 2025

- Fundamentals of linear algebra, dual spaces, invariant subspaces, canonical forms, bilinear and quadratic forms, and multilinear algebra.

MAT 440 - Group Theory

Fall 2025

- Dealt with Groups, their applications and underlying Mathematics, as well as Group Codes and their application to Computer Science and data security.

MAT 441 - Ring Theory

Spring 2025

- Explored abstract algebra concepts, focusing on rings and fields, strengthening logical skills.

TECHNICAL SKILLS

Programming: Experienced in Java, C/C++, Python, MATLAB, LaTeX, Rust, HTML, JavaScript

Industry: Linux familiarity, Microsoft Excel & Office Suite, VS Code, Vim, Docker, Overleaf

PROJECTS

Homebrew 3DS Minesweeper Port

- Wrote a clone of Minesweeper in C running on the Nintendo 3DS, gained experience using limiting environments and APIs with limited documentation.

PROFESSIONAL EXPERIENCE

Arizona State University

Peer Coach

Tempe, Arizona

08/2025 - 05/2026

- Advised Freshmen and Sophomore level students facilitating their growth in social, emotional, and academic challenges, and adjustment to the college environment.