



Plan of Study

Mathematics, B.S. Cryptography Specialization

(Minors in Computer Science and Cyber Operations)

Catalog Year: 2022-2023

Sample Schedule: Students are not limited to this plan; it is meant to serve as a guide for planning purposes in discussions with your academic advisor. This plan is one possible path to completing this degree in **four years**.

Students obtaining a degree in Computer Science, Computer Game Design, Physical Science, Biology only need to complete the Mathematics Component to obtain a second major in Mathematics with a specialization in Cryptography.

FIRST YEAR

First Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|----------------------------------------------|------------------------------------------------|---------|---------------------|
| Written Communication Requirement (ENGL 101) | | 3 | F, S |
| CSC 150 Computer Science I | | 3 | F, S, SU |
| MATH 123 Calculus I | Majors must take MATH 123 for SGR Requirement. | 4 | F, S, SU |
| CSC 105 Intro to Computers | | 3 | F, S, SU |
| SGR Social Science | | 3 | F, S |
| GS 100 University Experience: MATH | | 0 | F |
| Total Credit Hours | | 16 | |

Second Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|-----------------------------|--------------------------|---------|---------------------|
| CSC 250 Computer Science II | CSC 150 | 3 | F, S, SU |
| MATH 125 Calculus II | MATH 123 | 4 | S, SU |
| SGR Oral Communication | | 3 | F, S |
| SGR Written Communication | | 3 | F, S |
| SGR Arts and Humanities | | 3 | |
| Total Credit Hours | | 16 | |

SECOND YEAR

Third Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|---------------------------------|---------------------------------|---------|---------------------|
| MATH 201 Intro to Discrete Math | MATH 104, 114, 115, 120, or 123 | 3 | F, S, SU |
| CSC 234 Software Security | CSC 150 | 3 | F, SU |
| CSC 300 Data Structures | CSC 250 | 3 | F, S, SU |
| CSC 314 Assembly Language | CSC 250 | 3 | F, S, SU |
| CSC 285 Networking I | | 3 | F, S |
| Total Credit Hours | | 15 | |

Fourth Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|---------------------------------------|--------------------------|---------|---------------------|
| MATH 436 Number Theory & Cryptography | MATH 201 and CSC 250 | 3 | S |
| MATH 315 Linear Algebra | MATH 123, 201, or 225 | 3 | F, S |
| CSC 385 Networking II | CSC 285 | 3 | S |

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|-----------------------------|---------------------------|-----------|---------------------|
| CSC 260 Object Oriented | CSC 250 | 3 | F, S |
| CSC 310 Adv Data Structures | CSC 300 | 3 | F, S |
| | Total Credit Hours | 15 | |

THIRD YEAR

Fifth Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|--------------------------------------------|---------------------------|-----------|---------------------|
| MATH 437 Cryptography and Codes | MATH 436 | 3 | F |
| MATH Elective | | 3 | F (Even Years) |
| CSC 461 Programing Languages | CSC 300 | 3 | F |
| CSC 430 Cellular and Mobile Communications | CSC 285 | 3 | F |
| SGR Natural Science | | 3 | F, S, SU |
| | Total Credit Hours | 15 | |

Sixth Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|--------------------------------|---------------------------|-----------|---------------------|
| MATH 316 Discrete Mathematics | MATH 123, 201 or 225 | 3 | F, S, SU |
| MATH 281 Intro to Statistics | MATH 114, 115, 121 or 123 | 3 | F, S, SU |
| CSC 428 Reverse Engineering | CSC 314 | 3 | F, S |
| CSC 428 Operating Environments | | 3 | S |
| SGR Natural Science | | 3 | F, S, SU |
| | Total Credit Hours | 15 | |

FOURTH YEAR

Seventh Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|-----------------------------------------|---------------------------|-----------|---------------------|
| MATH 413 Abstract Algebra I | MATH 201 | 3 | F Even Years |
| MATH 381 Introduction to Prob. & Stats. | MATH 125 | 3 | F Even Years |
| CSC 470 Software Engineering | CSC 300 | 3 | F |
| CSC 436 Offensive Network Security | CSC 328 and CSC 385 | 3 | F |
| SGR Social Science | | 3 | F, S |
| | Total Credit Hours | 15 | |

Eighth Semester

| Course | Prerequisites / Comments | Credits | Semester(s) Offered |
|--------------------------|---------------------------|-----------|---------------------|
| MATH Elective | | 3 | F, S |
| CSC 432 Malware Analysis | | 3 | S |
| MATH Elective | | 3 | F,S |
| SGR Arts and Humanities | | 3 | F,S,SU |
| Elective | | 1 | |
| | Total Credit Hours | 13 | |

P = Course Prerequisite

Semester: F = Fall; S = Spring; SU = Summer

Information and course schedules may change. This is not a contract.