DAKOTA STATE UNIVERSITY

Plan of Study

Mathematics, B.S.
Cryptography Specialization

(Minors in Computer Science and Cyber Operations)

Catalog Year: 2023-2024

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.