CYBERSECURITY - BACHELOR OF SCIENCE

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications [1]		
English Composition - Level 1 [2]		*4*
English Composition - Level 2 [2]		*3*
Oral Communication		*3*
Area II: Mathematics [3]		
Choose one from the following:		3-4
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*11*
C S 171G	Introduction to Computer Science	
Area III: Laboratory Sciences Course (4 credits) [2]		
Area IV: Social & Behavioral Sciences (3 credits) [2]		
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Viewing a Wider World [4]		**6**
Departmental/College Requirements		
BCIS 482	Management of Information Security	3
C S 111	Computer Science Principles	4
C S 272	Introduction to Data Structures	4
C S 273	Machine Programming and Organization	4
or E E 212	Introduction to Computer Organization	
C S 278	Discrete Mathematics for Computer Science	4
C S 371	Software Development	4
C S 380	Introduction to Cryptography	3
C S 448	Senior Project	4
C S 474	Operating Systems I	3
C S 478	Computer Security	3
C S 479	Special Topics (Mobile Computing and Wireless)	3
or E E 490	Selected Topics	
C S 479	Special Topics (Software Reverse Engineering)	3
C S 480	Linux System Administration	3
C S 482	Database Management Systems I	3
C S 484	Computer Networks I	3
CJUS 412	Introduction to Security Technology and Loss Prevention	3
E E 458	Hardware Security and Trust	3
E T 339	Introduction to Digital Forensics and Incident Response	3
Choose one sequence from the following:		6-8
C S 172 & C S 271	Computer Science I and Object Oriented Programming	
C S 152 & C S 271	Java Programming and Object Oriented Programming	
Choose one from the following:		3
E E 200	Linear Algebra, Probability and Statistics Applications	
STAT 371	Statistics for Engineers and Scientists I	
STAT 470	Probability: Theory and Applications	
Second Language Requirement: (not required)		
Electives, to bring the total credits to 120 [5]		**8-11**
Select upper division electives to bring total upper division to 48		
C S 496	Cloud and Edge Computing (Recommended)	
Total Credits		**120**

1

Students with Area I transfer credits may sometimes complete this requirement with 9 credits

2

See the General Education (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses

3

Either MATH 1511G Calculus and Analytic Geometry I or MATH 1430G Applications of Calculus I are required for the degree but students may need to take any prerequisites needed to enter MATH 1511G or MATH 1521G first.

4

See the Viewing a Wider World (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.

5

Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

A Suggested Plan of Study For Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and english. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year		
Semester 1		**Credits**
ENGL 1110G	Composition I	4
Choose one from the following: [1]		3-4
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1430G	Applications of Calculus I	
Area IV: Social/Behavioral Sciences Course [2]		3
C S 171G	Introduction to Computer Science	4
	Credits	**14-15**

Semester 2		
Choose one from the following:		3
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
HNRS 2175G	Introduction to Communication Honors	
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II or Calculus and Analytic Geometry II Honors	4
C S 172	Computer Science I	4
Choose one from the following:		3
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional & Technical Communication	
ENGL 2215G	Advanced Technical and Professional Communication	
Area V: Humanities Course [2]		3
	Credits	**17**
Second Year		
Semester 1		
Area VI: Creative and Fine Arts Course [2]		3
Area III: Laboratory Sciences Course [2]		4
C S 271	Object Oriented Programming	4
C S 272	Introduction to Data Structures	4
	Credits	**15**
Semester 2		
VWW [3,5]		3
C S 273 or E E 212	Machine Programming and Organization or Introduction to Computer Organization	4
C S 278	Discrete Mathematics for Computer Science	4
Choose one from the following:		3
E E 200	Linear Algebra, Probability and Statistics Applications	
STAT 371	Statistics for Engineers and Scientists I	
STAT 470	Probability: Theory and Applications	
	Credits	**14**
Third Year		
Semester 1		
C S 371	Software Development	4
Viewing a Wider World Course [3]		3
BCIS 482	Management of Information Security	3
Upper-Division Elective Course [4]		3
Mobile Computing and Wireless [6]		3
C S 496	Cloud and Edge Computing (Recommended)	
	Credits	**16**
Semester 2		
Viewing a Wider World Course [3]		3
C S 478	Computer Security	3
CJUS 412	Introduction to Security Technology and Loss Prevention	3
C S 479	Special Topics (Software Reverse Engineering)	3
Elective Course [4]		3
	Credits	**15**
Fourth Year		
Semester 1		
C S 474	Operating Systems I	3
C S 482	Database Management Systems I	3
C S 480	Linux System Administration	3
E T 339	Introduction to Digital Forensics and Incident Response	3
Elective Course [4]		3
	Credits	**15**
Semester 2		
C S 448	Senior Project	4
C S 380	Introduction to Cryptography	3
E E 458	Hardware Security and Trust	3
C S 484	Computer Networks I	3
	Credits	**13**
	Total Credits	**119-120**

1

MATH 1511G Calculus and Analytic Geometry I or MATH 1430G Applications of Calculus I is the starting requirement for this degree but students may need to take prerequisites before enrolling.
**If a student tests into MATH 1521G Calculus and Analytic Geometry II then elective credits can replace this requirement in the roadmap.*

2

See the General Education (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.

3

See the Viewing a Wider World (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.

4

Any course offered by the university. Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

5

Students need to fill in one credit to meet the requirement of 15 credit hours.

6

This course does not have a course number yet. It will be offered as a special topic course in CS (C S 479 Special Topics or C S 579 Special Topics) or EE (E E 490 Selected Topics). The topic of the course must be Mobile and Wireless Computing.