CYBER SECURITY OPERATIONS COMPREHENSIVE, BACHELOR OF SCIENCE

Offered by Department of Cyber Systems (http://catalog.unk.edu/undergraduate/departments-programs/cyber-systems/)

Code	Title	Credit Hours
General Studies		
Foundational Requirements (LOPERs 1-4)		*14*
Including:		
LOPER 4: Mathematics, Statistics and Quantitative Reasoning		
MATH 115	Calculus I with Analytic Geometry [1]	
Broad Knowledge Requirements (LOPERs 5-8)		*12*
Dispositional Requirements (LOPERs 9-10) [2]		*6*
Wellness (LOPER 11) Optional		*0*
BS Science-related course requirements		**0**
Program-Specified Requirements		**3**
CYBR 101	Computer Science I: Python for Analytics [3]	
Major Option		
Complete all required courses		60
Unrestricted electives		
Needed to reach 120 credit hour minimum		25
Total Credit Hours		120

Major Option

Code	Title	Credit Hours
Cyber Security Major Comprehensive Core Requirements (48 hours required)		
Take all of the following:		
CYBR 105	Cyber Systems Freshmen: Professional Practice	2
CYBR 150	Computer Science II: Object Oriented Programming	3
CYBR 151	Cyber Programming Environment: Linux	1
CYBR 158	Introduction to Information Security	3
CYBR 180	Discrete Structures	3
CYBR 190	Data Analytics Mathematical Modeling	3
CYBR 235	Fundamentals of Networking & Systems	3
CYBR 330	Algorithms and Data Structures	3
CYBR 301	Computer Organization	3
CYBR 345	Intricacies of Advanced Networks & Systems	3
CYBR 401	Operating Systems	3
CYBR 412	Fundamentals and Security of Mobile Networks	3
CYBR 430	Defending & Protecting Cyber Systems	3
CYBR 435	Reverse Engineering: Thinking like an Adversary	3
CYBR 490	Information Networking Law and Public Policy	3
CYBR 495	Cyber Systems Capstone	3
CYBR 486	Machine Learning	3
Total Credit Hours		48

Computational Science

Code	Title	Credit Hours
Take 12 credit hours from the following:		12
CYBR 304	Foundation of Computational Mathematics	
CYBR 337	Graph Theory	
CYBR 422	Computer Graphics	
CYBR 441	Artificial Intelligence	
CYBR 492	Computational Natural Language Processing	
Total Credit Hours		12

Systems

Code	Title	Credit Hours
Take 12 credit hours from the following:		12
CYBR 240	Information Networking Preceptorial	
CYBR 348	Systems Administration I	
CYBR 404	Software Engineering	
CYBR 460	Virtualization Essentials	
CYBR 448	System Administration II	
Total Credit Hours		12

Management

Code	Title	Credit Hours
Take 12 credit hours from the following:		12
CYBR 305	Healthcare Informatics & Technology	
CYBR 485	Information Systems Strategy and Management	
CYBR 478	Cybersecurity for Managers & Leaders	
CYBR 479	Cyber Risk and Threat Modeling	
CYBR 493	Social Dynamics of Cybercrime	
Total Credit Hours		12

1

Students without sufficient preparation will also need to take the following courses, increasing the total credit hours needed:

- MATH 102 (http://catalog.unk.edu/search/?P=MATH%20102)
- MATH 103 (http://catalog.unk.edu/search/?P=MATH%20103)

2

Designated courses with the appropriate content may be approved to satisfy one of the Broad Knowledge requirements plus LOPER 9 or Broad Knowledge plus LOPER 10. Courses may be approved to satisfy LOPER 9 or LOPER 10 alone. (Courses satisfying LOPER 9 or LOPER 10 alone must be 3 credit hours.) Students applying this option will need to take additional hours in other categories to meet the required GS hours.

3

Students without sufficient preparation should take CYBR 100.