# Cyber Security Operations Comprehensive, Bachelor of Science


<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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## General Studies

**Foundational Requirements (LOPERs 1-4)**

- **LOPER2: Writing Skills**
  - ENG 101 Introduction of Academic Writing 1

- **LOPER 4: Mathematics, Statistics and Quantitative Reasoning**
  - MATH 115 Calculus I with Analytic Geometry 1

**Broad Knowledge Requirements (LOPERs 5-8)**

- **Dispositional Requirements (LOPERs 9-10)** 2

**Wellness (LOPER 11) Optional**

- **BS Science-related course requirements**
  - 0

## Program-Specified Requirements

- **ENG 102** Special Topics in Academic Writing and Research 6-7

- **CYBR 102** Computer Science I: C for Security
  - or CYBR 101 Computer Science I: Python for Analytics
  - or CYBR 103 Computer Science I: Java for Software Development

## Major Option

- **Complete all required courses**
  - 54

- **Unrestricted electives**

- **Needed to reach 120 credit hour minimum**
  - 28-27

| Total Credit Hours | 120 |

A grade of "C" or above is required for all courses in this Option. Prerequisites are fulfilled when the prerequisite courses have been passed with a "C" or above.

## Electives

Take 12 hours from:

- **ITEC 220** Electricity/Electronics
- **CJUS 321** Technology in Criminal Justice
- **CYBR 340** Information Networking Preceptorial
- **CYBR 404** Software Engineering
- **CYBR 407** Introduction to Automatic, Formal Languages, and Computability
- **CYBR 425** Database Systems
- **CYBR 448** System Administration II
- **CYBR 475** Internship in Cyber Systems
- **CYBR 484** Parallel Computing
- **CYBR 300-CYBR 499** 3,4

### Major Option

**Cyber Security Major Comprehensive Core Requirements (42 hours required)**

- **Take all of the following:**
  - **CYBR 150** Computer Science II: Object Oriented Programming 3
  - **CYBR 180** Discrete Structures 3
  - **CYBR 301** Computer Organization 3
  - **CYBR 330** Algorithms and Data Structures 3
  - **CYBR 335** Fundamentals of Networking & Systems 3
  - **CYBR 345** Intricacies of Advanced Networks & Systems 3
  - **CYBR 401** Operating Systems 3
  - **CYBR 430** Defending & Protecting Cyber Systems 3
  - **CYBR 435** Reverse Engineering: Thinking like an Adversary 3
  - **CYBR 444** Software Reverse Engineering 3
  - **CYBR 460** Virtualization Essentials 3
  - **CYBR 468** Advanced Security: Playing Both Sides 3
  - **CYBR 490** Information Networking Law and Public Policy 3
  - **CYBR 495** Cyber Systems Capstone 3

**Total Credit Hours**

- 54

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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](http://catalog.unk.edu/search/?P=MATH%20102)
   - MATH 103 [http://catalog.unk.edu/search/?P=MATH%20103](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. Except CYBR 388

4. As approved by the department