Bachelor of Science  
Cybersecurity (BS)

Web Site: https://www.odu.edu/cyber

Saltuk Karahan, Undergraduate Program Director  
skarahan@odu.edu (http://catalog.odu.edu/undergraduate-degrees/#impact  
https://www.odu.edu/cyber)

The Bachelor of Science degree in cybersecurity provides opportunities for  
students to integrate education and training with the application of problem-  
solving skills in the lab environment. Courses are drawn from the disciplines  
of philosophy, computer science, computer engineering, information  
technology, and criminal justice to examine the multi-faceted nature of  
cybersecurity. Students admitted to the program have a variety of credit  
options including portfolio review, CLEP, DANTES, and departmental  
exams. For more information about the cybersecurity interdisciplinary  
program, email cyber@odu.edu or Dr. Saltuk Karahan (skarahan@odu.edu).

Requirements

Lower-Division General Education

Written Communication  
Oral Communication  
Mathematics  
Language and Culture  
Information Literacy and Research  
Human Behavior  
Human Creativity  
Interpreting the Past  
Literature  
Philosophy and Ethics  
The Nature of Science  
Impact of Technology

Upper-Division General Education

Met in the major.

Requirements for Graduation

Requirements for graduation include the following:

• Minimum of 120 credit hours.
• Minimum of 30 credit hours overall and 12 credit hours of upper-level  
courses in the major program from Old Dominion University.

• Minimum overall cumulative grade point average of C (2.00) in all  
courses taken.
• Minimum overall cumulative grade point average of C (2.00) in all  
courses taken toward the major.
• Minimum overall cumulative grade point average of C (2.00) in all  
courses taken toward a minor.
• Completion of ENGL 110C, ENGL 211C or ENGL 231C, and the  
writing intensive (W) course in the major with a grade of C or better.  
The W course must be taken at Old Dominion University.
• Completion of Senior Assessment.

Cybersecurity Major

General Education

Complete lower-division requirements  
Complete upper-division requirements (met in the major)

Prerequisite Courses

Students may be required to complete an additional 15-36 hours of  
prerequisite courses depending on which Principles and Application  
courses they select.

Interdisciplinary Writing Course

IDS 300W  
Interdisciplinary Theory and Concepts

Core Courses

CYSE/IT 200T  
Cybersecurity, Technology, and Society

CYSE 201S  
Cybersecurity and the Social Sciences

CYSE 250  
Basic Cybersecurity Programming and Networking

CYSE 300  
Introduction to Cybersecurity

CYSE 301  
Cybersecurity Techniques and Operations

CYSE/CRJS/CPD 406  
Cyber Law

CYSE 425W  
Cybersecurity Strategy and Policy (C or better required)

or  
POLS 425W  
Cybersecurity Strategy and Policy

CS 462  
Cybersecurity Fundamentals

Principles Courses

Select three courses from the following. The coursework allows  
students to study the selected cybersecurity principles of their choice  
aligned with their interests and career goals.

CRJS 310  
Cybercriminology: Foundations

CS 463  
Cryptography for Cybersecurity

CS 464  
Networked Systems Security

CYSE 495  
Topics in Cybersecurity

ECE/MSIM 416  
Cyber Defense Fundamentals

ECE/MSIM 419  
Cyber Physical System Security

ECE/MSIM 470  
Foundations of Cyber Security

IT 315  
Introduction to Networking and Security *

IT 417  
Management of Information Security *

IT 418  
Enterprise Information Assurance *

or  
CS 465  
Information Assurance for Cybersecurity

PHIL 355E  
Cybersecurity Ethics

Application Courses *

Select three courses from the following. The coursework allows  
students to apply fundamental cybersecurity theories and techniques  
in their selected application domains.

CYSE 270  
Linux System for Cybersecurity

CYSE 280  
Windows System Management and Security

CYSE 407/  
CRJS 395  
Digital Forensics

CYSE 420  
Applied Machine Learning in Cybersecurity

CYSE 426  
Cyber War

or  
POLS 426  
Cyber War
CYSE 450  Ethical Hacking and Penetration Testing
CS 467  Introduction to Reverse Software Engineering
CS 471  Operating Systems
ECE 452  Introduction to Wireless Communication Networks
ECE 455  Network Engineering and Design
IT 410  Business Intelligence
IT 416  Network Server Configuration and Administration
IT 419  Enterprise Cyber Defense
IT 461  Implementing Internet Applications
ECE 452  Introduction to Wireless Communication Networks
ECE 455  Network Engineering and Design
IT 410  Business Intelligence
IT 416  Network Server Configuration and Administration
IT 419  Enterprise Cyber Defense
IT 461  Implementing Internet Applications

Capstone Courses
CYSE 368  Cybersecurity Internship
or CYSE 494  Entrepreneurship in Cybersecurity
IDS 493  IDS Electronic Portfolio Project

Electives (minimum of 19 credit hours)
Students can take the electives from any discipline at ODU and/or complete prerequisites for Principles and Application courses, as needed, to complete the required 120 credit hours. However, no more than 29 credits from courses in the Strome College of Business may be applied to the degree requirements, including named elective courses and general electives (ACCT, BNAL, ECON, FIN, IT, OPMT, MSCM, MGMT, ENTR, MKTG).

Total Credit Hours 120-150

Electives
Elective credit may be needed to meet the minimum of 120 hours required for the degree.

Degree Program Guide
The Degree Program Guide is a suggested curriculum to complete this degree program in four years. It is just one of several plans that will work and is presented only as broad guidance to students. Each student is strongly encouraged to develop a customized plan in consultation with their academic advisor. Additional information can also be found in Degree Works.

Course Title Credit Hours
Freshman
Fall
ENGL 110C English Composition (Grade of C or better required) 3
MATH 162M Precalculus I 3
Oral Communication 3
Information Literacy and Research 3
Human Behavior CRJS 215S or DASC 205S/SDC 205S 3

Credit Hours 15

Spring
ENGL 211C or ENGL 231C Writing, Rhetoric, and Research (Grade of C or better required) or Writing, Rhetoric, and Research: Special Topics 3
Interpreting the Past 3
CYSE 250 Basic Cybersecurity Programming and Networking 3
Approved prerequisite or program elective 3
CYSE 201S Cybersecurity and the Social Sciences 3

Credit Hours 15

Sophomore
Fall
Nature of Science I 4
CYSE 200T Cybersecurity, Technology, and Society (Meets Impact of Technology) 3
CYSE 300 Introduction to Cybersecurity 3
Select one of the following: 3
CYSE 406 Cyber Law 3
CRJS 406 Cyber Law 3
CPD 406 Cyber Law 3
Approved prerequisite or program elective 3

Credit Hours 15

Junior
Fall
IDS 300W Interdisciplinary Theory and Concepts 3
Philosophy and Ethics (Can be met by PHIL 355E) 3
Principles course selection 2 of 3 3
Application course selection 1 of 3 3
Approved prerequisite or program elective 3

Credit Hours 15

Spring
Human Creativity 3
CYSE 425W or POLS 425W Cybersecurity Strategy and Policy (C or better required) or Cybersecurity Strategy and Policy 3
Application course selection 2 of 3 3
Approved prerequisite or program elective 3
Approved program elective 3

Credit Hours 15

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<tbody>
<tr>
<td>Literature</td>
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<td><strong>Credit Hours</strong></td>
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| Total Credit Hours | 120 |

Language and Culture I & II may be met in high school and are not included in this four-year plan. Please see requirement details.