

# CYBER DEFENSE CONCENTRATION

## Cybersecurity, Bachelor of Science in Cybersecurity - Cyber Defense Concentration Requirements

| Code  | Title   | Credits   |
|---|---|-----------|
| <b>General Education Requirements - 34 Hours Required</b>   |   |           |
| Minimum of "C-" required  |   |           |
| <b>Fundamental Skills</b>   |   | <b>15</b> |
| ENGL 1150   | ENGLISH COMPOSITION I                                   |           |
| ENGL 1160   | COLLEGE RESEARCH AND INFORMATION LITERACY               |           |
| <b>Oral Communication – 3 hrs.</b>  |   |           |
| CMST 1110   | PUBLIC SPEAKING FUNDS                                   |           |
| or CMST 2120  | ARGUMENTATION AND DEBATE                                |           |
| <b>Quantitative Literacy – 3 hrs.</b>   |   |           |
| MATH 1120   | INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING |           |
| or MATH 1130  | QUANTITATIVE LITERACY                                   |           |
| or MATH 1140  | QUANTITATIVE REASONING FOR HEALTHCARE PROFESSIONALS     |           |
| or MATH 1300  | COLLEGE ALGEBRA WITH SUPPORT                            |           |
| <b>Data Literacy – 3 hrs.</b>   |   |           |
| Select one from the following:  |   |           |
| STAT 1100   | DATA LITERACY AND VISUALIZATION                         |           |
| STAT 1530   | ELEMENTARY STATISTICS                                   |           |
| Until Fall 2028, students can satisfy this requirement with an approved data literacy course, or any approved natural or social science general education course. |   |           |
| <b>Breadth of Knowledge</b>   |   | <b>13</b> |
| Social Science – 3 hrs.   |   |           |
| Humanities – 3 hrs.   |   |           |
| Natural & Physical Science (must complete a lab) – 4 hrs.   |   |           |
| Arts – 3 hrs.   |   |           |
| <b>Individual and Social Responsibility</b>   |   | <b>6</b>  |
| Cultural Knowledge – 3 hrs.   |   |           |
| Civic Knowledge and Engagement – 3 hrs.   |   |           |
| <b>MAJOR REQUIREMENTS - 71 Hours Required</b>   |   |           |
| **Course will satisfy UNO's General Education Requirement   |   |           |
| ^Course requires pre-requisite(s)   |   |           |
| <b>All of the Following</b>   |   | <b>53</b> |
| CYBR 1100   | INTRODUCTION TO INFORMATION SECURITY (**)               |           |
| CIST 1400   | INTRODUCTION TO COMPUTER SCIENCE I (^)                  |           |
| CSCI 1620   | INTRODUCTION TO COMPUTER SCIENCE II (^)                 |           |
| MATH 1950   | CALCULUS I (^)  |           |
| ACMP 2000   | DATA ANALYSIS AND MACHINE LEARNING (^)                  |           |
| CSCI 2030   | MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE (^)        |           |
| or MATH 2030  | DISCRETE MATHEMATICS                                    |           |

|  |   |          |
|--|---|----------|
| CYBR 2250  | LOW-LEVEL PROGRAMMING (^)   |          |
| CYBR 2600  | SYSTEM ADMINISTRATION (^)   |          |
| CYBR 3050  | PRINCIPLES OF CYBER OPERATIONS AND DEFENSE (^) <sup>1</sup>   |          |
| CIST 3110  | INFORMATION TECHNOLOGY ETHICS (** ^)  |          |
| CSCI 3320  | DATA STRUCTURES (^)   |          |
| CSCI 3550  | COMMUNICATION NETWORKS (^)  |          |
| CYBR 3570  | CRYPTOGRAPHY (^)  |          |
| CYBR 3600  | CYBERSECURITY POLICY AND AWARENESS (^)  |          |
| CSCI 3720  | COMPUTER ORGANIZATION (^)   |          |
| CSCI 4500  | OPERATING SYSTEMS (^)   |          |
| CYBR 4580  | CAPSTONE (^)  |          |
| <b>Cyber Defense Concentration Core - complete all of the following:</b>         |   | <b>9</b> |
| CYBR 4380  | DIGITAL FORENSICS   |          |
| CYBR 4390  | MOBILE DEVICE FORENSICS   |          |
| CYBR 4460  | ETHICAL HACKING - NETWORK ANALYSIS  |          |
| <b>Cyber Defense Concentration Extension - complete 9 credits selected from:</b> |   | <b>9</b> |
| CYBR XXXX  | Any course with CYBR subject prefix not counted elsewhere in the plan of study, including lower or upper level CYBR transfer coursework |          |
| CSCI 3660  | THEORY OF COMPUTATION   |          |
| CSCI 4560  | NUMBER THEORY & CRYPTOGRAPHY  |          |
| CSCI 4650  | INTRODUCTION TO CLOUD COMPUTING   |          |
| <b>ELECTIVES</b>   |   |          |
| #Elective hours as required to reach a total of 120 hours                        |   |          |

<sup>1</sup> Students who have previously earned credit for CYBR 4360 may substitute CYBR 4360 and PSCI 4260 in place of CYBR 3050.