COMPUTER SCIENCE
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 Core (Written, Math, Oral, Democracy)*

Foundational Core courses (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses) 14

Including:

- MATH 115 Calculus I with Analytic Geometry

*Portal*

Select one course numbered 188 (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/portal-course) 3

*Distribution*

- ENG 101 Introduction of Academic Writing 3

If ENG 101 is not taken as a prerequisite for ENG 102 then additional hours may be required to meet the 27 credit hour minimum in the Distribution Area of General Studies.

- Aesthetics (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/aesthetics) 3

- Humanities (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/humanities) 6

- Social Sciences (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/social-sciences) 6

- Natural Sciences (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/natural-sciences) 7

*Analytical and Quantitative Thought* (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/analytical-quantitative-thought) 4-3

Including:

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

*Wellness* (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/wellness) 0

*Capstone*

Select one course numbered 388 (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/capstone-course) 3

**BS Science-related course requirements**

Take 1 course from the following: 3

- STAT 241 Elementary Statistics
- STAT 345 Applied Statistics I
- STAT 441 Probability and Statistics

**Major Option**

Complete all required courses 59

**Unrestricted electives**

Needed to reach 120 credit hour minimum 9-10

Total Credit Hours 120

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

**Computer Science Comprehensive Core Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYBR 150</td>
<td>Computer Science II: Object Oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 180</td>
<td>Discrete Structures</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 301</td>
<td>Computer Organization</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 330</td>
<td>Algorithms and Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 401</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 404</td>
<td>Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 407</td>
<td>Introduction to Automata, Formal Languages, and Computability</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 408</td>
<td>Principles of Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 425</td>
<td>Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 441</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 495</td>
<td>Cyber Systems Capstone</td>
<td>3</td>
</tr>
<tr>
<td>MATH 202</td>
<td>Calculus II with Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>MATH 440</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

**Computer Science Electives**

Select 9 credit hours of the following: 9

- CYBR 300-CYBR 499 (except CYBR 388, CYBR 494 - CYBR 499)

Select 9 credit hours of the following: 2 9

- CYBR 300-CYBR 499
- MATH 300-MATH 499
- PHYS 300-PHYS 499
- MATH 250 Foundations of Math
- MATH 260 Calculus III

Total Credit Hours 59

1. Students without sufficient preparation will also need to take the following courses, increasing the total credit hours needed:
   - MATH 102
   - MATH 103

2. As approved by the department.

3. Except CYBR 388. Take no more than 6 credit hours from CYBR 475, CYBR 494, CYBR 499.

4. Except PHYS 388