# Applied Computer Science, Bachelor of Science Degree

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

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

**Foundational Core (Written, Math, Oral, Democracy)**

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

- MATH 115 Calculus I with Analytic Geometry\(^1\)

**Portal**

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

**Distribution**

- ENG 101 Introduction of Academic Writing

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)

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

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

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

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

- 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)

**Capstone**

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

**BS Science-related course requirements**

Select one of the following:

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

## Major Option

Complete all required courses 36

### Computer Science Core Requirements

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>CYBR 150</td>
<td>Computer Science II: Object Oriented Programming</td>
<td>3</td>
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<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 441</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CYBR 495</td>
<td>Cyber Systems Capstone</td>
<td>3</td>
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### Computer Science Electives

Select 6 credit hours of the following with advisor approval:

- CYBR 300-CYBR 499 6

## Minor or 2nd Major

Complete all required courses 24

### Unrestricted electives

Needed to reach 120 credit hour minimum 8-9

Total Credit Hours 120

All courses in this major require a minimum grade of "C". In this option, prerequisites are fulfilled when the prerequisite courses have been passed with a "C" or above.

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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
   - MATH 103

2 A minor or second major is required for a complete degree program. The number of required electives needed to reach 120 total credit hours overall will depend upon the specific program chosen.

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