MATHEMATICS COMPREHENSIVE, BACHELOR OF SCIENCE

Offered by Department of Mathematics and Statistics (http://catalog.unk.edu/undergraduate/departments-programs/mathematics-statistics)

Applied Mathematics, Computer Science, General Emphases

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<th>Code</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)

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)

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)

Including:

- PHYS 275 General Physics I (Calculus)
- PHYS 275L General Physics I (Calculus) Laboratory

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

Including:

- CSIT 111 Applied Computer Programming
- CSIT 112 Programming in C
- CSIT 130 Introduction to Computer Science

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

Complete all required courses 0

Major Option

Complete all required courses 52-55

Unrestricted electives

Needed to reach 120 credit hour minimum 16-19

Total Credit Hours 117-123

Must be completed with no grade below a "C".

Major Option

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Math Comprehensive Core Requirements

- MATH 202 Calculus II with Analytic Geometry 5
- MATH 250 Foundations of Math 3
- MATH 260 Calculus III 5
- MATH 305 Differential Equations 3
- MATH 350 Abstract Algebra 3
- MATH 365 Complex Analysis 3
- MATH 404 Theory of Numbers 3
- MATH 413 Discrete Mathematics 3
- MATH 420 Numerical Analysis 3
- MATH 440 Linear Algebra 3
- MATH 460 Advanced Calculus I 3

Emphasis area

Select one of the following: 15-18

- Applied Mathematics Emphasis (p. 1)
- Computer Science Emphasis (p. 1)
- General Emphasis (p. 2)

Total Credit Hours 52-55

Applied Mathematics Emphasis

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Select at least 15 credit hours of the following: 15

- CSIT 150 Object Oriented Programming
- CSIT 180 Discrete Structures
- PHYS 276 General Physics II (Calculus)
- PHYS 276L General Physics II (Calculus) Laboratory
- PHYS 410 Mathematical Techniques in Physics I
- PHYS 411 Mathematical Techniques in Physics II
- STAT 345 Applied Statistics I
- STAT 441 Probability and Statistics
- STAT 442 Mathematical Statistics

Total Credit Hours

Computer Science Emphasis

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- CSIT 150 Object Oriented Programming 3
- CSIT 180 Discrete Structures 3
- CSIT 301 Computer Organization 3
- CSIT 330 Algorithms and Data Structures 3
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<th>Credit Hours</th>
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<tr>
<td>CSIT 402</td>
<td>Introduction to Automata, Formal Languages, and Computability</td>
<td>3</td>
</tr>
<tr>
<td>CSIT 408</td>
<td>Principles of Programming Languages</td>
<td>3</td>
</tr>
<tr>
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<td>Total Credit Hours</td>
<td>18</td>
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**General Emphasis**

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<tr>
<td></td>
<td>Select a combination of 15 credit hours of CSIT, MATH, PHYS, STAT ³</td>
<td>15</td>
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<tr>
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<td>Total Credit Hours</td>
<td>15</td>
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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 Students who plan a Computer Science Emphasis are advised to take CSIT 130.

³ Except CSIT 188, CSIT 388, PHYS 188, PHYS 388