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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<th>Credit Hours</th>
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General Studies

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

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) and General Physics I (Calculus) Laboratory
- Analytical and Quantitative Thought (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/analytical-quantitative-thought)
- Wellness (http://catalog.unk.edu/undergraduate/general-studies/general-studies-courses/wellness)

Needed to reach 27 credit hour minimum in Distribution

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

Major Option

Complete all required courses

Unrestricted electives

Needed to reach 120 credit hour minimum

Total Credit Hours

116-124

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

Select one of the following:  3-4

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

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

55-59

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

15

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
- CSIT 402  Introduction to Automata, Formal Languages, and Computability  3
CSIT 408  Principles of Programming Languages  3

Total Credit Hours  18

**General Emphasis**

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<td>Select a combination of 15 credit hours of CSIT, MATH, PHYS, STAT</td>
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Total Credit Hours  15

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