BSA-Chemistry, Math, Physics  
Bachelor of Science and Arts (BSA)

Mellon College of Science (MCS) Concentrations

Chemistry  121 units minimum

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Chemistry Required Courses  103 units
09-106  Modern Chemistry II  10
09-219  Modern Organic Chemistry  10
09-220  Modern Organic Chemistry II  10
09-214, 344 or 345  Physical Chemistry  9
09-348  Inorganic Chemistry  10
09-221  Laboratory I: Introduction to Chemical Analysis  12
09-222  Laboratory II: Organic Synthesis and Analysis  12
09-321  Laboratory III: Molecular Design and Synthesis  12
or 09-323  Bioorganic Chemistry Laboratory  12
09-204  Professional Communication Skills in Chemistry  3
09-201, 202 & 301  Undergraduate Seminars (1 unit each)  3
09-402  Undergraduate Seminar VI  3
33-122  Physics II for Bio, Sciences and Chemistry Students  9

Note: Students who have a strong chemistry background, should enroll in 09-107 rather than 09-106. Students who complete 09-107 with an 'A' grade will be exempted from the requirement to take 09-106 Modern Chemistry II.

Advanced Chemistry Electives (2 courses)  18 units
May be any upper level chemistry course, 09-3xx or higher, or Biochemistry I, 03-231 or 03-232, with the exception of 09-435. Independent Study, which can be used only by permission of the Director of Undergraduate Studies.

Mathematical Sciences  123 units minimum

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Mathematical Sciences Required Courses  87 units
(Reasonable substitutions within the core program will be allowed.)
15-110  Principles of Computing  10
21-127  Concepts of Mathematics  10
or 21-128  Mathematical Concepts and Proofs  12
21-228  Discrete Mathematics  9
21-241  Matrices and Linear Transformations  10
or 21-242  Matrix Theory  10
21-259  Calculus in Three Dimensions  9
or 21-268  Multidimensional Calculus  10
21-260  Differential Equations  9
or 21-261  Introduction to Ordinary Differential Equations  10
or 33-231  Physical Analysis  10
21-355  Principles of Real Analysis I  9
21-373  Algebraic Structures  9
33-142  Physics II for Engineering and Physics Students  12
or 33-152  Matter and Interactions II  12

Mathematical Sciences Electives (2 courses)  18 units
Students with a Music concentration should take 21-272 Introduction to Partial Differential Equations.

Mathematical Sciences, Statistics, or Computer Science Electives (2 courses)  18 units
May be computer science course above the 100 level, mathematical science courses beyond the calculus sequence, and statistics courses at the level of 36-225 or higher.

BSA Free Electives
Take any Carnegie Mellon course. A maximum of 9 units of physical education and/or military science may be counted toward this requirement. Physical education and military science courses will not be calculated in a student’s QPA.