

# APPLIED COMPUTATIONAL MATHEMATICS, BS

Chemistry (<http://catalog.smsu.edu/academic-programs-degrees/chemistry/chemistry-minor/>)

Total Credits

68-83

| Code  | Title                                | Credits |
|---|--------------------------------------|---------|
| <b>Required Mathematics Courses</b>   |                                      |         |
| MATH 150  | Calculus I                           | 5       |
| MATH 151  | Calculus II                          | 4       |
| MATH 200  | Introduction to Statistics           | 3       |
| MATH 252  | Calculus III                         | 4       |
| MATH 320  | Foundations of Mathematics           | 3       |
| MATH 345  | Numerical Analysis                   | 3       |
| MATH 350  | Differential Equations               | 3       |
| MATH 360  | Linear Algebra                       | 3       |
| MATH 450  | Real Analysis                        | 3       |
| MATH 455  | Applied Mathematics                  | 3       |
| MATH 480  | Mathematics Seminar                  | 1       |
| <b>Required Computer Science Courses</b>  |                                      |         |
| COMP 164  | Essentials of Computer Science       | 3       |
| COMP 164L   | Essentials of Computer Science Lab   | 1       |
| COMP 165  | Fundamentals of Programming          | 3       |
| COMP 165L   | Fundamentals of Programming Lab      | 1       |
| <b>Electives</b>  |                                      |         |
| Select <b>three</b> of the following with at least one at the 400 level:  |                                      | 9       |
| COMP 306  | Object-Oriented Design & Programming |         |
| COMP 307  | C# Programming                       |         |
| COMP 324  | Design and Analysis of Algorithms    |         |
| COMP 328  | Theory of Computation                |         |
| MATH 300  | Modern Geometry                      |         |
| MATH 325  | Combinatorics & Graph Theory         |         |
| MATH 386  | Special Topics in Mathematics        |         |
| MATH 430  | Probability & Statistics             |         |
| MATH 460  | Complex Analysis                     |         |
| MATH 486  | Advanced Topics in Mathematics       |         |
| <b>Other Required Courses</b>   |                                      |         |
| ENG 360   | Scientific & Technical Writing       | 3       |
| <b>Additional Requirements</b>  |                                      |         |
| Select a minor in one of the following:   |                                      | 13-28   |
| Biology ( <a href="http://catalog.smsu.edu/academic-programs-degrees/biology/biology-minor/">http://catalog.smsu.edu/academic-programs-degrees/biology/biology-minor/</a> )   |                                      |         |
| Computer Science ( <a href="http://catalog.smsu.edu/academic-programs-degrees/computer-science/computer-science-minor/">http://catalog.smsu.edu/academic-programs-degrees/computer-science/computer-science-minor/</a> )                          |                                      |         |
| Environmental Science ( <a href="http://catalog.smsu.edu/academic-programs-degrees/environmental-science/environmental-science-minor/">http://catalog.smsu.edu/academic-programs-degrees/environmental-science/environmental-science-minor/</a> ) |                                      |         |
| Exercise Science ( <a href="http://catalog.smsu.edu/academic-programs-degrees/exercise-science/exercise-science-minor/">http://catalog.smsu.edu/academic-programs-degrees/exercise-science/exercise-science-minor/</a> )                          |                                      |         |
| Finance ( <a href="http://catalog.smsu.edu/academic-programs-degrees/finance/finance-minor/">http://catalog.smsu.edu/academic-programs-degrees/finance/finance-minor/</a> )   |                                      |         |
| Physics ( <a href="http://catalog.smsu.edu/academic-programs-degrees/physics/physics-minor/">http://catalog.smsu.edu/academic-programs-degrees/physics/physics-minor/</a> )   |                                      |         |