DIXIE STATE COLLEGE OF UTAH

# Requirements for Bachelor of Science Degree in Computer Science

Effective July, 2012



| **General Education Requirements:** Students must complete the DSC requirements for General Education or equivalent. | | |
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| **CS Requirements** | **Credits** | **Prerequisites and notes** |
| • CS 1400, Fundamentals of Programming | 3 | |
| • CS 1410, Object-Oriented Programming | 3 | CS 1400 |
| • CS 2420, Intro to Algorithms and Data Structures | 3 | CS 1410 |
| • CS 2450, Software Engineering | 3 | CS 2420 |
| • CS 2810, Computer Organization and Architecture | 3 | CS 1410 |
| • CS 3005, Programming in C++ | 2 | CS 1410 |
| • CS 3310, Discrete Math | 3 | CS 1410 and MATH 1210 |
| • CS 3510, Advanced Algorithms/Data Structures | 3 | CS 2420, CS 2810 and CS 3310 |
| • CS 3520, Programming Language | 3 | CS 2420 and CS 2810 |
| • CS 3530, Computational Theory | 3 | CS 2420, CS 2810 and CS 3310 |
| • CS 3600, Graphics Programming | 3 | CS 2420 and CS 2810 |
| • CS 4300, Artificial Intelligence | 3 | CS 2420 and CS 2810 |
| • CS 4307, Database Design and Management | 3 | CS 2420 and CS 2810 |
| • CS 4550, Compilers | 3 | CS 2420 and CS 2810 |
| • CS 4600, Senior Project | 3 | Senior Status |
| • MATH 1210, Calculus I | 5 | MATH 1050 and MATH 1060, or MATH 1065 or ACT 26 or above. |
| • MATH 1220, Calculus II | 4 | Math 1210 |
| • BIOL 1610/1615 Principles of Biology I with Lab | 5 | |
| • PHYS 2210/2215 Physics for Scientists/Engineers I with Lab | 5 | Math 1210 |
| **Choose one of the following:** | | |
| • CS 3000 Internet Publishing & Design or<br>CS 4000, Dynamic Web Development or<br>CS 4010, Interactive Web Development | 3<br>3<br>3 | CS 2420<br>CS 2420 and VT 1400<br>CS 2420 and VT 1400 |
| **Choose one of the following:** | | |
| • CS 3400, Operating Systems or<br>CS 3410, Distributed Systems | 3<br>3 | CS 2420 and CS 2810, or<br>CS 2420, CS 2810 and IT 2400 |
| **TOTAL** | **69** | |
| **Math & Science Elective Courses (8 or more credits from the following list; at least 3 credits with MATH prefix)** | **Credits** | **Prerequisites and Notes** |
| • MATH 2210, Multivariable Calculus | 3 | MATH 1220 |
| • MATH 2270, Linear Algebra | 3 | MATH 1210 |
| • MATH 2280, Ordinary Differential Equations | 3 | MATH 1220 |
| • MATH 3400, Probability and Statistics | 3 | MATH 1220 |
| • BIOL 1620/1625 Principles of Biology II with Lab | 5 | BIOL 1610/1615 |
| • CHEM 1210/1215 Principles of Chemistry I with Lab | 5 | MATH 1050 |
| • CHEM 1220/1225 Principles of Chemistry II with Lab | 5 | CHEM 1210/1215 |
| • PHYS 2220/2225 Physics for Scientists/Engineers II with Lab | 5 | PHYS 2210/2215 |
| **TOTAL** | **8** | |
| **Computer Science Elective Courses (9 credits from the following list) *A course used to fulfill CS requirements cannot be used as an elective course.** | **Credits** | **Prerequisites and Notes** |
| • VT 1400, Into to Internet Development | 3 | |
| • CS 3000*, Internet Publishing & Design | 3 | CS 2420 |
| • CS 3100, Interactive Multimedia | 3 | CS 2420 |
| • CS 3400*, Operating Systems | 3 | CS 2420 and CS 2810 |
| • CS 3410*, Distributed Systems | 3 | CS 2420, CS 2810 and IT 2400 |
| • CS 3500, Application Development | 3 | CS 1410 |
| • CS 4000*, Dynamic Web Development | 3 | CS 2420 and VT 1400 |
| • CS 4010*, Interactive Web Development | 3 | CS 2420 and VT 1400 |
| • CS 4990, Seminars in Computer Science | 1-3 | Instructor Permission Required |

Dixie State's general graduation requirements are described in this online catalog under the "Advisement and Graduation" link. Those requirements are also available in the College's online policies at http://www.dixie.edu/humanres/policy/sec5/520.html.

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|---|---|---|
| • IT 3100, Systems Design and Administration I | 3 | CS 1400 and IT 2400 |
| • IT 3110, Systems Design and Administration II | 3 | IT 3100 |
| • IT 3200, Perl Programming | 3 | CS 1410 |
| • IT 4200, Advanced Web Delivery | 3 | IT 3100 and VT 1400 |
| • IT 4500, Information Security | 3 | CS 1400 and IT 3100 |
| **TOTAL** | **9** | |

**Complete a minimum of 120 college-level credits (1000 and above). Complete at least 40 upper-division credits (3000 and above). Complete at least 30 upper-division credits at DSC for institutional residency. Cumulative GPA 2.0 or higher. Grade C- or higher in each Core Discipline and Elective Requirement Course. Math prerequisites requires C or higher. A course may only be used to fulfill one program requirement.**
**NOTE: This is a worksheet only. For graduation you must use the 2012-2013 Catalog.**