Associate of Science Degree in Computer Science at Brookdale Community College

And

Bachelor of Science Degree in Computer Science at William Paterson University

| AS Computer Science | | | |
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| **Brookdale Courses** | **Credits** | **WPU Equivalency** | **Credits** |
| **Semester 1** | | | |
| COMP 126 Computer Logic and Design | 3 | CS 1300 Introduction to Visual Basic | 3 |
| COMP 171 Programming I | 3 | CS 2300 Computer Science I | 4 |
| ENGL 121 The writing process | 3 | ENG 1100 | 3 |
| MATH 171 Calculus I | 4 | MATH 1600 Calculus I | 4 |
| Social Sciences Credits | 3 | | |
| **Semester 2** | | | |
| COMP 135 Computer Architecture Using Assembly Language | 3 | CS 2800 Computer/Assembler Language | 3 |
| ENGL 122 Writing and Research | 3 | Elective Credit | 3 |
| COMP 271 Programming II | 3 | CS 2421 Object-Oriented Programming with Java | 4 |
| MATH 172 Calculus II | 4 | MATH 1610 Calculus II | 4 |
| Social Sciences or Humanities Credits | 3 | | 3 |
| **Semester 3** | | | |
| COMP 225 Operating Systems Technology | 3 | Elective Credit | 3 |
| COMP 226 System Analysis and Design | 3 | CS 4035 System Analysis and Design | 3 |
| COMP 269 Database Concepts | 3 | CS 4400 Database Management (for CS) | 3 |
| PHYS 121 General Physics | 4 | PHYS 2600 General Physics I | 4 |
| **Semester 4** | | | |
| COMP 228 Data Structures | 3 | CS 3420 Data Structure | 4 |
| COMP 296 Advanced Software Project | 3 | Elective Credit | 3 |
| PHYS 122 General Physics II | 4 | PHYS 2610 General Physics II | 4 |
| Humanities Credits | 3 | | |
| MATH 285 Linear Algebra | 3 | MATH 2020 Linear Algebra | 3 |
| **BS- Computer Science** | | | |
| | | **Computer Science Basic Core Courses 24** | |

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|---|---|---|---|
| | | CS 2400 Computer Science II | 4 |
| | | CS 2600 Discrete Structures | 3 |
| | | CS 3380 Fundamentals of Networking and Information assurance and security | 3 |
| | | CS 3410 Digital Logic and Computer Organization | 3 |
| | | **Computer Science Advanced Core Courses 15** | |
| | | CS 3450 Operating Systems | 3 |
| | | CS 3500 Software Engineering | 3 |
| | | CS 3600 Parallel and Distributed Computing | 3 |
| | | CS 3820 Programming Languages | 3 |
| | | CS 4800 Computer Science Seminar | 3 |
| | | **Computer Science Major Supporting Courses 11/12** | |
| | | **MATH (Choose 1)** | |
| | | MATH 2300 Statistics I | 4 |
| | | MATH 3240 Probability and Statistics | 4 |
| | | **SCIENCE (one of the following)** | |
| | | BIO 1640 General Biology II | 4 |
| | | CHEM 1620 General Chemistry | 4 |
| | | **Computer Science Electives (Choose 12 Credits)** | |
| | | CS 3720 Design and Analysis Algorithms | 3 |
| | | CS 3990 Selected Topics | 1 - 6 |
| | | CS 4020 Numerical Methods | 3 |
| | | CS 4040 Computer Simulation | 3 |
| | | CS 4050 Systems Programming | 3 |
| | | CS 4060 Applied Cryptography | 3 |
| | | CS 4066 Penetration Testing & Ethical Hacking | 3 |
| | | CS 4070 Data Science Analytics | 3 |
| | | CS 4080 Data Mining and Machine Learning | 3 |
| | | CS 4090 Parallel and Distributed Systems | 3 |
| | | CS 4100 Artificial Intelligence | 3 |
| | | CS 4200 Compiler Construction | 3 |
| | | CS 4201 Database Driven Web Applications | 3 |
| | | CS 4250 Computer and Network Security | 3 |
| | | CS 4300 Data Communications and Computer Networks | 3 |

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| | | CS 4410 Computer Architecture | 3 |
| | | CS 4450 Theory of Computation | 3 |
| | | CS 4610 Computer Graphics | 3 |
| | | CS 4700 Cloud Computing | 3 |
| | | CS 4900 Computer Science Senior Project | 3 - 6 |
| | | CS 4950 Computer Science Internship | 1 - 3 |
| | | CS 4990 Independent Study | 1 - 6 |
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| Notes: | | | |
| 1. William Paterson University will accept all associate degree credits under this program-to-program articulation agreement, including up to have of the William Paterson University major required credits, from New Jersey community college students who enroll at William Paterson University | | | |
| 2. William Paterson University recommends students to take two semesters of one foreign language at the community college. Two semesters of American Sign Language can also fulfill the foreign language requirement. | | | |