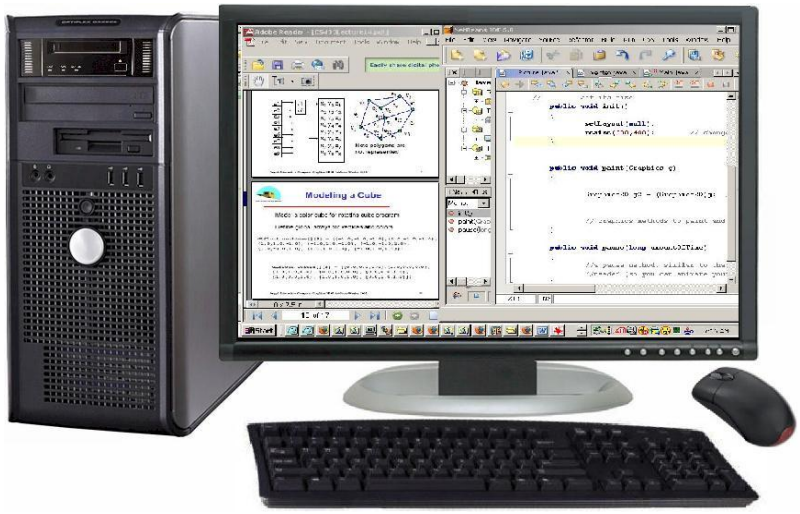

Computer Science Bachelor of Science

William Paterson University

The Department of Computer Science offers a comprehensive program of study in both the theory of Computer Science and its applications, leading to a Bachelor of Science degree. It includes the study of algorithmics; program design and analysis; computer languages and software engineering; databases; computer hardware systems; operating systems; artificial intelligence; graphics; computer networking; and theory of computation. A broad and solid foundation in problem solving, modeling, programming, and decision making is formulated and developed. Concepts are reinforced through labs and projects. The program prepares students for a wide range of career opportunities or graduate studies.

Student should complete 128 credits, including: Computer Science (47), General Education (GE) (54), Non-Western (3), Upper Level Electives (8), Additional Science and Math (7-8), and free electives. CS, Math, and Science requirements are:

Computer Science:	**47 credits**
A. Basic Core Courses	20
CS 230/240 Computer Science I * II	8
CS 260 Discrete Structures	3
CS 280 Computer and Assembler Language	3
CS 341 Digital Logic & Computer Organization	3
CS 342 Data Structures	3
B. Advanced Core Courses	15
CS 345 Operating Systems	3
CS 350 Software Engineering	3
CS 372 Design and Analysis of Algorithms	3
CS 382 Programming Languages	3
CS 480 Computer Science Seminar (Capstone)	3
C. Electives	12
CS 399 Selected Topics	3
CS 402 Numerical Methods	3
CS 404 Computer Simulation	3
CS 405 Systems Programming	3
CS 410 Artificial Intelligence	3
CS 420 Compiler Construction	3
CS 430 Data Comm. & Computer Network	3
CS 440 Database Management	3
CS 441 Computer Architecture	3
CS 445 Theory of Computation	3
CS 461 Computer Graphics	3
CS 490 * Honors Computer Science Project	3
CS 495 * Internship	1 – 3

* A maximum of three credits from the sum of credits in CS490 and CS495 may be applied to the CS electives total.

Mathematics Courses	**12 credits**
MATH 160/161 Calculus I & II	8
MATH 324 Probability and Statistics	4

Science Courses	**8 credits**
One sequence from:	
BIO 163/164 General Biology I & II	8
CHEM 160/161 General Chemistry I & II	8
PHYS 260/261 General Physics I & II	8

Additional Math and Science **7 – 8 credits**

Select two courses from the lists below.
At least one course must be a science course.

Science List:	
BIO 205 Cell Biology	4
BIO 206 General Genetics	4
BIO 261 General Botany	4
CHEM 211 Intro. to Instrumental Methods	4
CHEM 251 Organic Chemistry	4
CHEM 320 Inorganic Chemistry I	4
PHYS 250 Basic Electronics I	4
PHYS 262 General Physics III	4
PHYS 290 Eng. Mechanics: Statics	4
PHYS 291 Eng. Mechanics: Dynamics	4
ENV 110 Environmental Foundation	4
ENV 115 General Geology	4
Mathematics List:	
MATH 201 Calculus III	4
MATH 202 Linear Algebra	3
MATH 301 Modern Algebra	3
MATH 322 Differential Equations	3
MATH 411 Advanced Discrete Math.	3

For details, the CS web page is at **http://cs.wpunj.edu**. Direct questions to Dr. Cyril S. Ku, Chair, Computer Science, William Paterson University, 300 Pompton Rd, Wayne, NJ 07470 or calling (973) 720-2649 or by email to **kuc@wpunj.edu.**

(Last Update: April 2008)