Career-Focused Bachelor of Science in Computer Science - C.F.B.S.

Curriculum

The Career-Focused Bachelor of Science degree program in Computer Science is tailored for students interested in pursuing a career in the dynamic field of software development. The streamlined design of the program allows students to earn a complete, comprehensive degree in a shorter period than a traditional bachelor's degree program requires.

With a structured curriculum, the program provides a solid foundation in the software skills needed to address various tech challenges in professional settings. Students develop crucial competencies in software development, emphasizing areas like cloud computing, artificial intelligence, machine learning and database concepts. The coursework covers the programming languages, frameworks, algorithms and techniques used by today's software development professionals.

Modern computer science intersects with a variety of academic fields, including business, economics, the sciences and mathematics. Training in software development equips students to enter the growing markets of database systems, software design, cloud computing and more. The skills of problem-solving and algorithmic thinking enhance students' approaches to challenges across disciplines. With practical training in programming and computer systems, students become proactive in implementing and automating effective problem-solving strategies.

The Work Integrated Learning requirement ensures that students graduate with essential skills and confidence that prepare them for leadership roles in the workforce.

Upon completion of the program, graduates are expected to:

- Apply knowledge of math, science, engineering and contemporary developments in the fields of software programming, networking, system design, computer science and/or project management.
- Analyze problems through the use of computer science concepts and processes to formulate, implement and test software-based algorithms.
- Incorporate historical context and emerging developments in computer science to create adaptable and efficient algorithmic solutions that reflect ethical considerations and global awareness.
- Use the techniques, skills and emerging tools necessary for analysis and evolution of algorithms in computer science.
- Integrate knowledge, tools and problem-solving skills to carry out the design, creation, maintenance and testing of state-of-the-art software solutions.

Computer Science - Career-Focused B.S.

A three-year program leading to the Career-focused bachelor of science degree

Major Courses		
CSIS1101	Computer Science I	3
CSIS1112	Computer Science II	3
CSIS2018	Advanced Data Structures	3
CSIS2023	Survey of Programming Languages	3
CSIS2030	Database Concepts	3
CSIS2045	Introduction to Operating Systems	3
CSIS3106	Software Verification, Validation, Testing and Security	3
CSIS3126	Design Project I	3
CSIS3200	Introduction to Artificial Intelligence & Machine Learning	3
CSIS3250	Cloud Computing at Scale	3
CSIS4010	Software Engineering	3
Related Professional Studies		
CYB2010	Computer Architecture with Assembly Language Programming	3
CYB3038	HCI/Usable Security	3
ITEC2081	Network Protocols I	3
ITEC3050	Information Security with Cryptography	3
PRMG2010	Introduction to Project Management & Project Membership	3
Applied/Experiential Learning		
Students in this program are required to complete 600 Hours of Work Integrated Learning.		
University Core Curriculum		
Communicating		9
ENG1020	Rhetoric & Composition I	
ENG1021	Rhetoric & Composition II	
ENG1030	Communication Skills	
Connecting		6
Two courses with the Connecting attribute (ECNG), one at the 2000 level, one at the 4000 level		
Experiencing		6
PHIL3240	Ethics: A Global Perspective	
Additional course with the Experiencing attribute (EEXP) in a different discipline		
Measuring		6
MATH1020	Fundamentals of Algebra	
MATH2001	Statistics I	
Exploring		4
PHY1011	General Physics I	
PHY1016	General Physics I Laboratory	
Interacting		6
LEAD1010	Foundations of Leadership Studies	
Additional course with the Interacting attribute (EINT) in a different discipline		
A&S Electives		6
ENG2010	Introduction to Technical Communication	
MATH2020	Discrete Mathematics	
Total Credits		**91.0**

Note: Students must pass MATH0010 Pre-Algebra or have equivalent placement scores to enroll in required math courses.

Note: Students must pass ENG0001 Writing Workshop or have equivalent placement scores to enroll in ILS 2000-level courses.

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Admissions Requirements

Undergraduate

Johnson & Wales University holistically reviews all elements of a student's application to identify those students most likely to succeed at the university.

For students applying as a first-year student, a completed application and high school transcript(s) are required, except in circumstances where a student is homeschooled or where the traditional high school transcript is, for various reasons, not available. For students applying as a transfer student, a completed application, high school and/or college transcript(s) is required for admissions review.

Successful candidates for first-year admission have taken a high school, college preparatory academic program including English, mathematics, science, social science and foreign language. The Computer Science program requires students to have successfully completed Algebra II or higher level math class. Students who apply for admission and do not meet the requirements will be reviewed for admission into the Undeclared – University Explorations program. Admissions decisions may also consider individual experiences and particular circumstances unique to each student. Other considerations are made based upon recommendations, writing ability and extracurricular activities.

Visiting campus, both in-person or virtually, and interacting with admissions staff are all valuable ways of assuring that JWU is the right university for you.