Computer Science (Bachelor of Science)
DEPARTMENT OF COMPUTER SCIENCE

Shape the Future of Technology with a Degree in Computer Science

The Department of Computer Science prepares students for leadership roles within professional careers in the fast-growing fields of computing and information technology. Our comprehensive curriculum covers a wide range of topics, including software engineering, business analysis, programming, system analysis, and network specialization. Additionally, students gain preparation for job opportunities in emerging areas like artificial intelligence, machine learning, and data science.

With our BS in computer science, students gain hands-on experience in programming, software development, artificial intelligence, generative AI, blockchain, deep learning, computer vision, natural language processing, and cybersecurity. Our curriculum is designed to equip you with the skills and knowledge needed to excel in today's fast-paced tech industry.

Accelerated 4+1 Option for BS/MS in Computer Science

The BS/MS 4+1 Accelerated program allows students to complete a bachelor of science in computer science and a master of science in computer science in five years.

The program includes up to 12 semester hours of 4000/5000 level courses that count toward both the undergraduate and graduate degrees. This option allows students to finish a master's degree with one full-time year of study beyond the undergraduate degree. If students decide not to pursue or do not meet the requirements for the master's program, they can still graduate with a BS in computer science.

Experience Hands-on Learning

Our computer science program emphasizes hands-on learning to ensure students gain practical experience alongside theoretical knowledge. Through collaborative projects, internships, and state-of-the-art lab work, students develop the skills needed to tackle real-world challenges. Whether it's building innovative software, exploring the depths of machine learning, or securing networks, our students are equipped to excel in their careers. Be part of a dynamic learning environment that fosters creativity, problem-solving, and technological innovation.

Sample Courses

- Applied Cryptography
- Penetration Testing and Ethical Hacking
- Advanced Data Science and Analytics
- Artificial Intelligence
- Cloud Computing
- Blockchain Technology I
- Blockchain Technology 2
- Natural Language Processing
- Deep Learning
- Cyber Forensics
- Advanced Machine Learning and Data Mining
- Introduction to Bioinformatics
- Advanced Topics in Bioinformatics
- Advanced Algorithms

State-of-the-Art Computing Facilities

Our Computer Science Department offers cutting-edge labs to enhance student learning and research. Key features include:

WINDOWS 11 LABS: Equipped with the latest microcomputers connected through a campus-wide LAN.

LINUX SERVER: Provides resources under the Ubuntu operating system for various projects.

CISCO NETWORKING LAB: Features 21 routers, 21 switches, and 7 firewalls for hands-on networking projects.

VM SERVER: A Dell PowerEdge R740 hosting up to 72 virtual machines for courses like Networking and Security.

CYBERSECURITY RESEARCH LAB: Equipped with 5 research desktops for advanced security projects.

DATA SCIENCE RESEARCH LAB: A virtual lab that conducts interdisciplinary research in data science, machine learning, NLP, and real-world applications.

MAC LAB: 25 Apple MacBook Pro laptops for software development, graphic design, multimedia projects, and AI research.

ACBOS VIRTUAL RESEARCH LAB: Investigates the convergence of artificial intelligence, cognitive systems, blockchain technology, and open-source computing to build adaptive, decentralized, and intelligent systems for the future.

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William Paterson University is the place where you discover what it means to be a powerhouse. As one of the largest producers of college graduates in New Jersey, we're a powerhouse for our students, our community, and our state. At WP, you will benefit from:

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For more about the computer science major: wpunj.edu/computer-science

For Admissions information: wpunj.edu/undergraduate
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