

Bachelor of Science in Computer Science & Engineering (BSc in CSE) at North South University (NSU)

The **Bachelor of Science in Computer Science & Engineering (BSc in CSE)** at **North South University (NSU)** is a comprehensive program designed to equip students with a strong foundation in computing, software development, and engineering principles. The curriculum emphasizes theoretical knowledge, practical skills, and research to prepare graduates for careers in academia, industry, and entrepreneurship.

Program Structure & Curriculum

The **BSc in CSE** program follows a rigorous curriculum covering core computer science topics along with specialized elective courses. The curriculum includes:

Core Courses:

- Programming Fundamentals (C, C++, Python, Java)
- Data Structures & Algorithms
- Computer Architecture & Organization
- Operating Systems
- Database Management Systems
- Software Engineering
- Artificial Intelligence & Machine Learning
- Networking & Cybersecurity
- Embedded Systems & IoT
- Digital Logic Design
- Human-Computer Interaction
- Web & Mobile Application Development

Mathematics & Science Courses:

- Calculus & Linear Algebra
- Discrete Mathematics
- Probability & Statistics
- Physics & Engineering Mathematics

Specialized Electives:

Students can choose from a variety of elective courses to specialize in areas such as:

- Advanced Machine Learning & Deep Learning
- Blockchain & Cryptography
- Cloud Computing & Big Data
- Natural Language Processing
- Cybersecurity & Ethical Hacking
- Robotics & Automation

Capstone Project & Internship:

The program includes a final-year capstone project where students apply their knowledge to solve real-world problems. Additionally, internships with top tech companies provide industry exposure and practical experience.

Faculty & Research

The **CSE Department** at NSU is home to highly qualified faculty members, many of whom hold PhDs from prestigious universities. Faculty members actively engage in research areas such as:

- Artificial Intelligence & Machine Learning
- Internet of Things (IoT) & Smart Systems
- Cybersecurity & Cryptography
- Computer Vision & Image Processing
- Human-Computer Interaction

Laboratories & Facilities

To support hands-on learning, NSU provides well-equipped laboratories, including:

- **AI & Robotics Lab** for research in automation and intelligent systems.
- **Cybersecurity Lab** for ethical hacking and network security projects.
- **Software Development Lab** with high-performance computing resources.
- **IoT & Embedded Systems Lab** for smart device development.

Industry Collaboration & Career Prospects

NSU maintains strong ties with leading companies and research institutions. Graduates of the **BSc in CSE** program have gone on to work at top multinational corporations, including:

- Google
- Microsoft
- Amazon
- IBM
- Local and international tech startups

Career opportunities for graduates include:

- Software Engineer
- Data Scientist
- Cybersecurity Analyst
- Cloud Engineer
- AI/ML Researcher
- System Administrator

Extracurricular Activities & Competitions

Students are encouraged to participate in coding competitions, hackathons, and research symposiums. NSU teams regularly compete in events such as:

- ACM International Collegiate Programming Contest (ICPC)
- National Hackathons & Coding Challenges
- Google Developer Student Club Activities

The **Bachelor of Science in Computer Science & Engineering (BSc in CSE)** at **North South University (NSU)** is a premier program designed to produce top-tier computing professionals. With a robust curriculum, strong faculty support, and industry collaborations, the program provides students with the skills needed to thrive in the ever-evolving field of computer science.