RV College of Engineering®
Mysore Road, RV Vidyaniketan Post,
Bengaluru - 560059, Karnataka, India

NBA Accredited (UG - 6Years)

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Department of Computer Science and Engineering

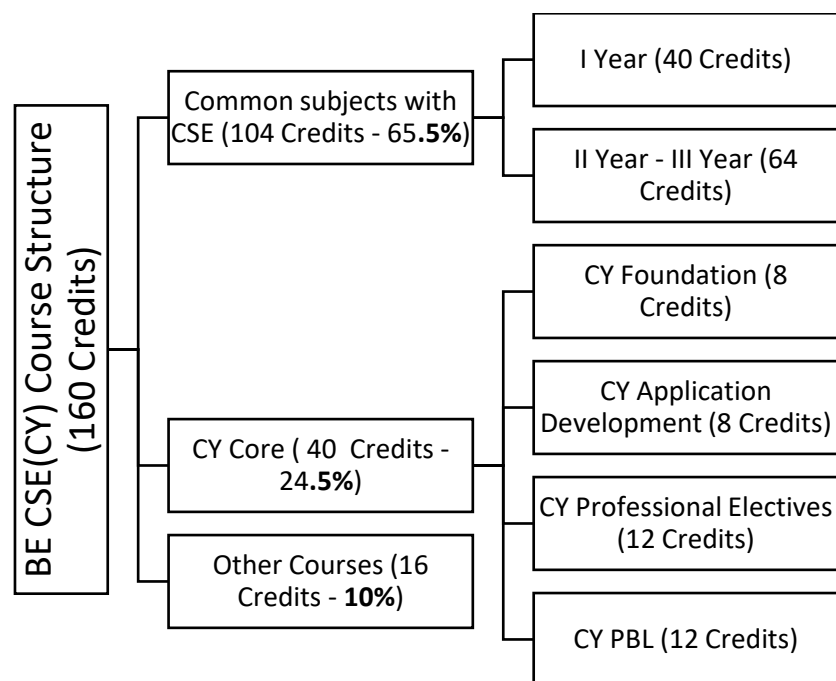# Programme: B.E. In Computer Science and Engineering (Cybersecurity)

The digital landscape has experienced significant growth in recent years, resulting in a shift towards a digital operational framework in the business world. This shift has led to an increased risk of cyber violations and cyberattacks on business data and organizational assets. As a result, cybersecurity skills have become highly sought-after and are among the most highly-compensated skills in the industry. RVCE's B.E. CSE(CY)* Program, in collaboration with EC-Council, offers a specialization in cybersecurity that equips students with the skills necessary to transform an organization's cybersecurity strategy. The program provides comprehensive training in various aspects of cybersecurity, including cryptography, API security, encryption, software security, network security, identity and access management, cloud security, hardware security, malware analysis, ransomware, vulnerability assessment, penetration testing, and more. By completing this program, students will be well-equipped to address the ever-evolving challenges of cybersecurity and protect organizational assets from cyber threats.

Vision of CSE(CY) Engineering Program at RVCE

The Bachelor of Engineering in Cyber Security program aspires to foster graduates who will emerge as leaders in the field of cyber security, equipped with the expertise to design and manage secure computer systems and networks. The program aims to instil in students a capacity for critical thinking and comprehension of the legal, ethical, and social consequences of cyber security. The program's overarching objective is to produce graduates who possess the ability to think strategically and remain up-to-date with current developments, with a view to making a positive impact on society. By honing their skills and knowledge in cyber security, graduates will be well-prepared to face the rapidly-evolving challenges of the field and assume positions of leadership in industry, government, or academia.

CSE(CY) engineering curriculum (Total credits: 160)

The Batchelor of Engineering in Computer Science and Engineering with specialisation in Cybersecurity Program curriculum has been designed to cover all essential Computer Science Engineering courses and impart specialized knowledge to develop Cybersecurity based engineering solutions.

Sl.No.	Item	Description	Credits allocation
1	**First Year**	Common Syllabus - Computer Science Stream	**40**
2	**Common with Computer Science and Engineering (II & III Year)**	• Programming languages: C, C++, Java, Python, Web Programming, etc. • Data structures • Database management • Operating systems • Design and analysis of algorithms • Principles of software engineering • Computer Networks • Embedded Systems • Discrete Mathematics	**64**
3	**Foundation Courses of CyberSecurity**	• Introduction to Cyber Security • Cryptography & Network Security • Cyber security threat landscape • Data privacy and security • Ethical Hacking	**8**
4	**CyberSecurity Application Development courses**	• Web Application Security • Mobile Application Security • Secure Software Design • Cloud Security • Secure DevOps • Secure Application Deployment	**8**
6	**Professional Elective Streams**	• **Digital Forensics:** Cyber security threat landscape, Cybercrime and its types, Reporting of Cybercrime, Remedial and mitigation measures • **Advanced learning models:** Cybersecurity Operations, Cybersecurity Analytics, Cryptography and Cryptanalysis, Blockchain	**12**

		• **Interdisciplinary Stream:** AI-ML, Data Science, HCI, Robotics, AR and VR, etc. • **NPTEL-MOOC courses:** Interdisciplinary and Mathematics	
7	**Project-based learning**	• Design thinking • Mini and Major Projects • Internships	**12**
8	**Other Courses**	• Humanity and Social Sciences • Ability Enhancement Courses and Liberal Arts • Universal Human Values • Communicative English and Kannada • Environmental Technology and Bioinspired Engineering • IPR • Fundamentals of Management & Economics	**16**

*B.E. CSE(CY): Computer Science and Engineering(Cybersecurity)

Coordinator   Head of the Department

Dr.Minal Moharir   Dr.Ramakanthkumar P