



Computer Science Engineering IOT and Cyber Security with BlockChain Technology

About Us:

Dwarkadas J. Sanghvi College of Engineering will be offering Computer Science and Engineering (IOT and Cyber Security with Block Chain Technology) undergraduate engineering course from the Academic Year 2021- 22 with intake capacity of 60 seats. This undergraduate programme familiarizes the students with the functional and operational aspects of IoT, Cyber Security and Blockchain Technology.

The course aims to equip students with the knowledge and skills required in above areas by having a comprehensive, yet flexible mix of subjects that are industry ready and shall give students a head start into a career in domains of IoT and Cybersecurity. Students not only get a big advantage of the Institute's state of the art infrastructure, but also get an immense benefit of an entrenched placement process of our reputed institute.

Overview of proposed curriculum:

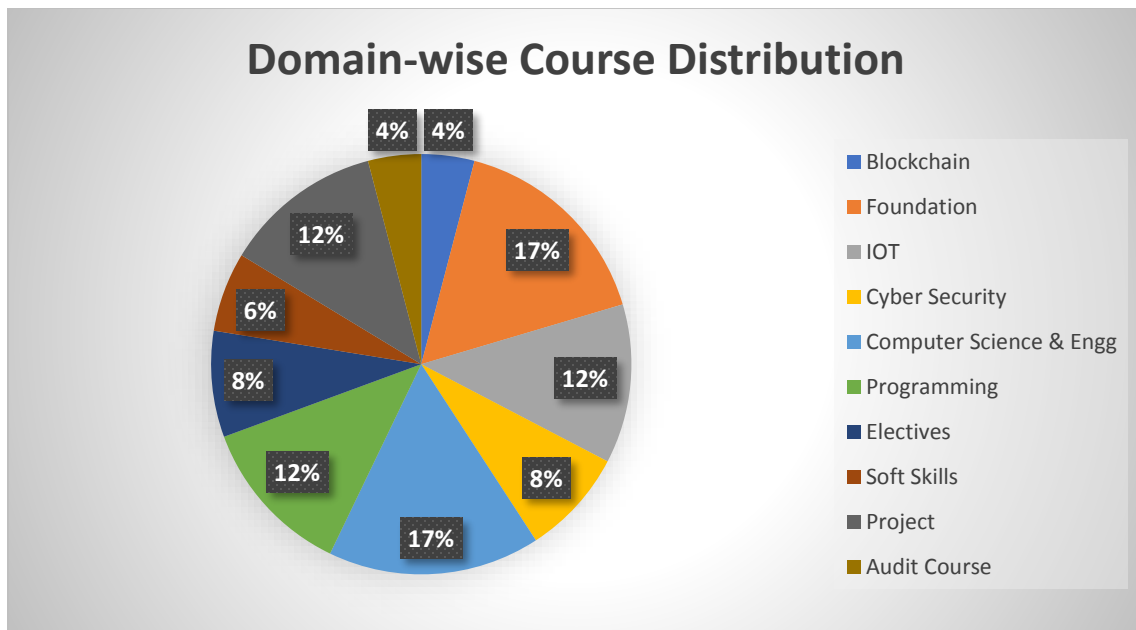
First Year	Common for all Branches Programming Languages C and Java
Second Year	<ol style="list-style-type: none"> 1. Discrete Mathematics 2. Analog and Digital Electronics 3. Data structure & algorithms 4. Database Management Systems 5. Introduction to Internet of Things(IoT) 6. Probability & statistics 7. Operating Systems 8. Computer Networks 9. Data Mining 10. Programming Languages: Advanced Java , Python 11. Innovative Product Development(IPD)-I & II 12. Constitution of India (CoI) 13. Universal Human Values (UHV)
Third Year	<ol style="list-style-type: none"> 1. Micro controller & embedded system 2. Information security 3. Fundamentals of Blockchain 4. Business Communication Ethics 5. Web & app development 6. Network and Web Security 7. Vulnerability Assessment & Penetration Testing 8. Wireless sensor networks (WSN)- IoT 9. Design & Development of Decentralized Applications 10. Visual Analytics (SAS) 11. Environmental Studies 12. Innovative Product Development(IPD)-III & IV 13. Electives: <ul style="list-style-type: none"> • Artificial Intelligence & Machine Learning • Advanced Instrumentation System & Industry 4.0 • Cyber Security and Industries standards Compliances • Neural Network & Deep Learning



	<ul style="list-style-type: none"> • Data Processing and Analytics in IoT • High Performance Computing
Final Year	<ol style="list-style-type: none"> 1. Big Data Infrastructure 2. Ethical Hacking & Cyber Forensics 3. Project 4. Institute Level Electives 5. Electives: <ul style="list-style-type: none"> • Pattern and Anomaly Detection • Applications of IoT in Healthcare/Industry/ Robotics/Agriculture(Case study) • Decentralized Applications

Domain-wise Course Distribution:

Domain	No. of courses
Foundation	8
Blockchain	2
IOT	6
Cyber Security	4
Computer Science & Engineering	8
Programming	6
Electives	4
Soft Skills	3
Project	6
Audit Course	2





FAQs:

1. Why will my ward choose your branch?

- **Why IoT ?**

Internet of Things (IoT) is a pervasive technology that permits computing devices, to accomplish data transmission over a network, without demanding human-to-human or human-to-computer collaboration. IoT applications like smart industry, smart home, smart city, smart healthcare etc. focus on automating different tasks in these wide-ranging areas. These IoT applications are highly promising to increase the level of comfort, efficiency, and automation for the users.

- **Why Cybersecurity ?**

The extensively increasing network and automation requires high security and privacy of data. Cyberspace being a common platform, accessed by anyone from every corner of the world, has resulted an increase in cyber vulnerability leading to evolvement of Cyber Security approaches. As more businesses move their operations online, and with cyberattacks on the rise, the need for skilled cybersecurity professionals is ever increasing, particularly for healthcare and financial organizations. Any industry that transacts online or carries sensitive data is in need of a Cyber Security professional to safeguard its data from vulnerabilities.

- **Why Blockchain ?**

Blockchain technology or Distributed Ledger Technology (DLT) implements a decentralized, distributed ledger that records a digital asset. By its inherent design, the data on a blockchain is safe and protected from modifications. Blockchain has its ability to create more transparency and fairness while also saving businesses time and money. The demand for people with Blockchain skills is high due to its many-field applications.

Our course offers a blend and mix of courses in these rapidly emerging areas with a curriculum curated by academics and industry professionals.

2. What are the placement opportunities for your branch?

The students in this program shall be empowered with a detailed review of the security-related challenges and sources of threat in the IoT applications and cyberspace.

This program presents diverse career opportunities like:

- **Job Profiles:**

Penetration Tester, Security Architect, Security Analyst, Security Auditor, Security Consultant, Blockchain Developer, Blockchain Solution Architect, Crypto Brokers, Analyst, IoT Engineer, IoT Architect

- **Product Companies:**

Siemens, Philips Healthcare, ACG PAN Pharma, Select Control, CISCO, TATA Power, Godrej

- **IT Services:**

TCS, Infosys, Amdocs, Accenture, ZS Associates, Visible Alpha, etc.



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DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING

(Autonomous College Affiliated to the University of Mumbai)

NAAC Accredited with "A" Grade (CGPA : 3.18)



3. Interests required from a particular student for choosing the branch.

Smart devices technologies (most of emerging devices can now be controlled through apps, voice recognition, eg. Alexa, AC, lights) and their working. Security of applications, networking of devices, cryptocurrency framework and working.

4. If my ward chooses your branch, what are his/her higher study prospects?

- MS in computer science and related fields
- M.Tech in Computer science
- MBA

5. What is the overlap of subjects between different branches offered from Computer & IT?

- S.Y.B.tech : 80%
- T.Y.B.Tech : 20%
- Final Year B.Tech : 20%