

# COMPUTER SCIENCE AND ENGINEERING

Computing for Smart Living

<https://cse.nirmauni.ac.in/>



Department of Computer Science and Engineering was established in 1997 and since then is the most sought-after Department of the Institute. The BTech Programme is accredited by the National Board of Accreditation (NBA) under the Tier-I category. The Department has always kept pace with the rapid advancements in the field. Computer Science and Engineering have revolutionized the world and have brought the world closer. The digital age needs more and more Computer Scientists and Engineers. Through this programme, students learn and explore the design and applications of computing systems, ranging from hardware and software components to networking, intelligent systems, and multimedia with the help of modern tools and technologies like Machine Learning, Deep Learning, Cloud Computing, Big Data Analytics, etc. This programme endeavors to meet the challenges of changing technology and industry 4.0.

PROGRAMMES OFFERED	INTAKE
<b>BTech in Computer Science and Engineering</b>	<b>338</b>
<b>MTech in Computer Science and Engineering</b>	<b>18</b>
<b>MTech in Cyber Security</b>	<b>18</b>
<b>MTech in Data Science</b>	<b>18</b>
<b>Master of Computer Applications</b>	<b>71</b>
<b>PhD in Computer and Science Engineering</b>	<b>√</b>
<b>BTech (CSE)-MBA (intergrated 5 years Programme)</b>	<b>60</b>

## PROGRAMME SPECIFIC OUTCOMES

A graduate of the Computer Science and Engineering Programme will have an ability to -

- apply the theoretical concepts of computer engineering and practical knowledge in analysis, design, and development of computing systems and interdisciplinary applications
- work as a socially responsible professional by applying computer engineering principles and management practices

## HIGHLIGHTS

- Regularly updated curriculum structure oriented towards logic and skill development.
- Establishing linkages with foreign Universities/Industries and Research organisations for various student exchange programmes
- Excellent placement records with the highest package worth 88.20 Lakhs
- The first choice of meritorious students across the state.
- Excellent platform to avail internships in reputed foreign Universities and Research Organisations and Industries
- Recipient of various academic and research awards at the National and International level
- The most happening place on Campus with recently hosted National level online Hackathon (MINeD)
- Centre of Excellence in Data Science in association with Binghampton University, USA.
- Active research collaborations/research funding with premier research organisations viz. ISRO, IPR, DAE, DST, GUJCOST above 200 lakh rupees.
- Department of Computer Science and Engineering recently signed an MoU with JK Lakshmi Cement, Ahmedabad.
- Young and dynamic faculty members



## SPECIALISED LABORATORIES

The Department has well-furnished specialised laboratories with the latest amenities for the needs of students belonging to diversified programmes.

- State of Art infrastructure under Centre of Excellence in Data Science
- NVIDIA Supported Deep Learning Laboratory
- SuperComputing infrastructure with Param Shavak
- Networking and Internet of Things Laboratory
- Information and Network Security Laboratory
- CISCO Laboratory





# Curriculum

## FIRST YEAR

### Semester-1/2

- Mathematics-I
- Mathematics-II
- Statistics
- Physics
- Chemistry
- Environmental Science
- Electrical Science
- Computer programming
- Introduction to AI & ML
- Engineering Drawing & Workshops
- General English
- Written Communication
- Health, Wellness and Yoga

## SECOND YEAR\*

### Semester-3

- Data Structures and Algorithms
- Object Oriented Programming
- Digital Electronics
- Digital Communications
- Discrete Mathematics
- Principles of Economics

#### Supplementary Course

- Community Services

### Semester-4

- Computer Architecture
- Database Management Systems
- Operating Systems
- Programming for Scientific Computing
- Probability and Statistics
- Principles of Management
- Web Technologies

## THIRD YEAR\*

### Semester-5

- Machine Learning
- Computer Networks
- Design & Analysis of Algorithms
- Software Engineering
- Open Electives

### Semester-6

- Theory of Computation
- Department Elective-1
- Department Elective-2
- Department Elective-3
- Open Elective
- University Elective

## FOURTH YEAR\*

### Semester-7

- Compiler Construction
- Information Security
- Department Elective –IV
- Department Elective –V
- Open Elective
- Open Elective
- Minor Project

### Semester-8

- Major Project/Internship

\* under revision

For a detailed syllabus please visit <https://cse.nirmauni.ac.in/academics/programmes/curriculum/>



# Research @ COMPUTER SCIENCE AND ENGINEERING

## CAREER OPPORTUNITIES

As a Computer Science and Engineering graduate, a plethora of lucrative opportunities are available to students, such as:

- Data Analyst
- Database Administrator
- Network Administrator / Designer/Architect
- Computer Hardware Engineer
- Application Developer
- Security Auditor
- Software Testing
- Computer System Analyst
- Firmware Developer
- Software Developer
- Hardware Interface Designer
- System Analyst
- Entrepreneur
- Academician
- Information Security Analyst





## MAJOR CAMPUS-PLACEMENT RECRUITERS

- |                                  |                              |             |
|----------------------------------|------------------------------|-------------|
| - Amazon                         | - Oracle                     | - Infosys   |
| - Morgan Stanley                 | - Samsung                    | - Cognizant |
| - MAQ Software                   | - Searce                     | - Wipro     |
| - Mu Sigma                       | - HSBC                       | - TCS       |
| - Goldman Sach Services Pvt Ltd. | - Future First Info Services | - Intel     |
|                                  | - Creast Data Systems        | - Bloomberg |



## MAJOR STUDENT ACTIVITIES

- Students Association clubs like ACM, IEEE-ACES, AMS, CodeAdda, Google Ambassador
- Industry exposure through industry visits, internships, workshops, seminars and expert talks etc.
- Active engagement through Competitive coding competitions, Hackathon, technical festivals and many more technical events
- Remarkable campus placement records
- Global opportunities through summer internships and projects
- Infosys Campus Connect Program



please visit <https://cse.nirmauni.ac.in/academics/people/faculty/> for faculty details