B.TECH - COMPUTER SCIENCE AND ENGINEERING

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ABOUT PROGRAM

Augmenting cutting edge skills is the core determination of GSFC University. To supplement and nourish these skills, strong industrial support is a vital agent. Students at GSFC University receive a unique opportunity in the form of hands-on training at industries besides the classroom learning that empower them for their career development in multiple ways. The Computer Science Engineering program at GSFC University emphasizes on providing core fundamental knowledge along with practical and hands-on experience and an exposure to entrepreneurship & research.

This program focuses on Holistic development of the students by participating in the co-curricular and extra-curricular activities organized through different Student Managed Clubs and Student Chapters Continuous Grooming of students by Developing Soft Skills, Preparing for Placements, Preparing for Competitive Exams by arranging special sessions and through Foundation Course & Bridge Course.

knowledge of the emerging technology is essential for any Computer Engineer in addition to the fundamental subjects of classical Computer Science Engineering

To impart the cutting edge knowledge Computer Science & Engineering program has revamped and offers three specializations in:
1. Data science, Artificial intelligence and Machine Learning
2. IOT and Automation
3. Cyber Security

PROGRAM OBJECTIVES

Preparing the students who can design, implement and evaluate computing-based solutions for industrial and societal requirements by laying strong foundation of core courses in Computer Science & Engineering.

Enabling students to develop intelligent systems by giving special exposure to cutting-edge technologies.

To prepare the world class software professionals who can apply the knowledge in the allied sectors like Finance, Medicine, Agriculture, Science and others

Making students industry ready by offering hands-on experience from industry experts and working on real industrial problems.

Developing expertise in the specialized domains through which students can understand, assess and apply the fundamental knowledge in real time projects

PROGRAM USP

Student Centric Approach

Hands on Sessions

Industry Driven Curriculum

Strong industry linkages: Expert talks, Symposiums, Projects and Hands on experience from industry resources because of strong industry connections. MoUs with GIDM, NASSCOM, PTC, AToS and foreign universities

Support for startup and innovation: Inculcating innovation, funding support for innovative projects and extending support for startups through GUIITAR (GSFC University Incubation Innovation Technology and Applied Research) Council

Industrial Internship: Compulsory industrial internship of 4 weeks in every semester starting from the first year itself and the opportunity to work on the projects offered by industry partners/organizations mentioned below

- Vulpere Technologies
- G2M Medtech
- Open Security Alliance
- Incture Technologies
- Embibe

- GIDM
- GUIITAR Council
- AICHE BITS Pilani
- IIM INDORE
- 7Frames

STATE OF THE ART LABORATORIES

Research Labs: Exposure of working on industrial problems in specialized laboratories sponsored and supported by Gujarat Council on Science & Technology (GUJCOST), Department of Science & Technology (DST)

- Supercomputer Lab (PARAM Shavak DL-GPU)
- Design IoT Lab

E Yantra Lab: Collaboration with IIT Bombay

Core Courses Labs: Laboratories for core & specialized courses:

- Data Engineering Lab
- AI & ML Lab
- Robotics & Automation Lab
- Operating System Lab
- Programming Lab
- Digital Electronics & Microprocessor Lab

Access to GSFC Ltd laboratories: Prospects of working at the laboratories of GSFC Limited and access to of 22 process plants for internship opportunities as well as learning from the industry experts

PROGRAM STRUCTURE

The B.Tech. Computer Science and Engineering Program is of Four -year duration. Each year is called an academic year and is divided into two semesters. Thus, there will be a total of eight semesters. Each semester consists of fifteen weeks of teaching. The teaching learning process involves theory classes of an hour duration and practical classes of two hours duration, physical & drills training for 2 hours. The curriculum will be delivered through various methods including chalk and talk, laboratories, power point presentations, audio, video tools, E-learning / E-content, virtual laboratories, simulations, field trips/ Industry visits, seminars, workshops, projects, models, class discussions and industrial internship.

EVALUATION

The assessment broadly comprises of Internal Assessment (Continuous Evaluation Component) and External Assessment i.e., End Semester Examination. Each course carries 100 marks for theory with 50 marks for Internal Assessment and 50 for End Semester Examination and practical course carries additional 50 marks. The internal assessment will be through MCQ, Classroom Test, Assignment, Oral Presentation and Short Projects.

COURSES

Enhancement Courses.

For theory classes, one credit indicates one-hour lecture per week while for practical, one credit indicates two hours practical laboratory session per week.

The Core Courses (CC) are all compulsory courses. There are three kinds of Elective Courses: Discipline Specific Generic Electives (DSGE), Discipline Specific Elective (DSE) and Skill Enhancement Course (SEC). In addition, there are Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Compulsory Courses (SECC).

The Core Courses, Discipline Specific Electives Courses and Discipline Specific Generic Electives are of 3 or 5 Credits each. The Skill Enhancement Course, Skill Enhancement Compulsory Courses and Ability Enhancement Compulsory Courses are of 02 credits each. A student has to earn a minimum of 184 Credits to get a degree in B. Tech in Computer Science and Engineering

The program offers Professional Elective courses and the students must choose from each option offered in 6th Semester.

Student has to take Ability Enhancement Compulsory Course, physical training & Drills, Industrial Internship in every semester from 1st to 6th Semester. This is compulsory for every student undergoing BTech Computer Science and Engineering

COURSE STRUCTURE

Specialization Courses Semester I Semester II Semester III Semester IV Semester V Semester VI Semester VII Semester VIII

Specialization Courses				
Sr. No.	**Semester**	**Data Science, Artificial Intelligence & Machine Learning**	**IOT & Automation**	**Cyber Security (Specialized Track III)**
1	Semester III	Python Programming	Python Programming	Python Programming
2	Semester IV	Fundamental of AI & ML	Fundamental of Internet-Of-Things	Fundamentals of Cyber Security
3	Semester V	Data Science for Engineers	IOT Architecture and Protocols	Network security and access control
4	Semester VI	Deep Learning	Wireless Sensor Networks (WSN) & IOT Standards	Platform & Application security principles
5	Semester VI	Big Data Architecture and Programming	Data Analytics for IOT	Wireless and Mobile Device security principles
6	Semester VII	Natural language Processing	Fundamentals of Robotics & RPA	Vulnerability & Risk Management
7	Semester VIII	Machine Learning for Intelligent Systems	Industry 4.0 and Application Areas	Digital forensic, investigation and response

TOTAL INTAKE

204 Seats

MODE OF ADMISSION

Merit Based

QUALIFYING EXAMINATION

10 + 2 (Science) or Equivalent

ELIGIBILITY FOR ADMISSION

For State Quota Seats: The state quota seats of the B. Tech Program will be filled by Admission Committee for Professional Courses (ACPC), Govt. of Gujarat.

For All India Seats (Management Quota): The All-India quota Seats of the B. Tech Program will be filled by GSFC University with the following eligibility criteria:

- Seats (All out of the state applications) will be filled from the all-India candidates (Including Gujarat) on the basis of NTA score in JEE (Main) – 2021 or percentile rank of GUJCET 2021 examinations. Admission announcement for these seats will be posted at the University's website.

- If seats are not filled under specified JEE & GUJCET, vacant seats will be transferred to either of the category.

- A candidate should have passed (HSC -Science stream), the Qualifying Examinations with minimum 45% marks (40% in case of SC/ST/SEBC) as aggregate in theory and practical of Physics & Maths (with Chemistry or Computer or Vocational Subject) from single board.

REGISTRATION FEES

The registration fee for submitting online application form is Rs. 350/- (Rupees Three Hundred Fifty rupees Only), which is to be paid online.

CONTACT CO-ORDINATOR

Ms. Shweta Rajput
Program Co-ordinator, CSE
- shweta.rajput@gsfcuniversity.ac.in

- +91 63587 88891

E-CENTRE

Program Brochure | University Brochure | Detailed Curriculum

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Contact Us

GSFC University, Vigyan Bhavan, P. O. Fertilizernagar, Vadodara - 391750, Gujarat, India

0265-3093740 / 07573002444

admission@gsfcuniversity.ac.in