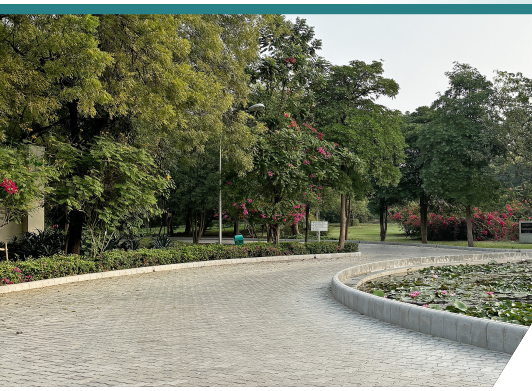
Dhirubhai Ambani University

Formerly known as
Dhirubhai Ambani Institute of
Information and Communication Technology

B.Tech.

Electronics & VLSI Design



Academics

Service to Society

DAU

Research & Innovation

Admissions 2025

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DAU at a Glance

DA-IICT was founded in 2000 as a unique university devoted to the cutting-edge interdisciplinary area of Information and Communication Technology (ICT). ICT was emerging as the technology of the future bringing in the fourth Industrial Revolution. Well known and highly qualified faculty members joined DA-IICT and developed a curriculum and research program steeped in all aspects of ICT, societal, scientific, and technical. This spirit has been nurtured for the last 24 years and DA-IICT wants to continue its excellence in interdisciplinary teaching and research well into the future.

The Act No. 6 of 2003 of the Gujarat Legislature provided for the establishment of the DA-IICT and conferred on it the status of a University. On 30 November 2004, the DA-IICT was included in the list of Universities maintained by the University Grants Commission under Section 2(f) of the UGC Act, 1956. DA-IICT is a member of the Association of Indian Universities (AIU) as approved by the AIU at its 84th Annual Meeting held during 12-14 November 2009. The National Assessment and Accreditation Council, Government of India has accredited DA-IICT with an **A^+ Grade in 2023**.

The Legislative Assembly of Gujarat passed the DA-IICT Amendment Act Bill on 28th February 2024 and the DA-IICT Act (Amendment) 2024, which paved the way for the formation of the Dhirubhai Ambani University, and came into force by the announcement in the Gujarat Government Gazette dated 13th May 2024. Consequent upon the said amendments, the institute transforms itself into a multi-disciplinary university of new and emerging technologies and will establish institutions in other disciplines such as law, management etc.

Vision and Mission

The vision of the institute is to become a globally recognized institution that offers innovative programs, outstanding faculty, an atmosphere of innovation, a responsive administration, a vibrant campus and a collaborative learning environment that continuously adapts to the changing landscape of research and innovation and the future of work. Toward this, we plan to design and deliver academic programs in both disciplinary and multidisciplinary domains to prepare students for a rapidly evolving work environment.

Govt. of Gujarat conferred the status of **Centre of Excellence** in January 2022

NAAC (Accreditation): A+ Grade (Year- 2023)

Gujarat State Institutional Rating Framework (GSIRF) awarded **Five-Star Rating in the last three years**

Selected as one of the **Nodal Institutes to mentor Innovators** by the Industries Commissionerate, Govt. of Gujarat

Alumni who have excelled as **entrepreneurs** (founded and co-founded over 100 companies), **technocrats** (CTO, CEO), **bureaucrats** (IAS, IRS, IPS, IES), **academicians** (NUS, University of Chicago, University of Toronto, IIT Madras)

Annual Student Scholarships: INR 4-5 Crores

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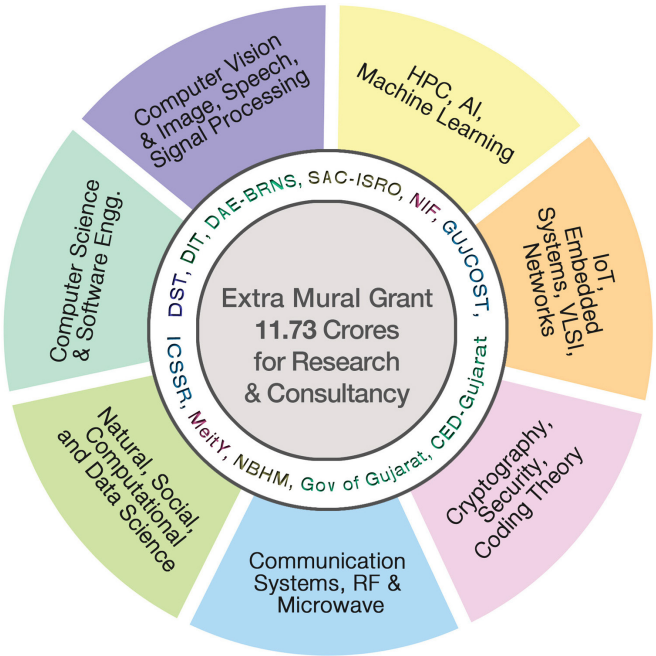
Academics and Research at DAU

Interdisciplinary and Multidisciplinary Research Oriented Academic Programs

Program Level	Name of the Program	Duration	Unique Features
Doctoral	**PhD**	4-6 years	- Entry through national level entrance test & interview
PG	**MTech** (ICT)	2 years	- Thesis and Project mode
	MSc (IT)	2 years	- Industry oriented IT program
	MSc (Data Science)	2 years	- Hands-on program
	MSc (Agriculture Analytics)	2 years	- In collaboration with IIRS & AAU
	MDes (CD)	2 years	- Fusion of ICT and Design
	MDes (IUxD)	2 years	- Fusion of HCI and Design
UG	**BTech** (ICT)	4 years	- 1st institute in India to offer **unique program** in ICT in 2001
	BTech (Hons in ICT; minor in Computational Science)	4 years	- 1st institute in India to offer UG program in Computational Science
	BTech (Mathematics and Computing (MnC)	4 years	- Intersection of Computer Science & Applied Mathematics to solve complex problems
	BTech Electronics and VLSI Design (EVD)	4 years	



Sponsored Research Projects: 32

Consortia Projects (DST, MeitY): 4

Industry / Consultancy Projects: 2

Major MOUs / LOUs

- Institut Superrieur D'electronique De Paris (ISEP), Catholic University of Paris, France
- Springer Science-Business Media Singapore
- Oregon University, USA
- University of Evora, Portugal
- Texas A & M University
- University of Milano, Italy
- University of Hildesheim, Germany

Conferences/ Workshops/ Summer Schools Organized : 25

Publications: **600** *h* - index: 48

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Program Overview

Why a B.Tech. program in EVD?

The electronics industry has achieved a phenomenal growth over the last few decades, mainly due to the rapid advances in large scale integration technologies and system design applications. Semiconductor industry is the lifeline of electronics and computing and is poised to grow $1 trillion by 2030. Very-large-scale integration (VLSI) is the process of incorporating millions of transistors on a single semiconductor chip. With the advent of VLSI designs, the number of applications of integrated circuits (ICs) in high-performance computing, controls, telecommunications, image and video processing, and consumer electronics has been rising at a very fast pace. This trend is expected to grow rapidly, with important implications on VLSI and Electronic System designs.

Recently, the Government of India has launched India Semiconductor Mission with a vision for growth and development of the semiconductor industry and to enable India to become a global hub for semiconductor design and manufacturing. This expected growth in the semiconductor industry in turn requires trained engineers to support the technology and to sustain development in this area. The domain of Electronics and VLSI design is interdisciplinary in nature. It provides strong foundation building through tailored courses in mathematics, physics, electronics and system design which strengthens the student fraternity in knowledge building, problem solving and design skills. These skills further pave the way for future scientific developments and innovation. Graduates with the above mentioned skill set are anticipated to be in high demand given the current scenario where the electronics industry is booming and has a huge requirement for manpower.

DA-IICT philosophy, vision and B.Tech. (EVD)

DA-IICT since its inception has been an institute of interdisciplinarity and contemporary domains. B.Tech. program in Information and Communication Technology (ICT), B.Tech. in ICT with minors in Computational Science and B.Tech. in Mathematics and Computation (MnC) are testimonials to this. From the academic year 2023-2024, DA-IICT is offering a new B.Tech. program in Electronics and VLSI Design (EVD). With the institute's experience and expertise in innovation and knowledge reform, DA-IICT is well-poised to provide knowledge and training to young minds to provide solutions to real world problems. The B.Tech. program in Electronics and VLSI Design (EVD) at DA-IICT, is therefore a strong step in this direction.

EVD is a multidisciplinary domain which provides highly specialized knowledge to design, fabricate and test, devices, circuits and systems, at 'micro and nanoscale' levels. The curriculum focuses on using the fundamental knowledge of analog and digital circuit design to build energy efficient and optimal circuit designs for a multitude of applications like smart homes, agriculture, healthcare, robotics, etc. The curriculum is designed to provide the required skillset through the foundation courses in Electronics like semiconductor physics, electronic circuits, digital and analog electronics etc. in the initial semesters. The advanced courses in VLSI and System Design further help to strengthen and hone their analytical and design skills. The hands on training in VLSI CAD and system development tool suites plays a key role in increasing their employability in industry. The rigour in the curriculum also paves the way for students aspiring to pursue higher studies.

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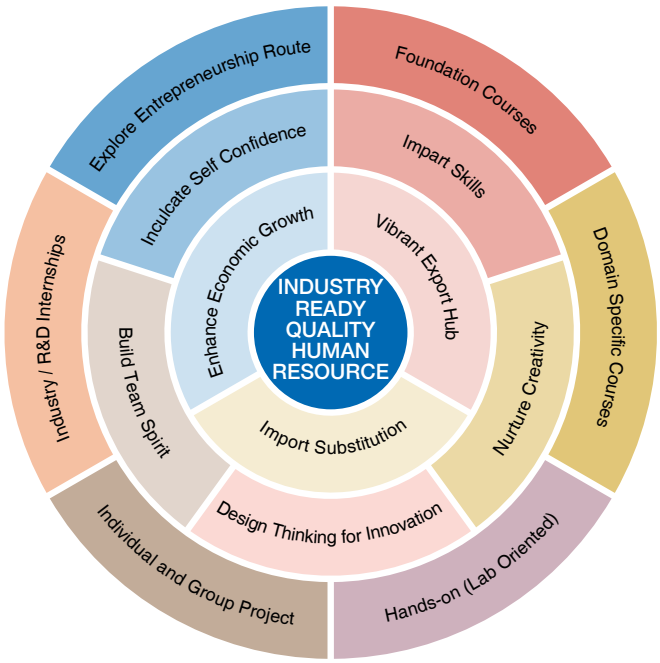
Program Overview

The proposed B.Tech. course maintains a balance between theory and practice, ensuring that the students gain relevant skills as per the requirement of the industry. The program is designed to operate on a semester-based framework that follows choice-based credit system. The first 2 years will focus on the basics, leading to strong foundations in humanities, mathematics, logical reasoning, physics, programming skills and basic engineering. In the 3rd and 4th year, the students will get a deeper understanding in VLSI and Electronics System Design along with the freedom to choose from a wide range of electives.



In the 2nd year, students will be introduced to courses such as Controls and Communications, Embedded System Design and Analog Electronics which will provide them the necessary knowledge to select one of the specialization routes in the upcoming semesters. The Electronic Design lab course offered in the 4th semester will enable the students to learn the practical aspects of measurement techniques and different software tools. A unique and state- of-the-art design project is introduced where the student will get an opportunity to work towards designing an integrated circuit from specification to fabrication. The student will also get an opportunity to delve into the realms of product design and entrepreneurship.

From the third year onwards, the student will also be able to choose from a wide range of innovative inter-disciplinary courses (free electives). In the 6th semester, the student will have the unique experience of testing the chip that he/she had designed earlier. Additionally, the student will also be encouraged to go to research labs/organizations for a period of 8 weeks during the summer to design and/or fabricate a device. The individual project is to be taken in semesters 5 and 6. Students can work with a faculty mentor at DA-IICT and will be encouraged to explore different System Design Projects while using various software tools and hardware platforms. Another unique feature of the proposed course is the group design project in the 7th semester. In this, students will have an opportunity to use their skills into practice and experience working for an industry or an academic advisor.

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Course Curriculum

Semester-1
Engineering Mathematics I
Introduction to Programming
Programming Lab
Basic Electronic Circuits
Engineering Physics
Language and Literature
Co-curricular Activities-I

Semester-2
Engineering Mathematics II
Digital Logic and Computer Organization
Data Structures
Data Structures Lab using Object Oriented Programming
Electromagnetic Theory
Approaches to Indian Society
Exploration Project I
Co-curricular Activities-II

Semester-3
Engineering Mathematics III
Solid State Devices
Signal Processing and Control Systems
Electronic Design Lab
Science, Technology and Society
Exploration Project II
Co-curricular Activities-III

Semester-4
Embedded Hardware Design
Digital IC Design and Tape out
Digital IC Design and Tape out Lab
Analog Electronics
Entrepreneurship and Product Design
Specialization Elective -I
Co-curricular Activities-IV

Semester-5
Digital Signal Processing Hardware
VLSI Design
VLSI Design Lab
Open elective -I
Specialization Elective-II
Principles of Economics
Individual Project-I

Semester-6
Environmental Science
Open elective-II
VLSI Testing and Validation
Specialization Elective -III
Individual Project-II,III

Semester-7
Specialization Elective -IV
Specialization Elective -V
Open elective-III
Group Project

Semester-8
BTP/Internship

Specialization routes

Electronic System Design
VLSI Technology
Real Time Embedded System Design
Advanced Computer Architecture
Secure Hardware
IoT Sensors and systems

VLSI Design
VLSI Technology
VLSI Circuits for DSP
Analog and Mixed Signal IC
MEMS
IoT Sensors and systems

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Admissions

Total Seats: 40

33% of the seats are reserved under Gujarat Category. Seats under Gujarat Category will be filled as per the guidelines of ACPC. The candidate has to apply to ACPC, GoG, separately.

Eligibility Criteria

The minimum academic qualification for admission to the programs is that the candidate must have passed or appearing in 2025 in the final examination of 10+2 (Class XII) or its equivalent with Mathematics, Physics and any one of Chemistry/Bio-technology/Computer Science/Biology.

Selection Process

Admission to the B. Tech. (EVD) program will be based on the All India Rank of Joint Entrance Examination 2025 (JEE-2025) Main, which is conducted by the National Testing Agency, Government of India.

The short-listed candidates will be offered admission (confirmed/waitlisted) in order of their merit (based on the All India Ranking of JEE 2025).

How to Apply

Candidates submit an online application by clicking on the link given on the Institute website.

Fees Structure*

Tuition Fee: Rs. 1,78,500 per Semester

**This Fee Structure is submitted to the Appellate Committee of the State Government for consideration.*

*Subject to revision every Academic Year from 8 to 10%.

Scholarships

UG Institute Fellowships: A few students admitted to the program are awarded fellowships equivalent to full tuition fees. Fellowship is for best JEE rank holders, best GUJCET rank holders, 12th class toppers from different states and girls students.

UG Merit Scholarships: A few students admitted to the program are awarded merit scholarships equivalent to full tuition fees based on their semester results.

UG Merit-cum-Means Scholarships: A few students admitted to the program are awarded upto 70% of tuition fees as a merit-cum-means scholarships based on their semester results and family's annual income.

Mukhya Mantri Yuva Swavalamban Yojna, Government of Gujarat

Hon. Chief Minister Scholarship Scheme, Government of Gujarat

Digital Gujarat Portal, Government of Gujarat

National Scholarships Portal, Government of India

Cybage Khushboo Scholarships

Education Loan:
The Institute will facilitate the students to avail educational loan from selected banks.

Important Dates

Online application website opens	:	**3rd April 2025**
Last date for submission of online applications	:	**9th June 2025**

For Inquiries
Email: ug_admissions@daiict.ac.in | Voice call: 079 69 08 08 08
For more details please visit: www.daiict.ac.in