DAYANANDA SAGAR UNIVERSITY

7 DECADES LEGACY IN EDUCATION & HEALTHCARE

A+ GRADE ACCREDITED BY NAAC

Gain Excellence in Innovative Design the World Craves!

M.Tech

Design Engineering

Index

A Place to Grow, Excel, Invent & Innovate!

Dayananda Sagar Institutions founded in the 60's by a visionary, Late Sri. R. Dayananda Sagar (Barrister-at-Law) committed to take knowledge to the people, transforms today's students into responsible citizens and professional leaders of tomorrow. Dayananda Sagar University created by an Act of the Karnataka State in 2014, built on this adorable legacy and inspired by its own milestones, meeting the needs of quality higher education in this part of the world.

This main campus is thoughtfully planned on 130 acres, with a picturesque site and a blossoming green environment, making it free from city crowds and pollution. Being a completely self-contained campus adjacent to Harohalli Kanakapura Road, Bengaluru South District., it is equipped with all the modern state-of-the-art infrastructure, creating a conducive environment for progressive experiential learning and transforming you into next-generation innovators, explorers, leaders, and researchers.

University Accreditation and Rankings

Times Engineering — Times All India Engineering Institutes Ranking Survey 2023 — Number One — Top Emerging Engineering Institutes; Emerging Engineering Institutes - Placement; Emerging Engineering Institutes - Research Capability

IIRF -2025 — IIRF Education Impact Award — Promising Private University for Academic Excellence & Learning

ICARE Ratings KSURF — Teaching Excellence ★★★★★ Research Excellence ★★★★★

Emerging engineering institute; Emerging engineering Institute Placement 2022; Emerging Engineering Institute Research Capabilities

DSU has Rank No. 1 — By Times of India 2022

ET The Economic Times 2023 — Excellence in Academic Facilities & Learning Resources

IIRF -2024 — National Rank–9 — Top Private Universities in India (Overall) — State Rank 3 — South Zone Rank 3

IIRF -2026 — Education Impact Award — Excellence in Employability & Placement Performance

Times Business Awards — Best Emerging University 2021

34th Elets World Education Summit 2025 Chennai — 01st November 2025 — Outstanding University with Best Placements

About School of Engineering (SoE)

Welcome to the cutting-edge realm of engineering excellence at the School of Engineering (SoE), Dayananda Sagar University (DSU). The School of Engineering (SoE) at Dayananda Sagar University (DSU) provides world-class education and experiential training in engineering, with a strong focus on innovation across various disciplines such as Computer Science, Artificial Intelligence, Robotics, and more. The unique and multidisciplinary learning environment is supported by state-of-the-art infrastructure, job-role–based emerging specialisations, innovative pedagogy, a contemporary curriculum, multifaceted faculty, strong industry collaborations, and impeccable placements.

It has emerged as the top choice for students who aspire to become next-generation technocrats, innovators, developers, and creators. Our advanced and exceptional M.Tech programs are meticulously designed to propel students to the forefront of evolving technologies. These programs offer specialised majors that allow learners to explore their areas of interest and expertise in depth—whether in computer science, electronics, or other engineering disciplines. Students are also exposed to knowledge beyond their chosen specialisation, helping them broaden their perspectives and enhance their intellectual horizons.

School Vision

Transform lives through excellence in engineering education, research, and innovation with an emphasis on sustainability, inclusive technologies, and global needs.

School Mission

1. Design and deliver contemporary engineering curricula to address regional and global needs while emphasizing ethics, values, integrity, and regional relevance.

2. Carry out high-impact academic research, industry projects, and innovation activities with active student engagement to advance science and engineering knowledge and state-of-the-art industry practices.

3. Develop regional and national leaders to advance the society and economy.

Message from the Dean

BE YOU
BE THE DIFFERENCE!!!

Welcome to the new way of learning at School of Engineering (SoE) of Dayananda Sagar University (DSU). At SoE, we are committed to helping you to make a positive difference in the world. We at SoE are immensely proud to provide all of our students with an outstanding education that equips them with the skills, experience, and confidence required to stand out from the crowd. The School promotes Culture of Excellence including the culture of Interdisciplinary, Research, Creativity, Innovations, and Entrepreneurship on various Cutting-Edge Technologies. We at SoE, provide the World-Class Education that is Student-centric, Research-centric, and educational space where all of our students will have a transformative education, learn to be independent critical thinkers, be societally and ethically responsible, and to have a broad understanding of the world.

We value ability, not background, and we support all of our students to achieve their potential. We want you to enjoy your time here, confident that, upon completion of Engineering degree program under SoE, you will have the knowledge, expertise, and employability skills to set you on your chosen career path. The decision you make about where to study is an extremely important one. I am pleased you are considering the School of Engineering at DSU, and hope that you choose to continue your education with us.

BEST WISHES!

Dr. Udaya Kumar Reddy K R
Dean, School of Engineering

Department of Mechanical Engineering

The Department of Mechanical Engineering at DSU offers M. Tech in Design Engineering, an Postgraduate programme to create motivated, innovative and creative graduates to fill the roles of Design Engineers who can conceptualize, design, analyse, develop and produce Innovative Designs to meet the modern day requirements.

Vision

Be a nationally recognized center of Excellence in Mechanical Engineering that attracts, rewards, and retains outstanding faculty, students where teaching, learning and research synergize.

Mission

- To educate, prepare, inspire, and mentor students to excel as professionals.
- Providing the facilities and environment conducive to a high quality education, well grounding the students in the fundamental principle of engineering and preparing them for diverse careers.
- Introduce students to Research, Innovation and Entrepreneurship and contribute to technology.

Program Overview

The M.Tech in Design Engineering at the School of Engineering, Dayananda Sagar University (DSU) is a comprehensive postgraduate program crafted to develop highly skilled design engineers equipped with strong analytical abilities, creativity, and hands-on expertise. The curriculum integrates advanced mechanical design concepts with modern computational tools and industrial applications.

This program prepares graduates to address real-world engineering challenges while fostering innovation in product design, development, and optimization.

Program Duration

Two years (4 Semesters)

Program Eligibility

Pass in BE/ B.Tech in Mechanical Engineering, Industrial Engineering, Production Engineering, or related disciplines with minimum 50% marks in aggregate (45% in case of candidates belonging to SC/ST & OBC).

Program Objectives

- To provide in-depth knowledge of advanced design and analysis methodologies.
- To strengthen computational, analytical, and creative problem-solving skills.
- To equip students with modern software tools essential for mechanical design.
- To develop expertise in product design, optimization, prototyping, and validation.
- To prepare students for careers in R&D, manufacturing, automotive, aerospace, and other sectors.

Programme Educational Objectives

- Design machines, components, and processes to fulfill desired specifications and constraints
- Apply design engineering principles and concepts to create high-quality designs that meet industry needs
- Analyze and solve practical problems in industry and society using modern engineering technologies

Programme Outcomes

- Ability to demonstrate sound domain knowledge from a wider perspective to become successful professionals.
- Ability to identify, formulate and solve mechanical design problems.
- Ability to conceptualize the design aspects and evaluate them to select optimal feasible solutions considering safety, environment, and other realistic constraints.
- Ability to independently carry out research/investigation and development work to solve practical problems related to mechanical design.
- Ability to perform in multidisciplinary teams with sound interpersonal and management skills with a commitment to lifelong learning
- Ability to demonstrate research skills to critically analyze complex mechanical design problems for synthesizing new and existing information for their solutions
- Ability to demonstrate skills to use modern engineering tools, software, and equipment to analyze and solve complex engineering problems.
- Ability to exhibit the traits of professional integrity and ethics and demonstrate the responsibility to implement the research outcome for sustainable development of the society.
- Ability to communicate effectively to comprehend and write effective reports following engineering standards.
- Ability to use modern tools for the design and analysis of static and dynamic systems and mechanisms
- Ability to demonstrate the skill of a good researcher to work on a problem, starting from scratch, to research literature, methodologies, techniques, tools, and conduct experiments and interpret data.
- Ability to exhibit the traits of good academicians and engage in independent and reflective lifelong learning.

Program Unique Features

- Industry-Relevant Curriculum aligned with emerging technologies and market needs.
- Hands-on learning through real-time case studies and industry projects
- State-of-the-Art Laboratories including CAD/CAM Lab, Materials Testing Lab, Rapid Prototyping Facility, and Advanced Manufacturing Labs.
- Experienced Faculty with strong academic and industrial backgrounds.
- Hands-on Learning through mini-projects, case studies, and design simulations.
- Internship and Dissertation opportunities in leading industries and research centers.
- Exposure to Latest Tools such as ANSYS, SolidWorks, CATIA, MATLAB, HyperMesh, and more.
- Interdisciplinary electives allowing career flexibility
- Exposure to emerging technologies: IoT, Additive Manufacturing, Smart Materials
- Strong linkages with automotive, aerospace, and manufacturing firms

Curriculum Overview

Semester I

- Experimental Stress Analysis
- Finite Element Method
- Solid Mechanics
- Department Elective–I
- Department Elective–II
- Special Topics

Semester II

- Advanced Materials & Manufacturing Technology
- Mechanics of Composite Materials
- Advanced Machine Design
- Department Elective–III
- Department Elective–IV
- MOOC Course

Semester III

- Department Elective–V
- Open Elective
- Dissertation Phase I

Semester IV

- Department Elective–VI
- Dissertation Phase II

Research Domains / Specializations

- Finite Element Analysis (FEA)
- Composites & Smart Materials
- Structural Mechanics
- Design Optimization
- Robotics & Mechatronics Systems
- Advanced Manufacturing Processes
- Product Design & Development

Elective Options

Department Elective – I

- Applied Mathematics
- Dynamics Product
- Development
- Data Visualization
- Digital Control Systems

Department Elective – II

- Robotics
- Sensors and Signal
- Conditioning
- Design of Hydraulic and
- Pneumatic Systems
- Lean Manufacturing
- Smart Materials and Structures

Department Elective – III

- Mechatronics System Design
- Modelling and Simulation
- Mechanism Design
- Industrial Design and
- Ergonomics
- Additive Manufacturing

Department Elective – IV

- Research Methodology
- Embedded Systems
- Fracture Mechanics
- Micro-Electro Mechanical
- Systems (MEMS)
- Tribology

Department Elective – V

- Automotive Electronics
- Jigs and Fixtures Design
- Optimization Techniques
- Design of Experiments
- Reliability and Failure Analysis

Department Elective – VI

- Robust Design
- Finite Element Methods for Structural Mechanics Applications
- Design of Materials Handling Systems
- Theory of Plasticity
- Non-Linear Analysis

Open Electives

- Digital Marketing – CSE
- Product Life Cycle Management – ME
- Project Management – ECE

Industries Hiring M.Tech Design Engineering Graduates

- Automotive & Aerospace Industries
- Manufacturing & Production Companies
- Research Laboratories
- Robotics & Automation Firms
- Defense and Public Sector Organizations
- Startups and Innovation Centers

Career Opportunities

Graduates can pursue roles such as

- Design Engineer
- Product Development Engineer
- CAD/CAE Analyst
- R&D Engineer
- Manufacturing/Process Design Engineer
- Simulation Engineer
- Academic/Research Professional

Faculty Information

List of Key Faculty (Indicative)

- Professors with Ph.D. in Mechanical/Design Engineering
- Most of the faculty members are alumni of prestigious IITs and NITs.
- Faculty with industrial experience from automotive and aerospace sectors
- Researchers with publications in Scopus, SCI, and reputed journals

Faculty Achievements

- Patents filed in product design & materials engineering
- Research grants from SERB, DRDO, and industries
- Publications in high-impact international journals
- Participation in global conferences and workshops

Facilities

Research Labs

- CAD/CAE Simulation Centre
- Composite Materials Research Facility
- Advanced Robotics & Automation Lab
- 3D Printing (FDM/SLA) & Rapid Prototyping Lab
- Materials Characterization Laboratory
- CNC machining & advanced manufacturing labs
- Materials testing laboratory (UTM, hardness, impact, microscopy)

Workshop Facilities

- Lathe, milling, grinding, fabrication equipment
- Hands-on training for design-for-manufacturing

Laboratories

- CAD/CAM Lab – Design and simulation using industry standard software.
- Materials Testing Lab – Tensile, hardness, impact, and microstructure characterization.
- Advanced Manufacturing Lab – CNC machining, rapid prototyping, and additive manufacturing.
- Robotics & Automation Lab – Basic robotic programming and automation systems.

Student Support & Activities

Clubs

- SAE Collegiate Club
- Robotics Club
- CAD/CAM Club
- Innovation & Entrepreneurship Cell

Workshops

- CAD/CAE training camps
- GD&T workshops
- FEA/CFD hands-on sessions
- Design Thinking & Product Development bootcamps

Internship Opportunities

Students have an opportunity to take up the Internship Program in reputed industry/academic institute/R&D/Government organizations.

Category	Duration	Period of engagement
Internship	6 Months	3rd semester

Industry Collaborations

- Internships and projects with manufacturing, automotive, and aerospace companies
- MoUs with industry partners for training and live projects
- Industrial visits and expert sessions

Placements

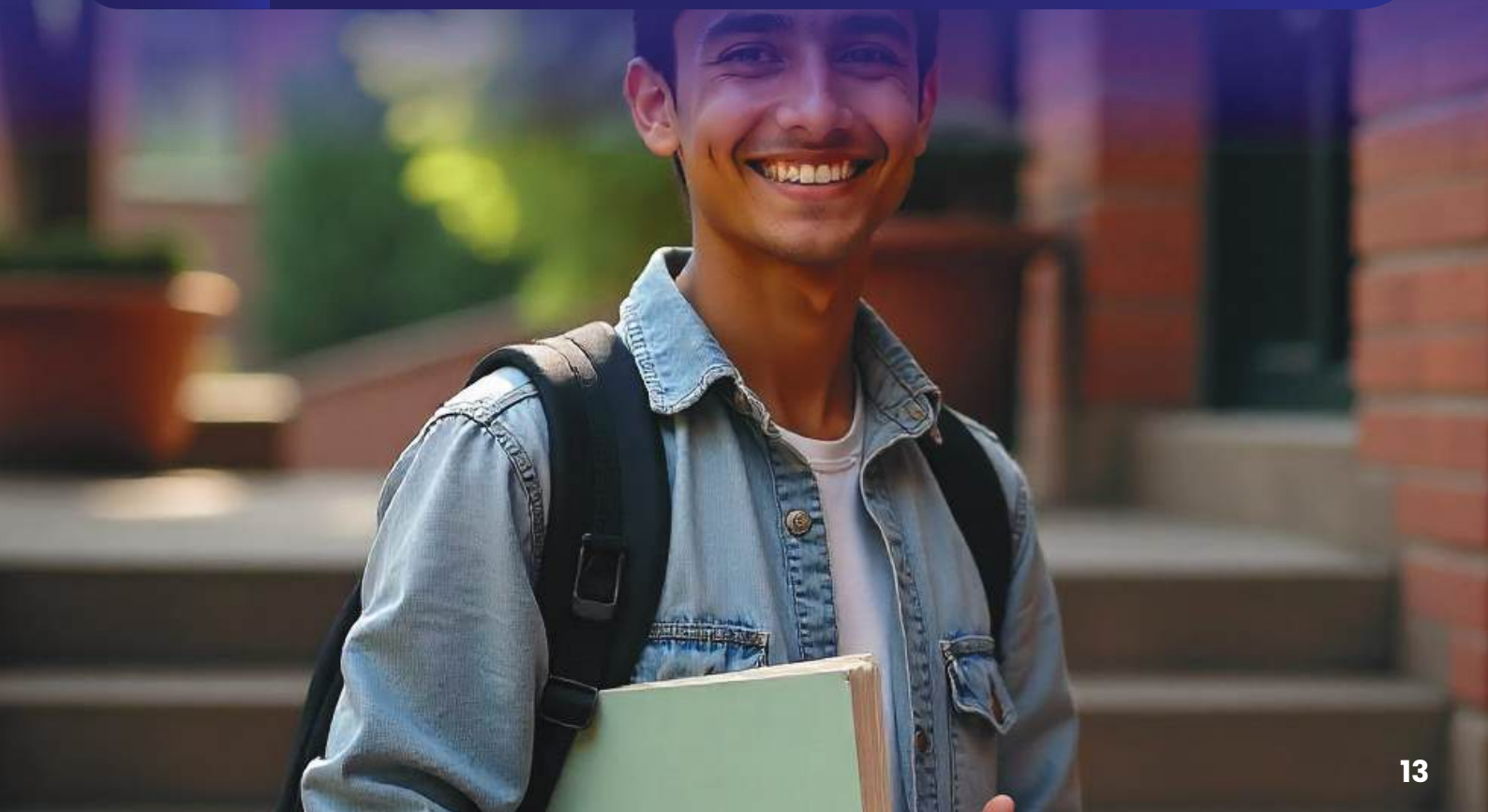
Pre-Placement Training

It provides the following training for all students

- Aptitude Training
- Soft Skill Training
- Technical Training

Placement Support

- Counselling and personality development
- Resume building and interview preparation
- Recruitment drives with 50-60 companies
- Wide network of M.Tech alumni
- Support for Ph.D and international master's programs
- 6-month internship coordination

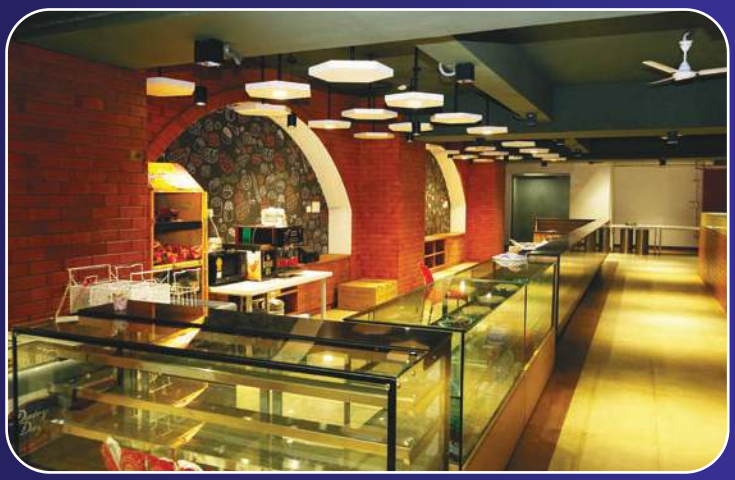


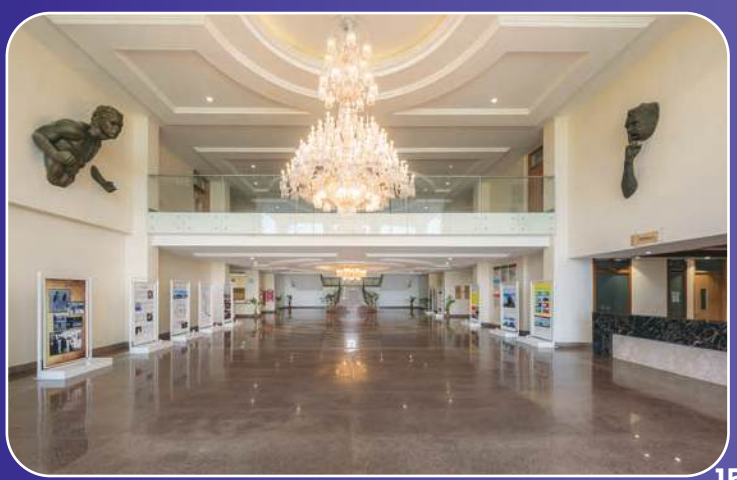
Foreign university collaboration for student exchange and internship opportunities*

UNIVERSITY	COUNTRY
University of South Carolina Aiken	USA
The University of Wisconsin–Madison	USA
Northeastern University	USA
German Varisty, Aachen	Germany
Steinbeis University	Germany
RWTH Aachen University	Germany
Indo Eurosynchronisation Pvt Ltd	Germany
Samara National Research University	Russia
The University of Brescia	Italy
Limkokwing University of Creative Technology	Malaysia
James Cook University	Australia
Ming Chi University of Technology	Taiwan
Amazon College International	Srilanka
Worcester Polytechnic Institute	USA
Western Connecticut State University	USA
The University of Huddersfield	England
TUM Asia Pte Ltd	Singapore
THE UNIVERSITY OF WOLVERHAMPTON	UK
Southern Connecticut State University	USA
DSTI - School of Engineering	France
The University of Liverpool	UK
The University of Worcester	UK
Illinois Tech	USA
Dniprovsky State Technical University	Ukraine
Visayas State University	Philippines
Nelson Marlborough Institute of Technology	New Zealand
New Jersey Institute of Technology	New Jercy
INTI International University	Malayasia
Relaince College	Malayasia
Hasanuddin University	Indonesia
LeTourneau University	USA
MIET, Moscow	Russia
Daffodil University	Bangladesh
University of Liberal Arts ULAB	Bangladesh
Multimedia University (MMU)	Malaysia
Mangosuthu University of Technology MUT	South Africa
University of Lay Adventists of Kigali (UNILAK)	Rwanda
Atyrau University	Kazakhstan
MENDEL UNIVERSITY IN BRNO	Czechia
Ernst Abbe University of Applied Sciences Jena	Germany
King Ceasor University	Uganda
Algebra University	Crotia
University of Evansville	USA
Nizhyn Mykola Gogol University	Ukraine
Dmytro Motornyi Tavria State Agrotechnological University	Ukraine
Széchenyi István University	Hungary
Southern Federal University	Russia
Uni La Salle Polytechnic Institute	France

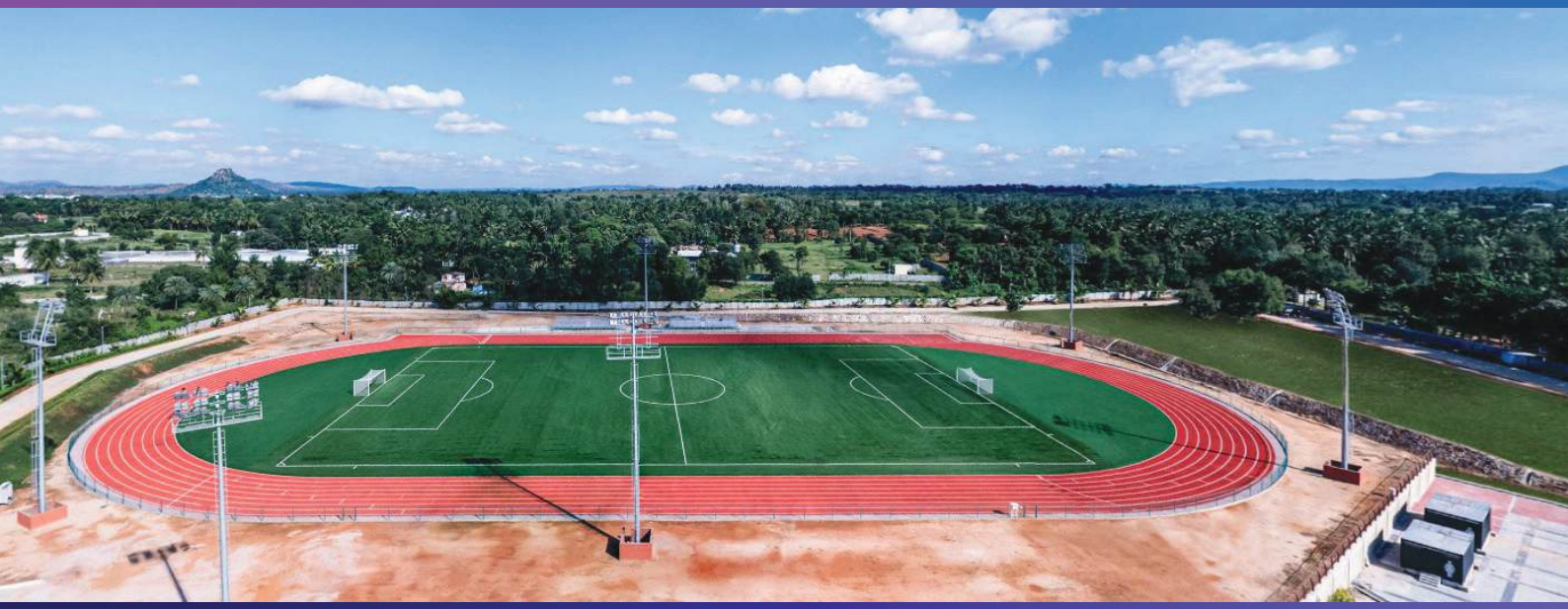
*Applicable as per university terms and conditions

Infrastructure and Facilities





Sports Facilities



Library

About Library

The Library, established alongside DSI and expanded with Dayananda Sagar Institutions (1969), Dayananda Sagar College of Engineering (1979), and Dayananda Sagar University (2014), was envisioned by the founder, Late Sri R. Dayananda Sagar, as a world-class knowledge hub. Built systematically, it accommodates 560 users and houses an extensive collection of books, CDs, DVDs, periodicals, and digital resources. Serving undergraduates, postgraduates, research scholars, and faculty, the Library reflects the University's academic excellence and is managed by a team of skilled and dedicated professionals.

School of Engineering Collections

Titles	6385
Volumes	21305
Book Bank	433
Bound Volumes	139
Book CD's	643
Periodical CD's	17
Educational Video's	47
National & International Print Journals	60
News Papers	10
Magazines	15
E-Books	12579

DSU Main Campus Hostel



About Hostel

Our hostel, located within the heart of the DSU main campus, offers a perfect blend of comfort, safety, and convenience. Designed to meet the needs of today's students, our state-of-the-art facilities ensure that you have everything you need for a successful and fulfilling college experience. With a secure environment and a focus on student well-being, our hostel provides the ideal space for both academic focus and relaxation. Whether it's modern amenities, dedicated support for your studies, or a community that fosters growth, our hostel is your home away from home—helping you thrive every step of the way!

Facilities

- 24/7 Assistance
- 24/7 Handyman
- 24/7 Concierge
- Face recognition & Biometric
- 24/7 Handyman
- Upper/lower bunk bed
- 24/7 Handyman
- Wi-Fi
- Vending Mechines
- RO Drinking Water
- CCTV Monitoring
- Study Zones
- Business Center
- Break-Out Zones
- F & B Partners
- Retail Cafeteria
- Gym Room
- Meditation Room
- Theatre
- Scenic natural views
- Sports Facilities
- Cupboard with a locker
- Parking
- Music Room
- Yoga Room
- Indoor Game Rooms
- Discussion Rooms
- Parcel Service

7+ BUILDINGS

5000+ STUDENTS ACCOMMODATION

100% SATISFACTION

2 Tier Rooms

In this tier, 2 students will be living together in an en-suite apartment with an access to all the common facilities.

3 Tier Rooms

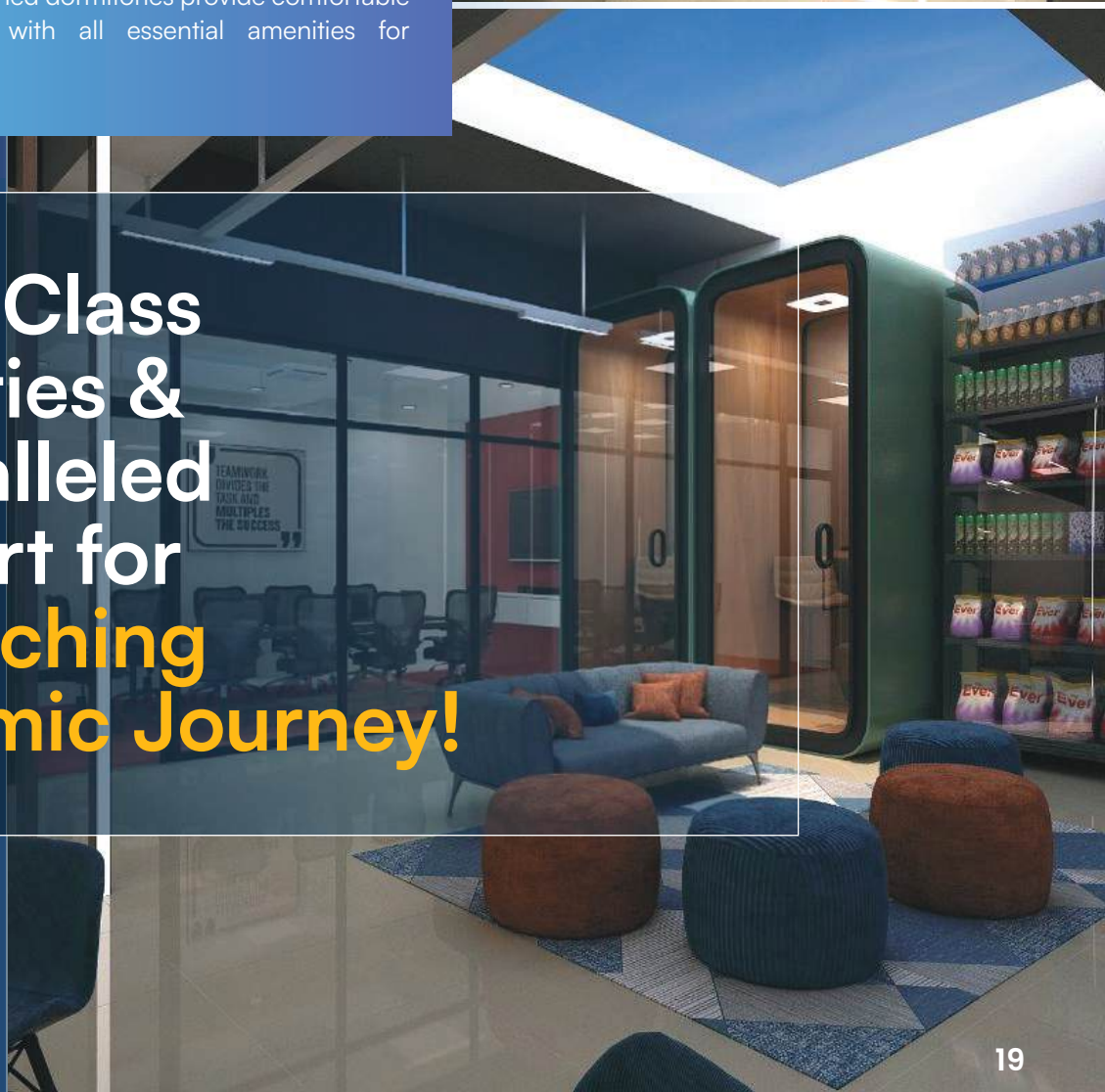
In this tier type, 3 students will be living together in an en-suite apartment with an access to all the common facilities.

4 Tier Rooms

In this tier type, 4 students will be living together in an en-suite apartment with an access to all the common facilities.

Dormitory

Spacious and well-maintained dormitories provide comfortable shared accommodation with all essential amenities for students.



World-Class Amenities & Unparalleled Comfort for an Enriching Academic Journey!

Labs

Digital Circuit Lab

Common Computer Lab

Analog Circuits Lab

Structures Lab

Electronic Lab

Composites Lab

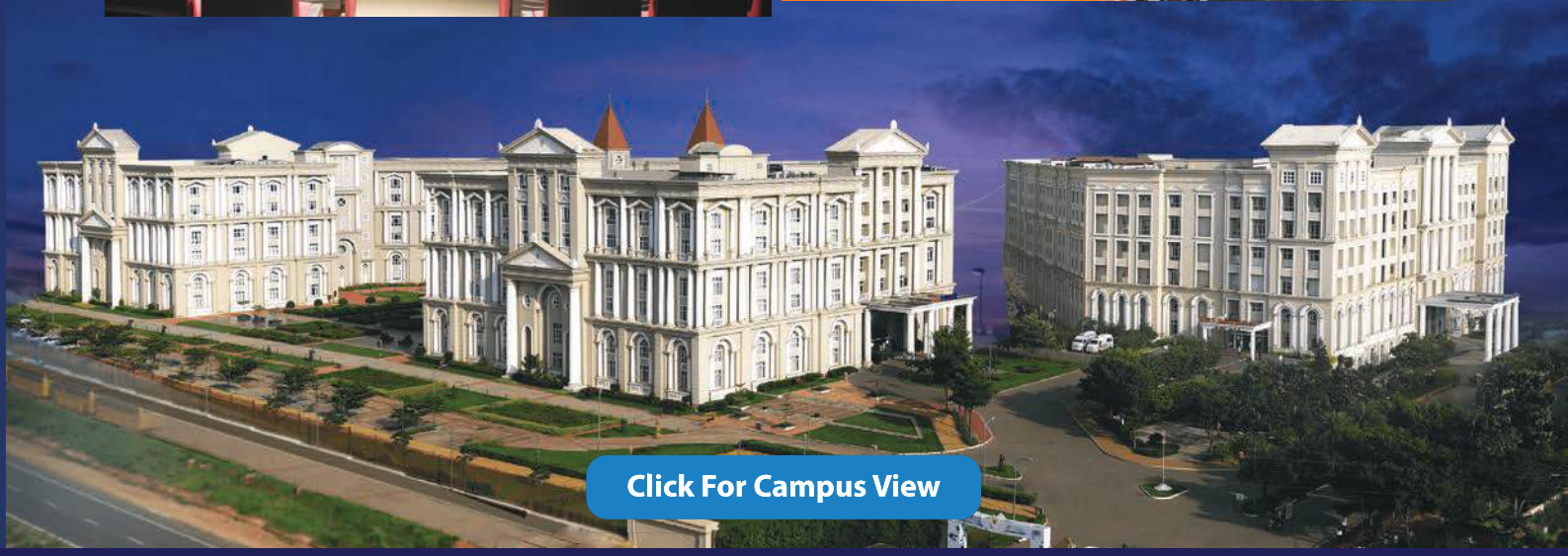
Physics Lab

Tutorial Room

Glimpse of DSU Main Campus at Harohalli





DSU Main Campus : Devarakaggalahalli, Harohalli, Kanakapura Road, Bengaluru South – 562 112

Admissions Helpline Nos: 080 4646 1800 +91 636 688 5507

www.dsu.edu.in admissions@dsu.edu.in