

SDG 4: Quality Education

Report 2024–25

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

INDICATORS COVERED IN THIS REPORT



SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

(Deemed to be University) | Chennai, Tamil Nadu, India
NAAC A++ | NBA | ABET Accredited

Introduction

At Sathyabama, we have always believed that education should not stop at the classroom door. The quality of our teaching has been recognised in India and abroad: NAAC has accredited us with its highest grade, **A++** (CGPA 3.73); the National Board of Accreditation (**NBA**) has accredited 10 of our undergraduate engineering programmes and our MBA programme; and the Accreditation Board for Engineering and Technology (**ABET**), USA, has internationally accredited our B.E. Computer Science and Engineering, B.Tech. Biotechnology and B.E. Electrical and Electronics Engineering programmes. NIRF 2024 placed us 51st among universities in India.

This report is about something just as important to us as teaching our own students well: the learning we share with people who are not our students at all.

In 2024–25 our faculty and students taught in government schools and village halls, opened our laboratories to schoolchildren and researchers from other institutions, and put hundreds of free lectures online. The sections that follow are arranged under the SDG 4.3 lifelong learning indicators used by the Times Higher Education Sustainability Impact Ratings.

The year at a glance

Indicator	What we did in 2024–25
4.3.1 Public resources	305 free faculty lecture and laboratory videos on YouTube, viewed 18,99,990 times; our laboratories opened to school students on National Science Day; research equipment made available to visiting learners
4.3.2 Public events	A startup awareness programme for women in Kumizhi village; a national seminar on the blue economy; a water quality workshop; a stakeholder session for the EU-funded NSIS project
4.3.3 Vocational training	Hands-on courses for outside faculty, scholars and industry staff in cell culture, biomaterials, fermentation, microscopy, flow cytometry and non-destructive testing; CPR training for migrant workers
4.3.4 Educational outreach	Programmes in more than 15 schools, reaching well over 1,600 children, 720 of them at Government Higher Secondary School, Perungudi

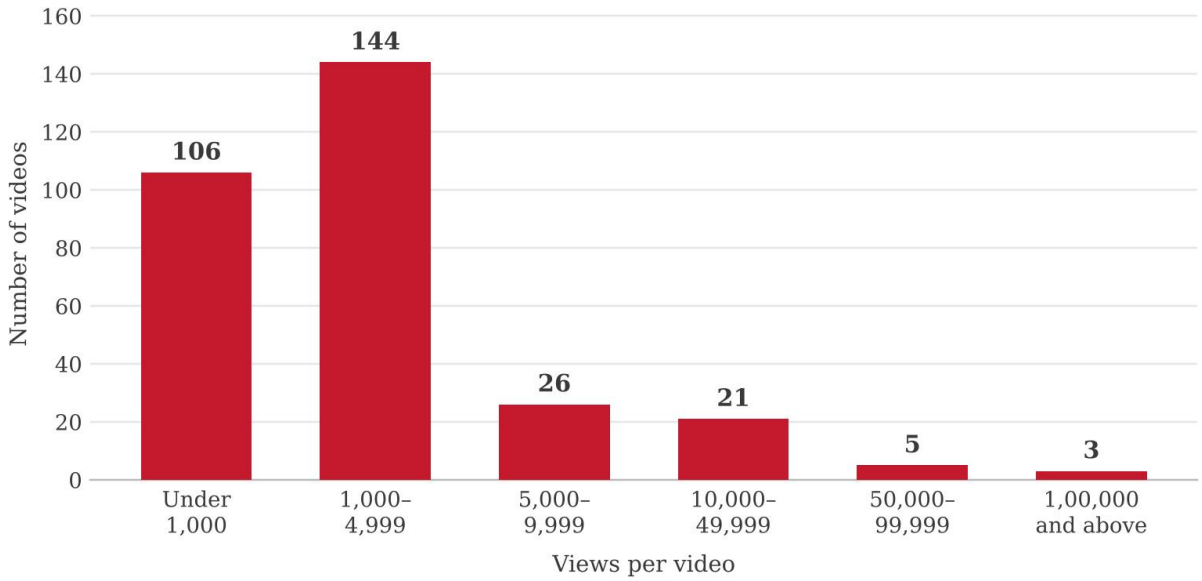
4.3.1 Public Resources: Free Access to Educational Resources

At Sathyabama, we believe knowledge grows when it is shared. Our lectures, laboratories and learning resources are open not only to our own students but also to schoolchildren, researchers and learners everywhere, free of charge.

Free video lectures on our YouTube channel

Our Media Centre is a small in-house studio where faculty record their lectures and laboratory demonstrations. Students find these videos on the Sathyabama Learning Management System, and anyone else can watch them free on our official YouTube channel (youtube.com/@sathyabamaofficial).

The channel now carries **305 lecture and laboratory videos** made by our faculty, and together they have been watched **18,99,990 times**. Twenty-nine of them have passed 10,000 views each. Our chemistry practical on estimating the strength of an HCl solution with a pH meter, for example, has been viewed more than 2.4 lakh times, a sign of how widely these videos are used beyond our own campus.



Our laboratories, open to school students (28th February 2025)

On National Science Day, the Centre for Nanoscience and Nanotechnology at our International Research Centre hosted **about 136 students from 15 schools** in and around Chennai.





Research equipment for visiting learners

Through the training programmes described under 4.3.3, faculty, research scholars and industry professionals from other institutions worked hands-on with our equipment: the confocal microscope (with Nikon India), the flow cytometer (with Beckman Coulter Life Sciences), our cell culture facilities, the MAKERSPACE Centre of Excellence for Additive Manufacturing, ion chromatography for water analysis, and the non-destructive testing set-up at our Centre for Quality in Non-Destructive Evaluation (CQNDE).





Our library

The Central Library covers 1,50,156 sq. ft and holds **3,13,760 books** across 53,013 titles, along with 134 print journals and e-resources such as IEEE, ScienceDirect, ACM Digital Library, ProQuest and Web of Science. Knimbus Remote Access and the mLibrary app keep these resources available round the clock.

4.3.2 Public Events: Educational Events Open to All

Some of our most rewarding events this year took place outside the university's usual audience, in a village, and with participants who came to us from other institutions.

Startup awareness for women in Kumizhi village (26th January 2025)

On National Startup Day, our Centre for Waste Management and Indian System of Medicine Laboratory travelled to Kumizhi village in Chengalpattu district with our Unnat Bharat Abhiyan team. We met a group of local women to talk about starting small businesses. We shared stories of ventures that had worked elsewhere and talked through practical ideas such as soap making, value-added cow-dung products, incense sticks and camphor. Group discussions and one-to-one counselling followed, covering business planning and where to find financial support.

The best part came at the end, when the women started proposing ideas of their own, including a millet-based snack business. What they asked for most was help in getting loans.









Seminar on Sustainable Energy Technologies for the Blue Economy (17th–18th October 2024)

This ANRF–SERB national seminar brought **100 participants from different institutions** to our campus to discuss how energy technologies can support a sustainable ocean economy.

Workshop on water quality and primary productivity (21st September 2024)

Participants from the University of Madras, VOC College and Alagappa Government Arts and Science College joined us for a practical day on testing water quality and estimating primary productivity.



NSIS stakeholder session (25th February 2025)

We are one of **14 institutions from 7 countries** in the European Union-funded NSIS project, "Developing Information, Research, and Digital Skills for Business, Innovation, and Entrepreneurship in India, Sri Lanka and Nepal". With a budget of €7,99,993 (about Rs. 7.3 crore), the project helps library and information professionals across the region build new skills. We held an awareness session for stakeholders in our Central Library Auditorium.



4.3.3 Vocational Training: Short Courses for External Learners

Short, hands-on courses are often the quickest way for a working researcher or professional to pick up a new technique. In 2024–25 we ran the following programmes for people from outside Sathyabama.

Training programme	Dates	Who took part
Workshop & Training Program on Advanced Biomaterials (MAKERSPACE, Centre of Excellence for Additive Manufacturing)	2–6 Sep 2024	32 faculty, research scholars and UG/PG students
Intensive Workshop on Confocal Microscopy Techniques, with Nikon India	4–6 Sep 2024	Industry professionals and students from various institutions
Workshop on Microbial Fermentation & Downstream Processing, with Prof. Mukesh Doble (IIT Madras, retd.)	25–26 Sep 2024	26 participants from different institutes
Hands-on Training on Cancer Cell Culture Techniques	26–28 Sep 2024	Faculty and students from Kerala, Andhra Pradesh, Karnataka and beyond
National Workshop on the Basics of Flow Cytometry Analysis, with Beckman Coulter Life Sciences	7–8 Oct 2024	Faculty, research scholars and students from various institutions
Basic Life Support (BLS) Training, Sathyabama School of Nursing	25 Oct 2024	Migrant workers from Nepal living around Semmencheri
Three-Day Hands-On Training on Non-Destructive Testing for Industrial Needs (CQNDE)	28–30 Jan 2025	Participants looking for practical industrial skills








CPR training for migrant workers

One of the smaller programmes on that list meant a great deal to us. Our School of Nursing trained **47 migrant workers from Nepal**, who live and work around Semmencheri, in Basic Life Support. After a demonstration, each of them practised chest compressions on training manikins. A few days later, on 30 October 2024, we went back for a session on oral hygiene and preventive health care.





4.3.4 Educational Outreach Beyond Campus

Every year our students and faculty spend time in local schools, and these visits are some of the most enjoyable work we do. The table lists the school programmes we ran in 2024–25.

Programme	School / place	Date	Reach
Let's Practice on Physical and Mental Wellness (ECE)	Govt. Hr. Sec. School, Nellikuppam	22 Jul 2024	School students
Health and Hygiene (IT)	Government School, Ottiambakkam	16 Jul 2024	120+ students
Educational Empowerment: Mentoring and Guiding Students to Success (CSE)	School, Thiruporur	2024	School students
Dental Awareness Day (Public Health Dentistry)	Colours Indian School	18 Jul 2024	Schoolchildren
Dental screening and oral-care education	Gardenia Scoula Montessori Internationale	4 Jul 2024	57 children
Oral-care education under Unnat Bharat Abhiyan	Govt. School, Otteri Village, Vandalur	30 Aug 2024	187 children
Social Media Awareness and Career Guidance (WiCyS)	Atomic Energy Central School 2, Kalpakkam	2024–25	Classes 9–11
Dental Safari 2024 (Pediatric and Preventive Dentistry)	Schools, Chennai	18–22 Nov 2024	300+ children and teachers
Oral Health Promotion (Public Health Dentistry)	Govt. Hr. Sec. School, Perungudi	4–5 Dec 2024	720 children
Fall, Stand, Rise – Building Resilient Young Minds (Psychology)	Kendriya Vidyalaya, Air Force, Tambaram	22 Feb 2025	25 students
Vitality Voyage – anaemia and obesity awareness	Vidya Ratna PTS Matric. HSS, Adyar	28 Feb 2025	Schoolchildren
School Health Programme (Nursing, with PHC Sholinganallur)	Local schools	2024–25	Schoolchildren
Prevention of HMPV (Nursing)	Panchayat Union Middle School	2024–25	Schoolchildren
ALUMER 2024 – campus visit (CSE)	Ashok Nagar Girls HSS, Chennai	10 Aug 2024	Class 12 students

Programme	School / place	Date	Reach
Adopt-a-School: 200 books and speaker system (CSE)	Govt. Hr. Sec. School, Mambakkam	2 Sep 2024	School students
Cyber threats and online safety (CSE, DST-NCSTC)	School students on campus	20–21 Nov 2024	190+ students
Digital skills for grades 6–9 (CSE)	C.D. Nayagam Thiyagarayanagar HSS	1 Feb 2025	Grades 6–9

Wellness at Government Higher Secondary School, Nellikuppam (22nd July 2024)

Dr. R. Pandian, Dr. S. Lalithakumari and Dr. R. Indhu from our Department of Electronics and Communication Engineering took a group of students to Nellikuppam to talk with the children about looking after their bodies and their minds. The session mixed talks with practical exercises.





Ottiambakkam and Thiruporur

At the Government School in Ottiambakkam, our Department of Information Technology spent a day with **more than 120 students** on health, hygiene, dental care and nutrition (16 July 2024). In Thiruporur, students from Computer Science and Engineering sat down with schoolchildren to talk about subjects, courses and careers.





Oral health at Government Higher Secondary School, Perungudi (4th–5th December 2024)

This was our largest school programme of the year. Over two days, our Department of Public Health Dentistry worked with **720 children**, 158 on the first day and 562 on the second. Along with the screening, the children learned how to care for their teeth and why it matters for their overall health. They also took part in a drawing competition and gave short speeches, and six of them went home with medals.





Dental Safari 2024 (18th–22nd November 2024)

For Children's Week, our Department of Pediatric and Preventive Dentistry chose the theme "Keep It Clean, Keep It Bright – A Perfect Smile, Day or Night". A skit, a puppet show and plenty of games reached **more than 300 children**. We also held a separate session for their **teachers** on oral hygiene and on what to do if a child injures a tooth at school.







ALUMER 2024 – Igniting young minds through education (10th August 2024)

We welcomed class 12 computer science students from **Ashok Nagar Girls Higher Secondary School**, Chennai, to our campus for a day of hands-on learning. After a welcome from Dr. L. Lakshmanan, Professor and Head of Computer Science and Engineering, the students took part in four activities: "Coding is fun", an introduction to OOPs and Python, designing web pages with HTML, and building drones from homemade materials. A tech walk around the campus and a drone exhibition, planned especially for them, followed lunch and a quiz, and Dean Dr. T. Sasikala congratulated the winners.





Adopt-a-School: Government Higher Secondary School, Mambakkam (2nd September 2024)

Under the guidance of our Chancellor Dr. Mariazeena Johnson, President Dr. Marie Johnson and Vice President Ms. Maria Catherine Johnson, our Department of Computer Science and Engineering adopted the **Government Higher Secondary School, Mambakkam**. We donated a speaker system with two microphones for school assemblies and events, and **200 books** for the

school library. Thirty-five of our students and two faculty members led interactive sessions on digital literacy, communication skills and personality development, with games and prizes for the children.





Cyber threats and online safety for school children (20th–21st November 2024)

Supported by DST-NCSTC, Ministry of Science and Technology, Government of India, our Department of Computer Science and Engineering held a two-day awareness programme for **more than 190 school students** in the Tmt. Soundarbai Auditorium. Mr. Venimal Murugan of TCS spoke on "Importance of Cybersecurity in Daily Life" and Mr. Karthikeyan, COO of Cappricio Securities, on "Cyber Safety Starts with You", teaching the students secure browsing, how to spot fraud and how to protect their personal data.





Digital skills at C.D. Nayagam Thiyagarayanagar Higher Secondary School (1st February 2025)

Our second-year B.E. Computer Science and Engineering students visited **C.D. Nayagam Thiyagarayanagar Higher Secondary School** to teach computer skills to students in grades 6 to 9. Working in four groups, they taught Office Management to grade 6, Graphic Designing to grade 7, Web Development to grade 8 and App Development to grade 9, through interactive teaching and hands-on practice.



Career guidance and resilience

Members of our WiCyS (Women in Cyber Security) student chapter visited Atomic Energy Central School 2 in Kalpakkam to talk with students in classes 9 to 11 about staying safe online and about careers in technology. At Kendriya Vidyalaya, Air Force, Tambaram, our Department of Psychology spent a morning with 25 students on coping with setbacks, using role-play, a short skit and simple activities such as Gratitude and Worry Jars (22 February 2025).





Health education in other schools

Our dental, nursing and nutrition teams also visited Colours Indian School, schools linked to the Primary Health Centre in Sholinganallur, a Panchayat Union Middle School (to talk about preventing HMPV) and Vidya Ratna PTS School in Adyar (for Vitality Voyage, on anaemia and healthy eating). Our Nursing and Physiotherapy students also gave our adopted school a sanitary napkin vending machine, a first-aid kit and climbing equipment for the playground.







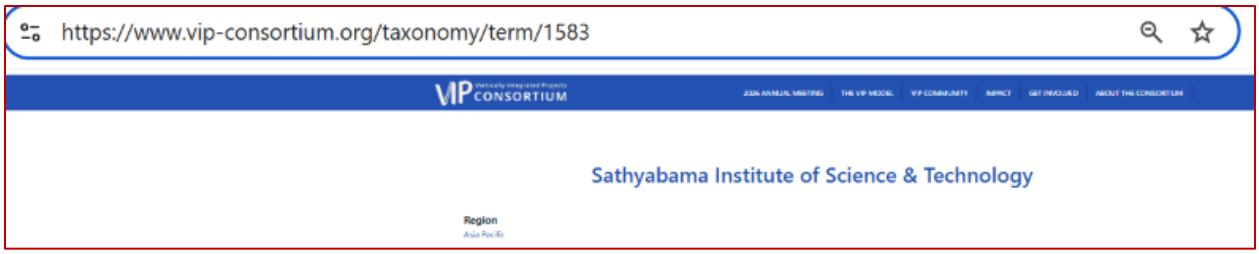


Other Contributions to Quality Education

Vertically Integrated Projects (VIP)

Sathyabama is a member of the international **Vertically Integrated Projects (VIP) Consortium**, a worldwide network of universities that prepares students for cross-functional workforce leadership. In a VIP team, undergraduates from different years and disciplines work alongside postgraduate students and faculty on a long-term research or innovation project, earning academic credit over several semesters. Senior students mentor newcomers, so each team keeps its momentum as members graduate and new ones join.

The model changes how our students learn. Instead of completing short assignments that end with the semester, they stay with a real research problem long enough to see it through from idea to result. Along the way they learn to plan research, work across disciplines, take responsibility for their part of a team, and eventually lead and mentor others. Faculty, in turn, gain motivated undergraduate collaborators for their research.



Project and Problem Based Learning (P2BL)

We have implemented **Project and Problem Based Learning (P2BL)** across our departments, course by course. In each course, students begin with a real problem or project and learn the concepts they need in order to solve it, working in teams to plan, research, build and present their solutions. Every project follows clearly defined milestones and is assessed in two formal reviews, in which faculty evaluate progress and outcomes against structured rubrics.

P2BL has made our teaching more practical and our assessment more transparent. Students understand concepts more deeply because they use them straight away, and the milestones keep their work steady through the semester rather than crowded into the final weeks. The two rubric-based reviews give every student clear, specific feedback at each stage, and give faculty a consistent measure of course outcomes, so courses can be refined from one semester to the next.

Above all, students graduate with experience of solving open-ended problems in teams, the way they will work in industry and research.





EPICS: Engineering Projects in Community Service

We follow the **EPICS (Engineering Projects in Community Service)** model, in which student teams design and build solutions for community partners such as schools, NGOs and local bodies. Teams begin by understanding the partner's needs, then design, test and deliver a working solution.

EPICS gives our students something a classroom cannot: real users with real constraints. They learn to listen to people outside engineering, translate needs into specifications, and deliver something that actually works in the field. This builds technical skill together with empathy, communication and social responsibility, while the community gains practical solutions to its problems. It shows students, in a very direct way, that their education can make a difference.

Scholarships

At our Chancellor Scholarship Ceremony on 4 July 2024, we recognised students for their academic achievements.



Job-ready skills for our students

Our third-year Mechanical Engineering students completed **12 free ASDC e-learning courses** and then worked on a BS-VI engine when the Eicher training van came to campus (17 February 2025). In February we also celebrated **170 students** who finished the Cisco–AICTE Virtual Internships Programme. Industry Centres of Excellence run with Cognizant, Capgemini, HCL and PwC give many more students practical experience.





Higher studies and study abroad

Our Advisory Bureau for Higher Studies helps students prepare for UPSC, GATE, CAT, GMAT, GRE, TOEFL and IELTS, and runs classes in German, Japanese, French and Mandarin. This year our students went to the National University of Singapore, the London School of Economics,

Management & Science University, Universiti Sains Islam Malaysia (27 students) and Manipal University College Malaysia (32 students).





Supporting our teachers

A five-day Faculty Development Programme on "Empowering Entrepreneurship and Startup Trends in Healthcare" (25–29 November 2024) helped our faculty bring new ideas on innovation into their teaching.

Recognition and results

- NAAC **A++** (CGPA 3.73); 51st among universities in NIRF 2024; 10 undergraduate engineering programmes and the MBA programme accredited by NBA; three programmes internationally accredited by ABET.
- **3,217 job offers** from more than 461 recruiters, with **94.48%** of registered students placed.

Conclusion

In 2024–25, Sathyabama shared quality education well beyond its classrooms. Our faculty's 305 free video lectures drew 18,99,990 views. We opened our laboratories to school students and visiting researchers, hosted public seminars and community programmes, and trained professionals and migrant workers in practical skills. We also reached more than 1,600 children in over 15 schools. On campus, Vertically Integrated Projects, course-wise Project and Problem Based Learning and Engineering Projects in Community Service connect learning to real problems, and scholarships support 3,329 students. With NAAC A++, NBA and ABET accreditation and 94.48% of registered students placed, we remain committed to SDG 4: inclusive, quality education and lifelong learning for all.