



PROGRAMS IN ENGINEERING & SCIENCE

B.Tech. | BCA | B.Sc. | M.Tech. | MCA | M.Sc. | Ph.D.

About UPES

Established through the UPES Act, 2003 of the State Legislature of Uttarakhand, UPES is one of the top-ranked, UGC-recognized, private universities. As per the National Institutional Ranking Framework (NIRF) 2023, Ministry of Education, India, UPES has been ranked 52, with rank 54 in engineering and rank 39 in management. In addition to this, the university was recently ranked 243 in Asia and the 3rd best private university in India by the QS World Rankings 2023, UPES has also been accredited by NAAC with an accreditation grade 'A' and has received 5-Stars on Employability (placements), by globally acclaimed QS Rating, with 90%+ placements over the last few years.

UPES offers graduate and postgraduate programs through its eight schools: School of Advanced Engineering, School of Computer Science, School of Design, School of Law, School of Business, School of Health Sciences & Technology, School of Modern Media, and School of Liberal Studies with about 13,000 students and 1500+ faculty and staff members. Given its industry-oriented programs and emphasis on holistic development, UPES graduates are a preferred choice for recruiters.

UPES faculty members are an illustrious group, with over 750+ academicians from world-renowned institutions such as Oxford, Cambridge, Harvard, Stanford, UC Berkeley, Yale, MIT, Cornell, Columbia, Imperial College London, IISc, IITs, IIMs, National University of Singapore, Tokyo etc. and includes Rhodes, Fulbright, Commonwealth, Chevening, DAAD, Eiffel and Erasmus scholars. 25 UPES faculty members are on the list of top 2% researchers in the world, popularly known as Stanford list and four of the faculty members at UPES have found a place in one of the most coveted "Highly Cited Researchers" list published by Clarivate.







Ranked 243 in Asia as per QS Asia University Rankings 2023



Perfect score of 150/150 as a testamen to exceptional E-Learning methods



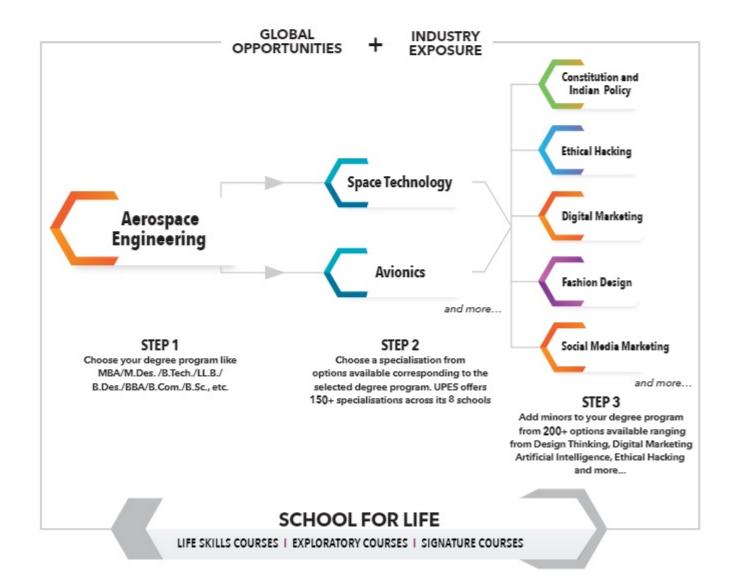
Design Your Own Degree

UPES curriculum framework is holistic in its overall structure and yet focuses on the individual needs of the students to discover, experience, explore and challenge.

Along with the core subjects, students can choose from subject-focused specialisations. They are also allowed to choose minor/exploratory subjects from other schools at UPES that are: School of Advanced Engineering, School of Computer Science, School of Law, School of Business, School of Health Sciences & Technology, School of Design, School of Modern Media and School of Liberal Studies.

The curriculum also offers Signature and Life-Skills courses through School for Life. To round off this learning experience, students are required to do mandatory internships in the social sector, government/public sector and industry.

The combinations available for students to pick and choose from are endless, ensuring both depth and width of knowledge.



Holistic Development at UPES



What is the purpose of education? Is it merely to make students employable, remove ignorance and impart knowledge? Or is it to create a better world? The seismic shifts taking place globally, necessitate action to ensure a secure and equitable future for all. Learners today are, therefore, required to be creative, collaborative and communicative. They must develop skills to solve complex problems that plague humanity, work towards equity, uplift the underserved, live healthy, happy, and productive lives. UPES School for Life (SFL)

was established with the intention to create true changemakers. Students learn to apply an in-depth understanding of attained life skills and broad-based subject competencies along with core subject qualifications to take advantage of educational and employment opportunities. This broad-based learning experience helps them evolve throughout their professional and personal lives.

The undergraduate programme at UPES offers four clearly demarcated, yet academically integrated areas, covering Core Specialisation courses, Exploratory (Interdisciplinary Electives), Signature and Life Skill courses, all of which are credited and are the basis of the degree awarded. School for Life offers the latter three selections of courses, which are structured to be read alongside the students' core academic curriculum.



EXPLORATORY

(Interdisciplinary Electives)

give students the freedom to read a variety of courses from different schools for an all-round learning experience.



'SRIJAN' SOCIAL INTERNSHIPS

offered as part of SFL, are full-time, 8-week-long internships with social sector organisations. These internships are mandatory for all first-year students. Through these internships, the students get exposed to social sector challenges and find ways to overcome them. In the process, they build empathy and learn valuable leadership skills.



SIGNATURE COURSES

include areas that are not specifically linked to a vocation and focus on 21st-century learner skills, empowering students to become global citizens of the future. It includes courses such as History and Constitution of India, Theory of Everything and Digital Transformation.



LIFE SKILL

courses allow students to pick additional skills with a focus on enhanced employability and communication, along with management and professional skills, including critical thinking, problem-solving and creativity.

Unmatched Global Opportunities

Credit Transfer
Programme
Facilitating
Progression
Opportunity
to the
University of
QueenslandAustralia and
University of
New South
Wales (UNSW)



at the World's
Top Universities such as
University of Adelaide - Australia
University of Essex - UK
Taylor's University - Malaysia,
Universiti Tecknologi Petronas - Malasiya
Polytech Nantes - France

National University of Kaohsiung - Taiwan

Student exchange opportunities

ECE Paris - France

Memorial University of Newfoundland - Canada University of Unifacvest-Brazil ECAM - EPMI - France

Study Masters in Nottingham Trent University after completing Bachelors from UPES





Study abroad opportunity at the University of California-Berkeley





Assistance for International Internships/ Projects



Guidance and counselling for application to various International Scholarship Opportunities

Industry in the Classroom

Industry-alliances

- · Courses co-developed and co-delivered by industry partners
- UPES has tie-ups with Microsoft, Phillips Carbon Black Ltd., HPCL, Infosys, Tata Power, Xebia and many more



















and more

Experts on **Advisory Board**

- · Mr. Somraj Samin Roy, CHRO, KEC International Ltd., RPG Group
- Mr. Amaresh Singh, Head HR, GET&D India Ltd.
- Mr. Alok Sinha, Senior Vice-President, Projects (Strategy & Planning), Reliance Industries Ltd.
- · Mr. Amrit Raj, India Country Manager, Landmark Halliburton
- Mr. Jayant Kumar, Managing Director, Hilti India
- Mr. Sanjay Kumar, Director, Global Solution Engineering, Dell EMC
- Mr. Sam Varughese, Head, Infosec Strategy and Privacy, Reliance Jio and more

Masterclasses

 UPES hosts industry interactions where experts talk about the latest developments in their respective fields Students get an up-close and in-depth exposure of the industry, enabling the development of skillsets required for a succesful career.

These classes have been moderated by stalwarts like:

- Dr. Deepak Vohra, Ambassador, Made in India
- Dr. K Sivan, Former Chairman, Indian Space Research Organization (ISRO), Govt. of India.
- Anand Kumar, Mathematician-Academician Super 30, and more



Engineering Solutionsfor **Tomorrow**

School of Advanced Engineering

School of Advanced Engineering (SoAE) aims to enhance its activities to embrace real-world engineering approaches. The focus is on equipping students with competencies for meeting the modern-day industry challenges, particularly those in the manufacturing sector.

The global manufacturing landscape is continually being reshaped by rapidly-evolving technologies. Manufacturers are adopting the latest advances in technologies to stay competitive in Indian and international markets. Future engineers, therefore, need to have the core theoretical knowledge as well as the acumen to apply it to solve practical problems. They also need to have the mindset to ensure they stay up-to-date in their core domain and remain industry relevant. Above all, they must have the intellectual acuity to hone their skills and innovate to create smart solutions for tomorrow.

School of Advanced Engineering seeks to encourage learning that reacts to the evolving needs and demands of the world; learning that uses a combination of technology; and human power to take engineering a notch higher every day.

Dr. Ram Sharma

Dean, School of Advanced Engineering

Building a Smarter World

School of Computer Science

Smart technology holds immeasurable benefits for the world we live in. Today, computational power has pervaded almost all aspects of human existence.

A wide range of sectors, including power, healthcare, infrastructure, consumer electronics, mobile communication, smart home devices and automobiles, among others, are using intelligent systems and technologically-advanced machines. Artificial Intelligence, Machine Learning and Big Data are increasingly being used to provide cognitive awareness to objects that were hitherto considered inanimate.

Currently, there is a huge industry demand for people who understand intelligent systems technology and know how to apply it to real-world problems.

UPES School of Computer Science prepares students to understand and integrate knowledge from various subject areas, including programming, data structures, algorithms, pattern recognition, blockchain technology, machine learning 2.0 and artificial intelligence 2.0, and apply them to address some of the most critical societal challenges of the 21st century. School of Computer Science has a progressive curriculum that emphasises diversity, interdisciplinary teamwork, entrepreneurial thinking and inventiveness. Through long-standing partnerships with some of the leading technology companies, School of Computer Science graduates from UPES are equipped to pursue advanced positions in global organisations that thrive on constant innovation and shape the future of the world.

Dr. S. Ravi Shankar Dean, School of Computer Science

Ranking

- Ranked 54 in Engineering, NIRF Ranking 2023
- Ranked No. 1 Private Engineering College in Uttarakhand by India Today Best Colleges Survey 2021

Credit Transfer Program Facilitating
Progression Opportunity to the University
of Queensland and UNSW, Australia

NBA-Accredited* B.Tech. programs

*Applicable on selected programs

Programs Offered

B.Tech.- School of Advanced Engineering

CORE	SPECIALISATIONS* (Choice based in 3 rd year)	MINORS* (Indicative list) (Choice based in 2nd year)
Applied Petroleum Engineering Aerospace Engineering Chemical Engineering	Energy Systems and Storage Gas Engineering Informatics Intelligent Petroleum Systems Space Technology Avionics Defence Technology Energy Systems and Storage Gas Engineering Informatics Digitization of Process Technology Microelectronics	AI & ML loT Blockchain Data Science
Electrical Engineering	5G and 6G Technology All and ML Applications Wearable Devices Industrial Drives	Bio-Mimetics Sustainability Engineering Climate Change
Mechanical Engineering	Advanced Manufacturing Thermofluid Systems Defence Technology	Disaster Management Reclaim Engineering
Sustainability Engineering	Circular Economy Sustainability Management	Astronomy & Astrophysics Space Engineering
Automotive Engineering	E - Mobility	Statistics & Probability
Electronics & Computer Engineering	Microelectronics 5G and 6G Technology Al and ML Applications Wearable Devices Industrial Drives	Economics
Civil Engineering	Transportation Engineering Environmental Engineering Construction Management	
Fire and Safety Engineering	•	
Global P	rograms - 2 years in UPES + 2 years in overseas Un	iversity
Chemical Engineering	Specialisation as per partner University -University of Queensland	
Electrical Engineering	Specialisation as per partner University -University of Queensland	
Mechanical Engineering	Specialisation as per partner University -University of Queensland -University of Aberdeen	
Applied Petroleum Engineering	Specialisation as per partner University -University of New South Wales -University of Aberdeen	
Civil Engineering	Specialisation as per partner University -University of Aberdeen	

B.Sc. School of Advanced Engineering

	3 3
CORE	SPECIALISATIONS* (Choice based in 3 rd year)
	Polymer Chemistry
B.Sc. (Hons.) Chemistry	Industrial Chemistry
	Astronomy and Astrophysics
B.Sc. (Hons.) Physics	Computational Physics
	Material Science and Nanotechnology
B.Sc. (Hons.) Mathematics	Data Science
b.sc. (nons.) Mathematics	Computational Mathematics
B Sc. (Hons.) Geology	Geoinformatics
b st. (Holls.) deology	Groundwater Exploration and Management
	Astronomy and Astrophysics
B.Sc. (Physics by Research)	Computational Physics
(4 year)	Material Science and Nanotechnology
B.Sc. (Chemistry by Research)	Polymer Chemistry
(4 year)	Industrial Chemistry
B.Sc. (Mathematics by Research)	Data Science
(4 year)	Computational Mathematics

M.Tech. School of Advanced Engineering

CORE		
Construction Technology & Management	Computational Mechanics (Integrated with optional Ph.D.)	
E-Mobility	Chemical Engineering (Integrated with optional Ph.D.)	
Robotics Engineering	Petroleum Engineering (Integrated with optional Ph.D.)	
Health, Safety and Environment	Sustainability Engineering (Integrated with optional Ph.D.)	
	Renewable Energy (Integrated with optional Ph.D.)	

M.Sc. School of Advanced Engineering

CORE	SPECIALISATIONS* (Choice based in 2 rd year)	
M. C. (Ch	Organic Chemistry	
M.Sc. (Chemistry)	Instrumental Chemical Analysis	
(Integrated with Optional PhD)	Polymer Science	
M.Sc. (Physics)	Material Science and Nanotechnology	
(Integrated with Optional PhD)	Astronomy and Astrophysics	
M.Sc. (Mathematics)	Applied Mathematics	
(Integrated with Optional PhD)	Pure Mathematics	
M.Sc. (Petroleum Geosciences)		
(Integrated with Optional PhD)		

B.Tech. (Hons.) - School of Computer Science **=**

CORE	SPECIALISATIONS* (Choice based in 2 rd year)	MINORS* (Indicative list) (Choice based in 2**year)
B.Tech. (Hons.) Computer Science and Engineering	DevSecOps Bigdata Full Stack AI Artificial Intelligence and Machine Learning Blockchain Technology Data Science Cloud Computing and Virtualization Technology Computational Sustainability Cyber Security and Forensics Graphics and Gaming Internet of Things	Data Science Game Design Cognitive Technologies Image and Signal Processing Computing for Sustainability Internet of Everything Privacy and Security Human Computer Interface Cloud Computing
Global Pro	Open Source and Open Standards grams - 2 years in UPES + 2 years in overseas Universi	ty
Computer Science	Specialization as per partner University: - University of Queensland	

B.Sc.

CORE	SPECIALISATIONS* (Choice based in 1* year)	MINORS* (Choice based in 2 nd year)
	Artificial Intelligence and Machine Learning	Data Science Game Design Cognitive Technologies
B.Sc. (Computer Science)	Cyber Security and Forensics	Image and Signal Processing Computing for Sustainability Internet of Everything
	Data Analytics	Privacy and Security Human Computer Interface Cloud Computing

BCA

CORE	SPECIALISATIONS* (Choice based in 2 ^{-d} year)	MINORS* (Choice based in 2 nd year)
	Internet of Things	Data Science Game Design Cognitive Technologies
Bachelor of Computer Application (BCA)	Artificial Intelligence	Image and Signal Processing Computing for Sustainability Internet of Everything
	Cyber Security	Privacy and Security Human Computer Interface Cloud Computing

M.Tech.

CORE	SPECIALISATIONS* (Choice based in 2 rd year)
M.Tech. (Computer Science and Engineering)	Artificial Intelligence Cyber Security and Forensics
M.Tech.	By Research

MCA School of Computer Science

CORE	SPECIALISATIONS*	 							 	-
COKE	SPECIALISATIONS	 							 	4
100000000000000000000000000000000000000	(Choice based in 1 ^e year)	 					 *		 	
	Artificial Intelligence and Machine Learning		-	-	-	-				7
6230377										
MCA	Cloud Computing and Cyber Security	 							 	1
in en		 	-		-		 _	•	 • •	-
	Data Science									-1

School of Health Sciences and Technology

B.Tech.

CORE	SPECIALISATIONS* (Choice based in 2 rd year)	MINORS* (Choice based in 2 nd year)
B Took (Food Tooksoloos)	Food Biotechnology	School for Life - Exploratory
B.Tech. (Food Technology)	Food Plant Engineering	Courses
	Medical Devices	Soft skills and entrepreneurship
	BioMaterials	skills are developed through
B.Tech. (Biomedical Engineering)	Prosthetics	School for Life courses. The
	Medical Diagnostics	students get a feel of real-life
	PharmaceUtical Biotechnology	business situations through case
	Genomics and Biosimilars	study teaching, club activities
B.Tech. (Biotechnology)	Plant Biotechnology	and guest lectures from industry
	Bioinformatics	leaders.

B.Sc School of Health Sciences and Technology

CORE	SPECIALISATIONS* (Choice basedin 2* year)	MINORS* (Choice based in 2 rd year)
0000 0000 30 - 2000 00000 0000 - 1000 0000000000 - 100	Dietetics and Holistic Wellness	School for Life - Exploratory Courses
B. Sc. (Food, Nutrition and Dietetics)	Nutraceutical and Nutritional Policy	Soft skills and entrepreneurship
	Food and Environmental Microbiology	skills are developed through School for Life courses. The
B. Sc. (Microbiology)	Medical and Pharmaceutical Microbiology	students get a feel of real-life business situations through case
Action to the Control of the Control	Clinical Pharmacokinetics	study teaching, club activities
B.Sc. (Clinical Research)	Regulatory Affairs	and guest lectures from industry leaders.

Ph.D. Programs* •

3			
School of Engineering	School of Computer Science	School of Health Sciences and Technology	
Ph.D. (Physics)	Ph.D. (Computer Science and Engineering)	Ph.D. (Pharmaceutical Sciences)	
Ph.D. (Chemistry)	Ph.D. (Computer Science)	Ph.D. (Food and Nutrition Sciences)	
Ph.D. (Mathematics)		Ph.D. (Microbiology)	
Ph.D. (Geosciences)		Ph.D. (Biotechnology)	
Ph.D. (Engineering)			

SELECTION PROCESS

UPESEAT • UPES Engineering Aptitude Test (Online/Offline) Non exam pathway based on boards merit / JEE / CUET

Scholarships

Up to 30% Merit Scholarship* based on CUET scores/JEE/Class 12 marks (UG programs only)





Sports Scholarships*



Freeships* to Underprivileged Students

30% Fee Concession* for Bonafide Uttarakhand Students

*T&C apply. A student/applicant will be eligible for only one type of scholarship/concession in a given academic semester or year. If student is awarded a particular scholarship/concession but also meets the criteria for one or more than one scholarship/concession at UPES including Domicile (as mandated by regulation), student shall receive the highest of the scholarship/concession offered but not both. Further, for clarity purposes, Domicile or any other scholarship/concession not opted shall be deemed to be waived by the student. Said student shall have no claim on Domicile or other scholarship/concession so waived against UPES. For more details, visit Upes.ec.in.



Global Pathway Programs

Credit Transfer Program Facilitating Progression Opportunity in Australia & UK

Start your program journey with UPES (2 year) and complete at Partner University abroad

University of Queensland, Australia





University of New South Wales Sydney, Australia

University of Aberdeen, Scotland, UK





Cost Savings





Post Study Work Permit

Academic Excellence

Faculty From Renowned Global Institutions













Leading Scholars as faculty







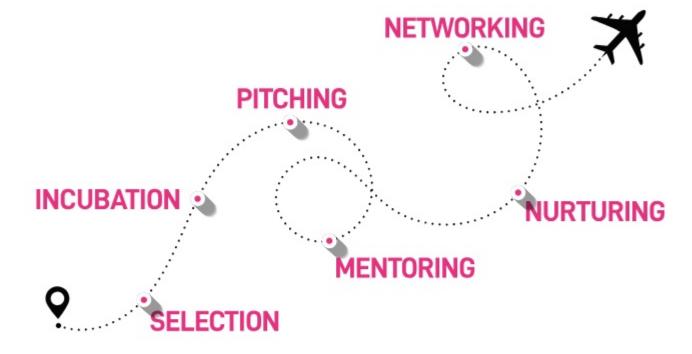




25

FACULTY MEMBERS AMONG WORLD'S TOP 2% AND 1% RESEARCHERS AS PER STANFORD AND CLARIVATE LISTS RESPECTIVELY





We help start-ups convert their ideas into real and viable businesses.

Our goal is to help brilliant innovators get through the early stages of setting up a start-up and reach a point where they have made a product/service impressive enough to raise money. This will be done through a mix of mentorship, grants and investments, legal and incorporation support, and allocation of space to work.

OUR FIRST COHORT

About

300 Applications

Received

About

120 Start-Ups

Incubated

1 Lakh

Grant given to 37 Start-ups

Recruiters

CROMA
BECHTEL INDIA
BERGER PAINTS
ADANI AIRPORTS
GENPACT ANALYTICS
BLUEDART
HDFC LTD.
INATECH
WIPRO
TRANSWORLD GROUP
INDIA INFRASTRUCTURE
AMAZON
LTI - L&T INFOTECH
IEX
KPMG
MARKETS AND MARKETS
JSW STEEL LTD.
ITC LTD.
SPICEJET
TCIL
INDIAN OIL ADANI GAS PVT. LTD.

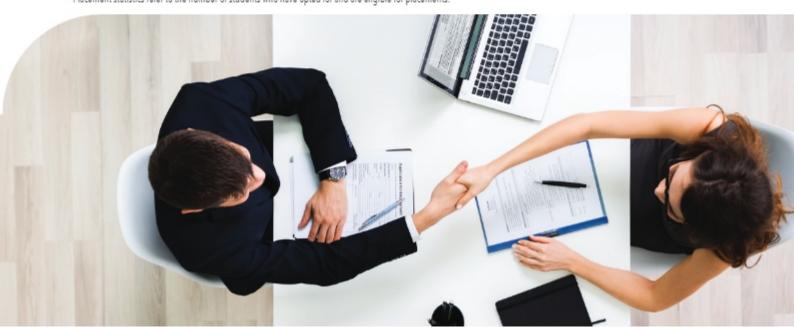
Highest CTC **50 LPA***

100% Placement* 2021 -2022

Lifetime Placement Assistance for Alumni

Top 10% Avg CTC 18 LPA

^{*}Placement statistics refer to the number of students who have opted for and are eligible for placements.



^{*}In School of Computer Science.

Success Stories



Featured for Excellence

Shubham Srivastava, alumnus, got featured by Freshworks Inc. Headquarters, California at NASDAQ, Times Square, New York. Shubham is one of the global employees to get featured for his contribution to the company's growth because of his excellent performance at the domain and organization level.



Developed Sanitizing Machine Prototype

B.Tech. student Udayveer Mittal developed compact, contactless, battery-operated, sanitizing machine prototype under the guidance of the UPES faculty.



Runner-up @ GitHub

Nishkarsh Raj, B.Tech. (CSE DevOps) student, was ranked No.2 in India at GitHub. His dedication and perseverance made him one of the most active GitHubbers in India in terms of overall contribution, as stated by Commits.top.



Developed an e-learning web-app

Abheesht Singh, B.Tech. CSE (IT Infrastructure), developed an e-learning SaaS platform 'CavenX' for students and institutions.

Designed to facilitate online learning, it is equipped with a centralized dashboard and a fully responsive interface that can accommodate 1,000 students at a time.

Faculty Feats



Featured in the list of the top 2% researchers in the world released by Stanford University

Dr. Manish Kumar's research focuses on ascertaining, broadening, comprehending, and developing various dimensions of the fate, transport, and remediation of geogenic, micro, microbial, and emerging contaminants in freshwater systems. He has led and worked on relevant projects for today's climate and water contexts such as a pilot scale in-situ application for arsenic and fluoride removal from the groundwater for a safe drinking water production perspective alongside the WIN Foundation, in the US.



Honoured with Himalayan Nari Shakti Samman

Dr. Neelu J. Ahuja has been conferred with the Nari Shakti Award (March-2020) by Govt. of Uttarakhand and the IGEN-Women Achievers award (March- 2021) by the Institute of Green Engineers for research contributions. Specific mention is successfully executed R&D project focused Al-based tutoring tools for children suffering from learning disabilities, funded by DST, Gol.



Automated Monitored Hand Hygiene System

Dr. Ashish Karn engineered an Automated Monitored Hand Hygiene System. The four-pronged structure is built to provide hand sanitization to four persons at a time while ensuring adequate distancing.



Sanirobo - Designed by UPES Faculty for Contactless Sanitization

Ms. Shubhi Sharma, faculty at the UPES School of Computer Science and Neel Advani, student, B.Tech. CS, together developed a self-powered 'Sanirobo', which uses a high-end microcontroller, accompanied by a camera. which can be controlled from any part of the world.

Student Projects



Sanirobo - Designed for the Greater Good

The self-powered, camera-featured model titled 'Sanitizing Apparatus and Method for Dispensing Sanitizer Solution', automatically sanitizes small pockets and densely-populated areas, protecting frontline workers.



Automated Monitored Hand Hygiene System

The four-pronged hand hygiene system is built to provide hand sanitization to four persons at a time while ensuring adequate distancing amongst them.



Solar Tree and Electric Bicycle

With a commitment to creating green energy sources, a team of researchers at UPES developed a self-powering Solar Tree and a model bicycle with an electric motor.



Sorting Machine

This invention, which has applications in food processing, won its maker the Best Rural Innovator Award bestowed by the National Institute of Rural Development (NIRD), India.



Quad Bike - All-Terrain Vehicle

Students developed this light utility vehicle with a 250 cc engine and a 12-inch ground clearance. It travels on low-pressure tyres and has handlebars for steering control.



The COVID-19 Visualizer

UPES students of Graphics and Gaming built a great tool that can visualise COVID-19 data using Augmented Reality. The tool creates a live feed using real-time data from around the world and visualizes them in an interactive way.



- Life at UPES is about creating unforgettable memories. It is about young learners discovering themselves through activities that enrich their understanding of the world.
- There are twenty student chapters such as the Cloud Security Alliance, the Society of Law and Literature, IEEE Branch and Moot Court Association - and several clubs including National Service Scheme, Vultus and Sanskriti.
- Events such as **Uurja**, the annual youth festival, and 'Wow Wednesday', a mid-week activity for showcasing talent, bring together students from across all the schools on one stage.

- Sports activities at UPES give students the opportunity to compete in a fun, relaxed environment. Students develop skills such as team spirit, patience and resilience.
- From learning to leisure, path-breaking innovations to life-long friendships,
 life at UPES is a vibrant blend of everything a learner would aspire for. It is a place that brims with artists, explorers, athletes and innovators.



Enhance your well-being through sports



Become your most creative self



Accomplish fitness goals together



Create rhythms from the soul



Explore learning without limits



The Allure of Dehradun



Just a few kilometres away from the bustling yet charming city life of Dehradun, UPES campus is close to trekking trails, rock climbing and picnic spots, monasteries, water bodies, rafting and the popular hill station of Mussoorie. The mighty Himalayas and thick pine forests surround this pristine campus.

Life at UPES is nothing short of a getaway that helps liberate our students from the mundane monotones and pollution hazards of a city life.

A home away from home. A bright and fresh start. A rewarding second life.



The foodie culture



Travellers' haven



Camp your nights away



Leisure times

