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UNIVERSITY INSTITUTE OF ENGINEERING & TECHNOLOGY

ABOUT THE INSTITUTE

University Institute of Engineering & Technology (UIET) was established by Panjab University as a department in 2002. With the vision to be the front runner in Engineering Education and Research, the mission of University Institute of Engineering and Technology (UIET) is to produce professionally competent students for career in Engineering and Technology by providing value-based quality education. It offers four years Bachelor of Engineering (B.E), two years Master Engineering (M.E), and full time Ph.D degrees in Biotechnology, Computer Science and Engineering, Information Technology, Electrical and Electronics, Electronics and Communication and Mechanical Engineering. It offers 9 post graduate programs in Biotechnology, Computer Science and Engineering, Computer Science and Engineering (Cybersecurity) Information Technology, Electrical, Electronics and Communication, Mechanical Engineering, Microelectronics and Material Science & Technology. Four UG Programs have got NBA accreditation namely Computer Science and Engineering, Electrical and Electronics, Electronics and Communication and Mechanical Engineering. UIET has MOUs with industry leaders and academia like Infosys, Spice Digital Limited, PGIMER, CSIO, C-DAC, the University of Western Australia, IIT Kanpur, IIT Roorkee, Nottingham Trent University (UK) etc. The Pedagogy at UIET places high emphasis on the development and application of Engineering principles across disciplines and training students for addressing the challenges faced by industry, research organizations and community. Hands on training in design Laboratories, and networking with industry makes our students ready for research, teaching, product development and problem solving. UIET nurtures exchange relationships with institutes abroad, wherein our students are facilitated to participate in summer training programs.

The faculty attracts various sponsored research projects at the national and international level. A number of sponsored research projects from agencies like DIT, AICTE, DST, Department of Biotechnology Welcome Trust, etc. have led to the establishment of a number of specialized research laboratories which are freely available to students for learning by working. Some of the major projects that have developed UIET in recent years include, grants under TEQIP-III, a world Bank project and a Design Innovation Centre (DIC) from the Ministry of Human Resource Development (MHRD), Government of India.

FACULTY

Designation	Name	Field of Research Specialization
Professors	J. K. Goswamy (Director)	Nuclear Structure through gamma ray spectroscopy, Materials Characterization for Sensor applications
	Renu Vig	Signal Processing and Fuzzy Logic
	Savita Gupta	Bio-medical image Processing, cognitive Enhancement & Sensor Networks & Sensor Networks
	Sanjeev Puri	Polycystic Kidney Disease and Stem Cell Biology & Pathophysiology of kidney diseases
	Gurdeep Singh	Data warehousing and data mining
	Harmesh Kumar	Advanced Manufacturing Technology, Quality Control, Design and Manufacturing Welding Technology
	Sunil Agrawal	Neural Networks & Applications, Signal Processing and Wireless Communication
	Vinay Kanwar	Numerical Analysis Fluid Dynamics
	Manu Sharma	Active Vibration Control Product design
	Harish Kumar	Information Retrieval, Cyber Security Next Generation Telecom Networks.
	Sakshi Kaushal	Cloud Computing, Security, Telecommunication Networks
	Sarbjeet Singh	Cloud Computing, Machine Learning, IOT, Social Networks Analysis
	Krishan Kumar	Cyber Security
	Amrinder Pal Singh	System Modelling and Control, Dynamic Analysis nano composites, wear
	Associate Professors	Naveen Aggarwal
Ajay Mittal		Image processing Computer vision and machine learning
Monika Randhawa		Theoretical High Energy physics
Sukhwinder Singh <i>(On Deputation)</i>		Bio-medical image Processing, Wireless Sensor Networks
Sanjay Vohra		Mechanics Of Materials
Manoj Kumar Sharma		Active Noise Control, Control Systems, Renewable Energy Sources and Neural Networks & Fuzzy logic
Arvind Rajput		Semiconductor and VLSI
Roopali Garg		Electronics & Communication, Wireless Communication, Optical Communication
Inderdeep Kaur Aulakh		Wireless Communication Networks, Cognitive Radio Networks
Yajvender Pal Verma		Distributed generation Micro and optimization, Renewable energy integration and electrical market issues

	Kalpna Dahiya	Operations Research
	Veenu Mangat	Data Mining & Warehousing, Machine Learning
	Naresh Kumar	Wireless and Mobile Communication
	Shuchi Gupta	Theoretical & Computational condensed matter physics
	Damanjeet Kaur	Power systems optimization, Distribution systems Planning
		Optimization using AI Techniques
	Mukesh Kumar	Social Media Analysis, Natural Language Procession, Machine Learning
	Shankar Sehgal	Finite element model updating, Microwave joining, Design and Manufacturing
	Jaget Singh	Antenna and Microwave Engineering
	Amit Chauhan	Tribology, journal bearing, Metal Composite and wind energy
	Vishal Gupta	Natural Language Processing, Information Retrieval
	Nisha Tayal	Microcontroller, Embedded systems and Automation Smart grid
Assistant Professors	Saurabh Bhatia	Numerical Analysis
	Sharmelee Thangjam	Signal Processing
	Deepak Kumar	Microgrids, Power systems issues
	Vishal Sharma	VLSI and Microelectronics
	Sumit Budhiraja	Signal Processing and Image Processing
	Mandeep Kaur	Image Processing, Digital Forensics, Machine Learning
	Jaspreet Kaur	Microbial and Environmental Biochemistry
	Hema Setia	Polymer Science, Environmental Engineering
	Anupreet Kaur	Chemical Engineering
	Amandeep Verma nee Puri	Rot dynamics Machines and Engineering Mechanics
	Makhan Singh	Software Engineering, Cloud computing
	Puneet Jai Kaur	Software Engineering
	Shailendra Kumar Arya	Enzyme Engineering, Waste water Engineering
	Harbhinder Singh	Theory of Machines and Robotics
	Surjeet Singh	Rot dynamics Machines and Heat Transfer
	Poonam Sood	Vibration Control, Model Updating, FEM
	Amandeep Singh Wadhwa	Rot dynamics Machines and Engineering Mechanics
	Jaswinder Singh Mehta	Design Engineering, Industrial Engineering.
	Prashant Jindal	Nano Composites, Materials characterization, 3D Printing, Biomedical Devices
	Rajesh Kumar	CAD/CAM, Robotics, Nano technology
	Preetika Sharma	Analog and Digital Electronics, semiconductor technologies, Nano Electronics
	Sarpreet Kaur	Smart Grid, Power Systems Analysis, designing of Electrical machines using Finite element Analysis
	Preeti Gupta	Digital System Design, Control System and Biometrics
	Neeraj Sharma	Optical Fiber Communication
	Charu Madhu	Nanophotonics, Optical Communication
	Nidhi	Bio Signal Processing
	Puneet Kaur	Power Electronics
	Preeti	Optical Communication (wired and wireless) and Optical Biosensor; Wireless Communication , Biosignal Processing
	Amit Chaudhary	Semiconductor and VLSI
	Parveen Goyal	Manufacturing Process and Technology, Non-Conventional Machining
	Anjali Gupta	Machine Design, Rotodynamics, Machining, Tribology, Nano Fluidics
	Gaurav Sapra	Nano Technology, Wireless Communication, Digital Signal Processing, Microcontroller and Embedded System design
	Parul Gaur	Power Electronics, Optimization using PSO techniques and other Algorithm, Communication Engineering
	Raj Kumari	Parallel & Distributed Computing, Cloud Computing
	Suksha	Embedded System, Automatic Control
	Monika	Software Engineering
	Mamta Juneja	Digital Image Processing, Data Mining Machine Learning, Deep learning, Biomedical Imaging
	Akashdeep	Machine Learning, Deep Learning, Digital Image Processing,
	Nirmal Kaur	Parallel and distributed computing, Cloud Computing image processing
	Rohit Kumar	Software Engineering
	Gagandeep Singh	Machine Design, Refrigeration and Air Conditioning

	Aditya Kaushik	Numerical Analysis
	Tukesh Soni	Mechanical Vibration
	Minto Rattan	Solid Mechanics
	Anil Kumar	Organic Chemistry
	Renu Thapar	B-Lactam Antibiotics
	Prashanta Kumar Nanda	Nuclear medicine & Synthetic organic materials
	Madhu Khatri	Nanotechnology & Environmental Biology
	Mary Chatterjee	Cancer Biology
	Jagjit Singh	Matrix Analysis
	Neelam Goel	Bioinformatics, Soft Computing, Machine Learning
	Sunil Bansal	Experimental High Energy Physics
	Aditi Gupta	Power System Deregulation Congestion Management, Control System
	Suresh Kumar	Experimental Condensed Matter Physics/Material Science
	Vivek Pahwa	Electrical Machines and drives, Power systems power Electronics
	Sabhyata Uppal Soni	Digital Communication, optical & Wireless Communication
	Nishima	Nano Science and Nano Technology
	Yogita	Data Mining & Databases
	Preeti Aggarwal	Digital Image Processing, Medical Imaging, Data Mining
	Ravreet Kaur	Parallel and distributed computing, computer networks, algorithm analysis and design
Temporary Faculty	Deepti Gupta	Wireless Sensor Networks
	Jyoti Sood	Theoretical condensed Matter Physics
	Hitesh Kapoor	HR & Marketing
	Anu Jhamb	Human Resource Management
	Geetu	Quantum Information Processing
	Sarvjit Singh	Communication Systems
	Garima Joshi	Gesture Recognition and Machine Learning
	Daljeet Kaur	Material Science & Nanotechnology
	Rajni Sobti	Speech Recognition
	Sukhvir Singh	Wireless Networks, Machine Learning
	Renuka Rai	Theoretical Stochastic processes
	Pardeep Kaur	Optical Fiber Communication & Embedded Systems
	Ranjana Bhatia	Environmental Microbiology, Agricultural Microbiology
	Prabhjot Kaur	Operation Research; Transportation and Assignment Problems
	Parminder Kaur	Biochemistry & Molecular Biology
	Minakshi Garg	Bioinformatics and Food biotechnology
	Jyoti Sharma	Instability of nano fluids
	Anaahat Dhindsa	Image Processing
	Jatinder Singh	VLSI Design, Digital Design
	Rajneesh Singla	Image processing, Network Security
	Sanjiv Kumar	Optical Communication
	Harvinder Kaur	Optical Communication
	Anu Priya Minhas	Plant and Microbial Biotechnology
	Vijay Kumar	VLSI Design, Nanophotonics , Optoelectronics
	Gurpreet Kaur	Digital Signal Processing
	Kuldeep Singh Bedi	Power Electronics firewall Photovoltaic System, Power System
	Amit Thakur	Carbon Nanotubes, Fibers, Material Characterization, Bio Composite
	Mamta Sharma	Experimental Condensed Matter Physics/Material Science

COURSES OFFERED (SEMESTER SYSTEM):

Course	Seats	Duration	Eligibility*	Admission Criteria
B.E. in Computer Science & Engineering	108+5 EWS +11NRI +5 FN	4 years	As per Joint Admission Committee (JAC 2021) Information Brochure 2021	Based on JEE (Mains) Merit-2021
B.E. in Information Technology	108+5 EWS +11NRI+5 FN	4 years		
B.E. in Electronics & Communication	120+6 EWS +12 NRI+6 FN	4 years		
B.E. in Bio-Technology	81+4 EWS +8 NRI+ 4 FN	4 years		
B.E. in Electrical and Electronics	81+4 EWS +8 NRI+ 4 FN	4 years		

B.E. in Mechanical	81+4 EWS +8 NRI+ 4 FN	4 years		
M.E. in Computer Science & Engineering	20+2 NRI+ 1 FN	2 years	Eligibility Conditions: B.E. or B.Tech. or equivalent in Computer Science and Engineering / Information Technology with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	Mode of admission: Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats remain vacant after exhausting the list of GATE qualified candidates.
M.E. in Electronics & Communication	20+2 NRI+ 1 FN	2 years	Eligibility Conditions: B.E. or B.Tech. or equivalent degree in Electronics / Electronics & Communication Engineering / Electronic and Telecommunication Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	Mode of admission: Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if seats remain vacant after exhausting the list of GATE qualified candidates.
M.E. in Mechanical Engg.	20+2 NRI+ 1 FN	2 years	Eligibility Conditions: B.E./ B.Tech. in Mechanical Engineering / Production Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	Mode of admission: The admission shall be made on the basis of Entrance Test P.U. CET (PG) to be conducted by the Panjab University. GATE qualified candidates shall be exempted from the P.U.-CET (P.G.) Test. However, in case of eligible GATE qualified candidates, the merit list shall be as per the GATE Score obtained and shall be offered the seat at the first instance.
M.Tech. Microelectronics	12+3 SC/ ST +2 NRI + 1FN	2 years	Eligibility Conditions: B.E. / B.Tech. or equivalent degree in Computer Science and Engineering / Electrical / Electrical & Electronics / Electronics / Microelectronics / Electronics & Electrical Communications / Electronics & Telecommunication / Electronics & Communication / Information Technology / Instrumentation Engineering/ M.Sc. Applied Physics / M.Sc. Physics with specialization in Electronics or M.Sc. in Electronics (as approved by AICTE) with minimum 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	Mode of admission: Preference will be given to GATE qualified candidates. Candidates appearing for PU-CET (PG) will be given admission if seats are left vacant after the GATE qualified candidates' admissions.
M.E.in Information Technology	20+2 NRI+ 1 FN	2 years	Eligibility Conditions: B.E. or B.Tech. or equivalent degree in Information Technology / Computer Science & Engineering / Electronics & Communication Engineering / Electrical & Electronics	Mode of admission: Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.

			Engineering / Computer Science & Electronics Engineering / Software Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	
M.E. in Electrical Engg. (Power System)	20+2 NRI+ 1 FN	2 years	Eligibility Conditions: Any candidate who has completed B.E./B.Tech. in Electrical / Electrical & Electronics Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	Mode of admission: Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.
M.Tech. Material Science & Technology	20+2 NRI+ 1 FN	2 years	Eligibility Conditions: M.Sc. (Physics), M.Sc. (Chemistry), B.E. (Mechanical / Electrical / Electronics and communication/ Civil / Production) with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	Mode of admission: Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.
M.E. in Biotechnology	20+2 NRI+ 1 FN	2 years	Eligibility Conditions: B.E. / B.Tech. Biotechnology Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.	Mode of admission: Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.
ME Computer Science and Engineering (Cyber Security)	15+2 NRI+ 1 FN	2 years	Eligibility Conditions: B.E. or B.Tech. or equivalent degree in Computer Science & Engineering / Information Technology with atleast 60% marks in aggregate from P.U. or any other recognised University.	Mode of admission: Admission will be done on the basis of GATE Score. In Case of left over seats, admission will be done on the basis of Entrance Test P.U.-CET-(P.G.) to be conducted by the Panjab University.

* 5% Concession is admissible in eligibility marks to SC/ST/BC/PwD Candidates.

Common mode of admission conditions for all M.E./M.Tech. courses are as under:

- (i) PU CET (PG)-2020 Entrance Test will be conducted for all PG courses of all branches of UIET.
- (ii) CET Cell will prepare subject wise merit list of all appeared candidates & there will be no cut off/qualifying marks.
- (iii) The following order of preference is recommended for admissions to PG course offered at UIET:
 - A. GATE qualified candidates on the basis of their valid GATE score.
 - B. CET (PG) appeared candidates on the basis of rank scored by them in CET (PG).
 - C. B.E./B.Tech. percentage of marks.

- (iv) After exhausting all the candidates of GATE score and CET PG, then admission shall be done on the basis of B.E/B.Tech. percentage.

Ph.D. Programs

S.No.	Name of the Department	Seats	Duration	Admission Criteria
1.	Computer Science Engineering		3-6 years	See M.Phil./Ph.D. Prospectus 2021
2.	Information Technology	24		
3.	Electrical and Electronics Engineering	35		
4.	Bio-Technology			
5.	Mechanical Engineering			
6.	Electronics & Communication Engineering	16		
7.	Applied Science	02		

SCHEME AND SYLLABI: Detailed scheme and syllabi of the courses are available at Panjab University official website: <https://pucho.ac.in/syllabus.php?qstrfacid=5>

THRUST AREAS: Faculty is involved in research in thrust areas like Design and Manufacturing, Traffic Sensing and Information Technologies, Medical Devices and Restorative Technologies, Energy Harvesting and Management Technologies, Transparent Ceramic Material and Technologies, Medical Image Processing, Computer Networking, Cloud Computing, Nano-Materials, Stem Cells, Wireless Communications, Power Systems, Composite Materials, Gas Sensors etc.

PLACEMENTS: The objective of Training and Placement Cell (TPC) is to provide the best training and placement opportunities to students. Efforts are made by the dedicated members of the team to approach companies and to invite them on campus to recruit students and to provide them the placement and internship opportunities. Over the past many years, UIET has built a strong relationship with many companies that visit UIET on regular basis to recruit students.

TPC also organizes special lectures and soft skills programs regularly, wherein experts from industry are invited and they make students aware about the latest happenings in the industry and guide them about how to appear for interviews and prepare for group discussions, as soft skills play vital role in the selection process.

On an average, around 55 companies visit UIET every year and close to 350 offers are made to final year students who participate in the placement process. The highest package in the session 2019-20 was 41 LPA, given by Microsoft, and the average package was around 7 LPA.

The major recruiters in the session 2019-20 include Google, Microsoft, Amazon, Samsung, Airtel, Goldman Sachs, Deloitte, KPMG, Infosys, Capgemini, ZS Associates, ZScaler, Mu-Sigma, Utrade, Gemini Solutions, Quark etc.

ALUMNI AFFAIRS OFFICE –UIET

The Alumni Affairs Office for UIET was established in the year 2013. Since then it has successfully engaged with over 8000 plus alumni worldwide. The Alumni Affairs Office aims to establish a better alumni network with a vision to inspire and engage alumni in a mutually beneficial lifelong relationship for constant growth and development of UIET and its alumni network. Its mission is to enable intra -alumni network and foster alumni engagement through mentor-mentee relationship among current students as well as the Alumni, It promotes events & forums that add relevance and value to alumni network and to build a collaborative network of change agents which leads to positive impact on society. All these activities are undertaken by a committed team of students called STAR (Students Team for Alumni Relations) which is supported by faculty members too. Some of the activities taken up are:

- **Alumni database:** The Alumni Affairs Office has successfully been able to gather and maintain an Alumni Database from the batches of 2006 to batches of 2019 which comprises of all the personal information related to our alumni ranging from name, contact no., to current location, company and job profile along with data for higher studies.
- **Active Role in NBA Accreditation:** The office played its role in accreditation through maintaining the database for the UIET Alumni. The office also invited Alumni from various fields to interact with the NBA committee for their feedback.
- **Setting up of IPR Cells for UIET:** The office has been also instrumental in setting up of IPR Cell in UIET.
- **Scholarship Disbursement:** The Alumni Cell of UIET is offering two scholarships and sponsoring the internship of two final year students in abroad. This initiative has been started in 2016 and two sponsorships are given to the students.
- **Successfully organised 3 Alumni Interactions for Placements:** The Alumni Affairs Office has successfully organised 3 Alumni Interaction for placements. The Flagship event is organised for the 3rd year students of UIET every year in the month of August. The main aim of the event to provide opportunities to the students to get placed in the top companies and give heads up about GD and PI preparation for the placement drives. The event comprises of Mock GDs, modulated by the experienced UIET Alumni along with PIs comprising of Interview panel made up of UIET Alumni.
- **Technical Lecture and Seminars for the students of UIET:** Many experts across all over India are invited to deliver talks in their respective areas in all the departments of engineering in UIET.
- **Events organized by UIET Alumni Cell (March2020 – Jan 2021):** The STAR organized a number of events from May 2020 to Jan 2021. Various Interactive sessions such as “A-Talk Seasons” and “Rewired” and were organized online on Sundays where UIET students interacted with notable UIET Alumni having excelled in different fields. Each of these events spanned over a month with around seven episodes.

UTECHNOS: Platform for Extra Curricular Activities

University Technocrats Society (UTECHNOS) was constituted in the year 2004 to promote and support Sociocultural, Technical and Sports activities amongst the students of UIET. It has an objective to provide a platform for student community to groom their extracurricular strengths and also sensitize them to social, cultural and corporate front in our society. It functions through various committees which are managed by the students. The selections for each committee are made each year by inviting applications and then through interactions. The individual committees submit the set of activities to be conducted throughout the year under various heads like Sports, Cultural, Art & Literary, Technical and Training cum placement activities etc. The logistic and financial support for the activities is provided by UTECHNOS. A mega sports fest and a mega cultural event are organized annually. Fund Management Committee under the society comprising of students and faculty members looks after the financial affairs of the UTECHNOS.

Startup Activities:

UIET has inculcated a culture to promote 'Make in India' Campaign of GoI by providing a budding Start-ups an incubation and co-working space at UIET. UIET incubator provides a co-working platform where all engineering expertise converges. UIET provide an ecosystem to evolve and refine technologies and products that require expertise at the interphase of engineering sciences. In 2020-21 following Start-ups incubated at, UIET have won the prizes at National Level.

- Rootwokz Learning Management Systems for designing a teaching learning platforms for schools. awarded 1st Prize (Rs 2.5L) at IIT Bombay Business Competition & Rs 50,000 by Punjab Govt (PSCST).
- Capteurio Pvt Ltd, a StartUp, awarded Rs 50 L award by Min of Defence (ANIC-ARISE Award) for implementing solutions for Defence based Units.

Institution's Innovation Council:

The IIC-UIET (IC201810641) has been set-up to systematically foster the culture of innovation and start-up ecosystem in the institute. The students under mentorship of faculty/industry/experts carry various activities mandated by MoE's Innovation Council (MIC) on problem solving, proof of concept development, design thinking, IPR, project handling and management. The IIC-3.0 has conducted many activities during the 2020-21 session so far namely: Upgradation of Existing IIC Council (20th October 2020), Expert Talk on Problem Solving (19th January 2021), Webinar on Startups and Entrepreneurship (20th January 2021), Orientation Session on National Education Policy with Focus on Innovation and Entrepreneurship (22nd January 2021), Expert Talk on 'Innovation is the key to success' (22nd January 2021), An Expert Talk on Design Thinking (29th January 2021).

Dr. S.S. BHATNAGAR UNIVERSITY INSTITUTE OF CHEMICAL ENGINEERING & TECHNOLOGY PANJAB UNIVERSITY

ABOUT THE DEPARTMENT

Dr.S.S. Bhatnagar University Institute of Chemical Engineering and Technology, Panjab University, Chandigarh (<http://www.uicet.puchd.ac.in>) is a premier Institute in Northern India imparting quality education in Chemical Engineering, Food Technology and allied areas. Institute is currently running the courses in B.E. (Chemical Engineering), B.E.(Food Technology), Integrated B.E. (Chemical Engineering)-MBA, M.E. (Chemical Engineering), M.Tech. (Polymer), M.E. (Food Technology), M.Sc. (Industrial Chemistry) and M.E. (Chemical with specialization in Environmental Engineering). The faculty of the institute is involved in guiding students under Faculty of Engineering & Technology to pursue their research leading to award of Ph.D. degree. The Institute was set up in 1958 in collaboration with Illinois Institute of Technology, Chicago, USA and continues to maintain global standards of excellence in education and research. The Institute has attained status of eminence in academia, R&D within India and abroad. Over the years, the Institute have been bestowed with research grants from premier funding agencies like DST, AICTE, UGC, DRDO, MOFPI, CSIR, ICAR, TEQIP, etc. The faculty works in collaboration with Industry, Research Organizations etc. contributing extensively towards high quality research.

FACULTY

Designation	Name	Field of Research Specialization
Professors	Amrit Pal Toor (Chairperson)	Mass Transfer and Environment Engineering
	Meenakshi Goyal	Chemical Technology (Inorganic & Organic), Science & Technology of Carbon
	Sanchita Chauhan	Modeling and Simulation, Environmental Engineering, Chemical Reaction Engineering
	Anupama Sharma	Polymer Science Engineering, Synthesis of Biodegradable Polymers and their Nanocomposites, Nanocellulose Extraction and its Utilization
	Anupama Thakur	Polymer Science Engineering
	Seema Kapoor	Thermodynamics, Energy Technology, Nano Biomaterials Engineering
	Ritu Gupta	Hydrodynamics, Process Dynamics & Control, Modeling & Simulation
	Urvashi Gupta	Hydrodynamic and Hydromagnetic Stability Problems for Viscoelastic Fluids, Micropolar Fluids and Nanofluids for Thermal Convection / Double-Diffusive Convection.
	Sushil Kumar Kansal	Mass Transfer, Environmental Engineering, Nano Technology
	Associate Professors	Gaurav Verma
Gargi Ghoshal		Fermentation Technology, Cereal Technology
Maninder Kaur		Power System, Energy and Environment
Assistant Professors	Amit Sobti	Complex Flow Hydrodynamics

Baljinder Kaur Gill	Chemical Engineering Thermodynamics
Gaurav Rattan	Reaction Engineering, Pollution Control
Surinder Singh	Petroleum Engineering, Separation Technology, Energy & Environment
Sonia Sharma	Nano Biomaterial
Jodh Singh	Mechanical Engineering
Nidhi Singhal	Management
Harjit Kaur	Management
Sanjeev Gautam	Experimental Condensed Matter Physics, Materials Science, Advanced Functional Materials
Assistant Professor (Temporary basis) Twinkle Bedi	Database& Operating System

COURSES OFFERED (SEMESTER SYSTEM)

Course	Seats	Duration	Eligibility*	Admission Criteria
B.E. (Chemical Engineering)	89+11 NRI + 4 Foreign National	4 years	As per Joint Admission Committee (JAC 2021) Information Brochure 2021	Based on JEE (Main) Merit-2021 Admission to NRI and Foreign National through DASA
B.E. (Food Technology)	30+3 NRI+ 2 Foreign National	4 years	-do-	-do-
Integrated B.E. (Chemical)-MBA	36+5NRI+ 2 Foreign National	5years	-do-	-do-
M.E. (Chemical Engineering)#	20+2 NRI + 1 Foreign National	2 years	B.E./B.Tech.(Chemical) 04 years or Five Year Integrated B.E.(Chem.)-MBA at least 60% marks in the aggregate (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or head of the department) in the qualifying examination i.e. B.E./B.Tech. (Chemical) (04 years) or Five Year Integrated B.E.(Chem.)- MBA or any other equivalent qualifying degree as approved by the PU Syndicate.	Based on Entrance Test P.U.-CET-(P.G.). The merit list of eligible P.U.-CET-(P.G.) qualified candidates shall be as per the following criteria: Academic Marks : 50% P.U. CET (PG) : 50% In case of GATE qualified candidates, they will be given priority during the admission process. They are not required to appear in the PU -CET-PG. <u>Please visit www.puchd.ac.in and www.uicet.puchd.ac.in for update, if any.</u>
M.Tech. (Polymer)#	15+5 Part-time+2 NRI+ 1 Foreign National	2 years	B.E./B.Tech.(Chemical) 04 years or Five Year Integrated B.E.(Chem.)-MBA at least 60% marks in the aggregate (in case students are awarded degree in CGPA), they must have the conversion formula issued by the concerned University or head of the department) in the qualifying examination i.e. B.E./B.Tech. (Chemical) (04 years) or Five Year Integrated B.E. (Chem.)- MBA or any other equivalent qualifying degree as approved by the PU Syndicate. OR Master's degree in Technical Chemistry/Applied Chemistry/Industrial Chemistry/Chemistry (with Mathematics upto graduation) or an equivalent examination) with at least 55% marks in aggregate from Panjab University (in case students are awarded degree in CGPA, they must have the conversion formula	Based on Entrance Test P.U.-CET-(P.G.). The merit list of eligible P.U.-CET-(P.G.) qualified candidates shall be as per the following criteria: Academic Marks : 50% P.U. CET (PG) : 50% In case of GATE qualified candidates, they will be given priority during the admission process. They are not required to appear in the PU -CET-PG. <u>Please visit www.puchd.ac.in and www.uicet.puchd.ac.in for update, if any.</u>

			issued by the concerned University or head of the department) or any other University recognized by Panjab University as equivalent thereto.	
M.E. (Chemical with specialization in Environmental Engineering)#	10+1 NRI+ 1 Foreign National	2 years	B.E./B.Tech.(Chemical (04 years) or Five Year Integrated B.E.(Chem.)-MBA at least 60% marks in the aggregate (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or head of the department) in the qualifying examination i.e. B.E./B.Tech. (Chemical) (04 years) or Five Year Integrated B.E.(Chem.)- MBA or any other equivalent qualifying degree as approved by the PU Syndicate.	Based on Entrance Test P.U.-CET-(P.G.). The merit list of eligible P.U.-CET-(P.G.) qualified candidates shall be as per the following criteria: Academic Marks : 50% P.U. CET (PG) : 50% In case of GATE qualified candidates, they will be given priority during the admission process. They are not required to appear in the PU –CET-PG. <u>Please visit www.puchd.ac.in and www.uicet.puchd.ac.in for update, if any.</u>
M.E. (Food Technology)#	10+1 NRI+ 1 Foreign National	2 years	B.E./B.Tech. degree in Food Technology / Dairy Technology / Agricultural Engineering / Food Engineering / Chemical Engineering / Chemical Technology (04 years) or Five Years Integrated B.E.(Chem)-MBA or any other equivalent qualifying degree as approved by the PU Syndicate at least 60% marks in the aggregate (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or head of the department).	Based on Entrance Test P.U.-CET-(P.G.). The merit list of eligible P.U.-CET-(P.G.) qualified candidates shall be as per the following criteria: Academic Marks : 50% P.U. CET (PG) : 50% In case of GATE qualified candidates, they will be given priority during the admission process. They are not required to appear in the PU –CET-PG. <u>Please visit www.puchd.ac.in and www.uicet.puchd.ac.in for update, if any.</u>
M.Sc.(Industrial Chemistry) #	17+2 NRI+ 1 Foreign National	2 years	B.Sc. (Three Year Course) with Mathematics and Chemistry as compulsory subjects/ B.Sc. (Hons.) Chemistry with Mathematics as a compulsory subject / B.Sc.(Three Year Course) with Industrial Chemistry and Mathematics as compulsory subject or any other equivalent examination as approved by the Syndicate, Panjab University, Chandigarh. A candidate seeking admission must have obtained a minimum at least 55% marks in the aggregate (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or head of the department) in the qualifying examination mentioned.	Based on Entrance Test P.U.-CET-(P.G.). The merit list of eligible P.U.-CET-(P.G.) qualified candidates shall be as per the following criteria: Academic Marks : 50% P.U. CET (PG) : 50% <u>Please visit www.puchd.ac.in and www.uicet.puchd.ac.in for update, if any.</u>
Ph.D.	Subject to availability	3-6 years	See M.Phil /Ph.D Prospectus 2021	
* 5% Concession is admissible in eligibility marks to SC/ST/BC/PwD Candidates. # These courses will be run only if the number of candidates admitted are ≥ 5 .				

TITLES OF SYLLABI : Detailed Syllabi available at <http://puchd.ac.in/syllabus.php>

B.E. (Chemical Engineering)

Semester I		Semester II	
Paper 1	Mathematics –I	Paper 1	Mathematics –II
Paper 2	Physics	Paper 2	Chemistry (Organic)
Paper 3	Chemistry (Inorganic)	Paper 3	Electrical & Electronics Engineering
Paper 4	Communication Skills	Paper 4	Material & Energy Balance
Paper 5	Engineering Graphics	Paper 5	Computer Programming for problem solving
Paper 6	Engineering Workshop	Paper 6	Electrical & Electronics Engineering Lab.
Paper 7	Physics Lab.	Paper 7	Chemistry (Organic) Lab.
Paper 8	Chemistry (Inorganic) Lab.	Paper 8	Computer Lab.
Paper 9	Communication Skills Lab.		
Semester III		Semester IV	
Paper 1	Physical Chemistry	Paper 1	Heat Transfer
Paper 2	Fluid Flow	Paper 2	Chemical Engineering Thermodynamics
Paper 3	Energy Technology	Paper 3	Mechanical Operations
Paper 4	Strength of Materials	Paper 4	Numerical Methods in Chemical Engineering
Paper 5	Open Elective I	Paper 5	Engineering Materials
Paper 6	Process Equipment Design	Paper 6	Heat Transfer Lab.
Paper 7	Physical Chemistry Lab.	Paper 7	Mechanical Operation Lab.
Paper 8	Fluid Flow Lab.		
Semester V		Semester VI	
Paper 1	Chemical Reaction Engineering-I	Paper 1	Chemical Reaction Engineering II
Paper 2	Mass Transfer I	Paper 2	Mass Transfer II
Paper 3	Chemical Technology (Inorganic)	Paper 3	Process Dynamics & Control
Paper 4	Department Elective-I	Paper 4	Chemical Technology (Organic)
Paper 5	Chemical Reaction Engineering Lab.	Paper 5	Mass Transfer Lab.
Paper 6	Chemical Technology (Inorganic Lab.)	Paper 6	Process Dynamics & Control Lab.
Paper 7	Process Plant Design I	Paper 7	Chemical Technology (Organic) Lab.
Paper 8	Chemical Engineering Computation Lab.	Paper 8	Department Elective I Lab.
		Paper 9	Industrial Training*
Semester VII		Semester VIII	
Paper 1	Transport Phenomena	Paper 1	Process Instrumentation
Paper 2	Environmental Engineering	Paper 2	Process Engineering Economics
Paper 3	Process Modelling and Simulation (Pr)	Paper 3	Project work (Pr)
Paper 4	Industrial Training	Paper 4	Comprehensive viva (Pr)
Paper 5	Process Plant Design-II (Pr)	Paper 5	Literature survey and Report Writing and Seminar (Pr)
Paper 6	Project work (Pr)	Paper 6	Open Elective-II
Paper 7	Open Elective – I	Paper 7	Open Elective-III
Paper 8	Department Elective-II	Paper 8	Department Elective-III

B.E. (Food Technology)

Semester I		Semester II	
Paper 1	Mathematics –I	Paper 1	Mathematics –II
Paper 2	Chemistry (Organic)	Paper 2	Physics
Paper 3	Electrical & Electronics Engineering	Paper 3	Chemistry (Inorganic)
Paper 4	Material & Energy Balance	Paper 4	Communication Skills
Paper 5	Computer Programming for problem solving	Paper 5	Engineering Graphics
Paper 6	Electrical & Electronics Engineering Lab.	Paper 6	Engineering Workshop
Paper 7	Chemistry (Organic) Lab.	Paper 7	Physics Lab.
Paper 8	Computer Lab.	Paper 8	Chemistry (Inorganic) Lab.
		Paper 9	Communication Skills Lab.
Semester III		Semester IV	
Paper 1	Element of Bio & Food Science	Paper 1	Heat Transfer
Paper 2	Fluid Flow	Paper 2	Food Chemistry
Paper 3	Biochemistry & Nutrition	Paper 3	Food Microbiology
Paper 4	Chemical Engineering Thermodynamics	Paper 4	Processing of Cereals & Pulses
Paper 5	Mechanical Operations	Paper 5	Strength of Materials
Paper 6	Element of Bio & Food Science Lab	Paper 6	Process Equipment Design
Paper 7	Biochemistry & Nutrition Lab	Paper 7	Heat Transfer Lab
Paper 8	Fluid Flow Lab	Paper 8	Processing of cereal and Pulses Lab

Paper 9	Mechanical Operations Lab	Paper 9	Food Chemistry Lab
		Paper 10	Food Microbiology Lab
	Semester V		Semester VI
Paper 1	Mass Transfer -I	Paper 1	Mass Transfer-II
Paper 2	Processing of Oil Seeds, Oils and Fats	Paper 2	Chemical Reaction Engineering-I
Paper 3	Processing of Fruits and Vegetables	Paper 3	Processing of Milk and Milk products
Paper 4	Environmental Engineering	Paper 4	Beverage Technology
Paper 5	Numerical Methods in Chemical Engineering	Paper 5	Confectionery Technology
Paper 6	Process Plant Design-I	Paper 6	Mass Transfer-Lab
Paper 7	Processing of Oil Seeds, Oils and Fats Lab	Paper 7	Chemical Reaction Engineering-Lab
Paper 8	Processing of Fruits and Vegetable Lab	Paper 8	Processing of Milk and Milk products Lab
Paper 9	Environmental Engineering Lab	Paper 9	Chemical Engineering Computation Lab
	Semester VII		Semester VIII
Paper 1	Process Dynamics and Control	Paper 1	Environmental Engineering
Paper 2	Open Elective I	Paper 2	Department Elective II
Paper 3	Process Engg. Economics	Paper 3	Open Elective II
Paper 4	Departmental Elective- I	Paper 4	Open Elective III
Paper 5	Project Work (Pr)	Paper 5	Departmental Elective III
Paper 6	Literature Survey, report writing and Seminar (Pr)	Paper 6	Project work (Pr)
Paper 7	Industrial Training	Paper 7	Process Modelling and Simulation Lab (Pr)
		Paper 8	Comprehensive Viva (Pr)

Integrated B.E. (Chemical)-MBA

	Semester I		Semester II
Paper 1	Mathematics -I	Paper 1	Mathematics -II
Paper 2	Chemistry (Organic)	Paper 2	Physics
Paper 3	Electrical & Electronics Engineering	Paper 3	Chemistry (Inorganic)
Paper 4	Material & Energy Balance	Paper 4	Communication Skills
Paper 5	Computer Programming for problem solving	Paper 5	Managerial Economics
Paper 6	Management & Organizational Behaviour	Paper 6	Engineering Graphics
Paper 7	Electrical & Electronics Engineering Lab.	Paper 7	Engineering Workshop
Paper 8	Chemistry (Organic) Lab.	Paper 8	Physics Lab.
Paper 9	Computer Lab.	Paper 9	Chemistry (Inorganic) Lab.
		Paper 10	Communication Skills Lab.
	Semester III		Semester IV
Paper 1	Fluid Flow	Paper 1	Heat Transfer
Paper 2	Mechanical Operations	Paper 2	Physical Chemistry
Paper 3	Chemical Engineering Thermodynamics	Paper 3	Strength of Materials
Paper 4	Engineering Materials	Paper 4	Process Equipment Design
Paper 5	Business Statistics	Paper 5	Energy Technology
Paper 6	Operations Research	Paper 6	Production & Operations Management
Paper 7	Workshop on Business Research	Paper 7	Open Elective I
Paper 8	Fluid Flow Lab.	Paper 8	Physical Chemistry Lab.
Paper 9	Mechanical Operations Lab.	Paper 9	Heat Transfer Lab.
	Semester V		Semester VI
Paper 1	Numerical methods in Chemical Engineering	Paper 1	Transport Phenomena
Paper 2	Mass Transfer-I	Paper 2	Chemical Reaction Engineering-I
Paper 3	Chemical Technology (Organic)	Paper 3	Chemical Technology (Inorganic)
Paper 4	Process Plant Design-I	Paper 4	Mass Transfer-II
Paper 5	Environmental Engineering	Paper 5	Departmental Elective-I
Paper 6	Total Quality Management	Paper 6	Process Plant Design-II
Paper 7	Human Resource Management	Paper 7	Mass Transfer Lab.
Paper 8	Chemical Technology (Organic) Lab.	Paper 8	Chemical Reaction Engineering Lab.
Paper 9	Environmental Engineering Lab.	Paper 9	Chemical Technology (Inorganic) Lab.
		Paper 10	Chemical Engineering Computation lab
		Paper 11	Industrial training#
	Semester VII		Semester VIII
Paper 1	Chemical Reaction Engineering-II	Paper 1	Transport phenomena
Paper 2	Process Dynamics and Control	Paper 2	Environment Engineering
Paper 3	Industrial Training-I	Paper 3	Process Modelling and Simulation (Pr)

Paper 4	Project Work (Pr)	Paper 4	Project Work (Pr)
Paper 5	Process Engineering Economics	Paper 5	Comprehensive Viva (Pr)
Paper 6	Literature Survey, Report Writing and Seminar (Pr)	Paper 6	Open Elective-III
Paper 7	Open Elective-II	Paper 7	Department Elective-III
Paper 8	Department Elective-II	Paper 8	Financial Accounting
Paper 9	Marketing Management	Paper 9	Business Environment
Semester IX		Semester X	
Paper 1	Financial Management	Paper 1	Strategic Management
Paper 2	Project Management and Entrepreneurship	Paper 2	Business Law
Paper 3	Supply Chain and Logistics Management	Paper 3	Strategic Cost Management
Paper 4	Marketing Research & Consumer Behaviour	Paper 4	Human Resource Management
Paper 5	Organizational Behaviour	Paper 5	Management of Financial Services
Paper 6	Elective-I	Paper 6	Business Process Reengineering
Paper 7	Technology Management & Excellence	Paper 7	Elective-II
Paper 8	Industrial Training (Management)-II	Paper 8	Research Project (management) Pr
Paper 9	Research Project (Management) (Pr)	Paper 9	Comprehensive Viva Management (Pr)
Paper 10	Workshop on Developing Entrepreneurial Skills (Pr)	Paper 10	Seminar on Corporate Governance (Pr)
Paper 11	Workshop on Communication and Soft Skills (Pr)	Paper 11	Workshop on Management Information Systems (Pr)

M.E. (Chemical Engineering)

Semester I		Semester II	
Paper 1	Mathematical Methods in Chemical Engineering	Paper 1	Heat Transfer
Paper 2	Fluid Mechanics	Paper 2	Research Methodology
Paper 3	Mass Transfer	Paper 3	Chemical Reaction Engineering
Paper 4	Chemical Engineering Thermodynamics	Paper 4	Process Dynamics & Control
Paper 5	Transport Phenomena	Paper 5	Process Modeling & Simulation
		Paper 6	Process Modeling & Simulation (Pr)
		Paper 7	Seminar (Pr)
Semester III		Semester IV	
Paper 1	Open Elective		Thesis
Paper 2	Elective		
	Preliminary Thesis		

M.E. (Food Technology)

Semester I		Semester II	
Paper 1	Food Engineering	Paper 1	Food Packaging
Paper 2	Biochemical Engineering	Paper 2	Selected topics in Fruits and Vegetable Processing
Paper 3	Food Safety and Quality Management	Paper 3	Food Process Equipment Design
Paper 4	Selected Topics of Cereals, Oilseeds and Pulses	Paper 4	Research Methodology
Paper 5	Functional Foods and Nutraceuticals	Paper 5	Food Product Development
Paper 6	Biochemical Engineering-I (Pr)	Paper 6	Food Processing and Analysis (Pr)
Paper 7	Food Process Engineering (Pr)		
Semester III		Semester IV	
Paper 1	Analytical Techniques		Thesis
Paper 2	Electives		
	Preliminary thesis		

M.Sc. (Industrial Chemistry)

Semester I		Semester II	
Paper 1	Chemical Process Calculation	Paper 1	Chemical Engineering-II (Heat & Mass Transfer)
Paper 2	Chemical Engineering-I (Fluid Flow & Mechanical Operations)	Paper 2	Industrial Pollution Control
Paper 3	Chemical Technology	Paper 3	Pharmaceutical Chemistry
Paper 4	Organic synthesis	Paper 4	Electrochemistry and material chemistry
Paper 5	Analytical techniques	Paper 5	Thermodynamic and Chemical Reaction Engineering
Paper 6	Fluid Flow & Mechanical Operation Lab.	Paper 6	Heat & Mass Transfer Lab

Paper 7	Chemical Technology Lab.	Paper 7	Electrochemistry Chemistry and material chemistry Lab.
Paper 8	Analytical techniques Lab.		
Paper 9	Organic synthesis Lab.		
	Semester III		Semester IV
Paper 1	Organic Spectroscopy		Thesis
Paper 2	Polymer Science & Technology		
Paper 3	Elective*		
Paper 4	Open Elective**		
Paper 5	Organic spectroscopy lab		

M.Tech. (Polymer)

	Semester I		Semester II
Paper 1	Polymer Physics	Paper 1	Polymer Processing Techniques
Paper 2	Polymer Chemistry & Characterization	Paper 2	Polymer Reaction Engineering
Paper 3	Macromolecular Hydrodynamics	Paper 3	Composite Materials
Paper 4	Polymer Materials	Paper 4	Polymer Product Design
Paper 5	Numerical Methods	Paper 5	Process Modeling & Simulation in Polymer Systems
Paper 6	Chemical Engineering Fundamentals	Paper 6	Process Modeling & Simulation Lab (Pr)
Paper 7	Polymer Science Laboratory-I (Pr)	Paper 7	Seminar (Pr)
Paper 8	Computer Applications (Pr)		
	Semester III		Semester IV
Paper 1	Elective		Thesis
Paper 2	Open Elective		
Paper 3	Preliminary Thesis		
Paper 4	Polymer Science Lab.-II (Pr)		

M.E. (Chemical with Specialization in Environmental Engineering)

	Semester I		Semester II
Paper 1	Mathematical Methods in Chemical Engineering	Paper 1	Heat Transfer
Paper 2	Fluid Mechanics	Paper 2	Research Methodology
Paper 3	Mass Transfer	Paper 3	Chemical Reaction Engineering
Paper 4	Chemical Engineering Thermodynamics	Paper 4	Process Dynamics & Control
Paper 5	Transport Phenomena	Paper 5	Process Modeling & Simulation
Paper 6	Air Pollution Control Engineering	Paper 6	Solid Waste Management
	Semester III	Paper 7	Process Modeling & Simulation (Pr)
Paper 1	Open Elective	Paper 8	Seminar (Pr)
Paper 2	Elective		Semester IV
Paper 3	Waste Water Treatment Technology		Thesis
	Preliminary Thesis		

Scheme and Syllabi of all above UG and PG courses offered are based on the year of enrollment of the students and subject to change as per requirements.

THRUST AREAS: Agro Waste and Food Processing, Biomaterials, Biopolymers, Carbon Technology and its application, Chemical Reaction Engineering, Chemical Engineering Thermodynamics, Environmental Engineering, Food Product Development, Modeling and Simulation, Nanomaterials and their applications, Polymer Nanocomposites, Polymer Rheology.

ALUMNI RELATIONS: Institute has a very strong alumni base. The alumni of the Institute occupy coveted positions in all spheres of Corporate, Academia and Government Sector in India and abroad. They are associated with industries like IOCL, Petronet-LNG, HMEL, Hindustan Unilever Ltd., Vedanta, Honeywell UOP, Loreal, Ranbaxy, ITC, Nestle, Wrigley, KBR, ONGC, Shell India Ltd., Cairn India, EIL, Bechtel, Fluor Daniel, GAIL and many more.

PLACEMENT: Numerous MNCs and many reputed companies are regularly visiting the institute. They includes; Universal Oil Products (UOP), Reliance Industries Limited (RIL), Petronet LNG, Indian Synthetic Rubber Limited (ISRL), Infosys, Kellogg Brown & Root (KBR), Samsung Engineering, Technip KT India Ltd., SRF Chemicals, ZS Associates, Jubilant Life Sciences, IOL Chemicals & Pharmaceuticals Limited, Chandigarh Distillers & Bottlers Limited, HPCL Mittal Energy Limited, EXL Service, Bechtel, Aakash Institute, Chambal Fertilizers, The Safety Masters, Fluor Daniel, Vedanta Resources Ltd, Mahindra & Mahindra, Gujarat Fluoro chemicals Limited, ITC Foods, Source Fuse Technologies, Nestle India, Cadbury, HMEL, Tirupati Life Sciences, Centrient Pharmaceuticals, Mount Meru Group etc. Students have over the year secured high GATE scores making their way to public sector companies like IOCL, BPCL, EIL, BARC, HPCL etc. The maximum package offered to the B.E. students during placements in the Institute is about Rs. 12.02 lacs/annum (2019-20).

UNIVERSITY CENTRE OF INSTRUMENTATION AND MICROELECTRONICS

ABOUT THE CENTRE

The University Centre of Instrumentation and Microelectronics (UCIM) was established in 1995 and offers M.Tech. (Instrumentation) and M.Sc. (Instrumentation) Courses, each of 2 years (4 semesters) duration. The objective of the centre is to generate trained manpower for Modern Sophisticated Instrumentation and for Microelectronics applications. The facilities available have been supplemented by combining it with the DST funded Sophisticated Analytical Instrumentation Facility (SAIF), Central Instrumentation Laboratory (CIL) and University Science Instrumentation Centre (USIC) which are housed in the same building.

FACULTY

Professor	Ganga Ram Chaudhary (Director)
Associate Professor	H.P.S.Kang
Assistant Professors	Poonam Kumari Ramesh Kumar Sharma Anil Kumar

COURSES OFFERED (SEMESTER SYSTEM)

Course	Seats	Duration	Eligibility*	Admission Criteria
M.Tech (Instrumentation)	10+3 SC/ ST+2NRI + 1 Foreign National	2 years	B.E./B.Tech.(Chemical / Computer / Electrical/ Electronics/Mechanical/ Production /Instrumentation/ Bio-medical Engineering or equivalent degree or M.Sc. in Physics / Electronics /Instrumentation in (as approved by AICTE) with minimum 50% marks in aggregate.	GATE qualified only Weightage: GATE Score:50% Academic 50%
M.Sc. (Instrumentation)	20 + 2 NRI + 1 Foreign National	2 years	B.Sc. (Medical / Non-medical / Physics / Electronics/ Instrumentation Science / Computer Science / Vocational Physics/ Electronics) or B.E. (E & TC / Instrumentation / Electrical and Electronics / Electronics & Electrical Communication Engineering) with minimum 50% marks in aggregate	PG-CET qualified in any of following Physics, Chemistry, Biophysics, Biochemistry, Botany, Environment studies, Geology, Forensic Science & Criminology, Microbiology, Biotechnology, System biology & Bioinformatics, Zoology. Weightage : Academics: 75% PUCET(PG): 25% Note: If seats remain vacant, the admission would be done on the basis of merit list prepared from academic weightage of the eligibility qualifications
*5% concession is admissible in eligibility marks to SC/ST/BC/PwD candidates.				

TITLES OF SYLLABI : Detailed Syllabi available at <http://puchd.ac.in/syllabus.php>

M.TECH (INSTRUMENTATION)

Semester I		Semester II	
INS 61.01	Signal Processing-1	INS 62.01	Microprocessors in Instrumentation
INS 61.02	Analog & Digital Electronics	INS 62.02	Automatic Control System
INS 61.03	Transducers-I	INS 62.03	Analytical Instrumentation
INS 61.04	*Foundation of Measurement	INS 62.04	*Robotics
INS 61.05	*Photonics	INS 62.05	*Medical Instruments
INS 61.06	Design of Mechanical Elements	INS 62.06	*Signal Processing-II
INS 61.07	Process Dynamics & Control	INS 62.07	*Transducers-II
Semester III		Semester IV	
INS 71.01	*Computer Aided Design & Computer Aided Manufacturing	INS 72.01	Major Project & Thesis
INS 71.02	*Instrumentation for Special Applications		
INS 71.03	*Selected Topics		
INS 71.04	*Virtual Instrumentation		
INS 71.05	Major Project		

Elective Subjects*M.Sc (INSTRUMENTATION)**

Semester I		Semester II	
SEM PO 11	Sensors, Transducers, and Actuators for Instrumentation	SEM PO 21	Microprocessor based Instrumentation & System Design
SEM PO 12	Signal conditioning, processing and interfacing techniques	SEM PO 22	Control System Design
SEM PO 13	Instrumentation components, devices and assemblies	SEM PO 23	Power Electronics
SEM PO 14	Principles of Test and Measuring Instruments	SEM PO 24	Process Control and Automation
SEM PO 15	Digital Electronics	SEM PO 25	Optical Instrumentation & Photonics
Semester III		Semester IV	
SEM PO 31	Biomedical Instrumentation	SEM PO 41	Seminars
SEM PO 32	Instrumental methods of Analysis	SEM PO 42	Comprehensive Viva
SEM PO 33	Advanced Fabrication Technique	SEM PO 43	Project Work & Project Report
SEM PO 34	Instrumentation Laboratory visit		
SEM PO 35	Project Work		

THRUST AREA : The Centre houses sophisticated instruments and facilities under SAIF viz-TEM, SEM, FE-SEM, NMR 400 MHz, NMR 500 MHz, LC-MS/MS, XRD powder, CHNS-O, UV-VIS-NIR, WD-XRF, FTIR, LIQUID NITROGEN PLANT, CONFOCAL MICROSCOPE, ICP-MS ICAP, HR-TEM, AA SPECTROMETER, RF-DC SPUTTER COATER, SAXS, MALDI-ESI-Q-ToF Mass Spectrometry. The SAIF has undergone a rejuvenation phase by replacing some key instruments by state-of-art counterparts. The facilities of the centre go a long way in improving the quality of Research being carried out in Research Institutes and Universities in the entire region comprising the states of Punjab, Haryana, HP, UP, Rajasthan and even Eastern, Western and southern parts of the country. These facilities are also made available to the Industry. It also runs training programmes in technical skills for the benefit of scientific community and associated laboratory staff from different institutes.

TRAINING AND PLACEMENT CELL: The students in our department are less in number. Thus students are advised to submit their bio-data along with UIET students during the AVSAR UIET Job Fair conducted at University Campus.

ALUMNI RELATIONS: Department has its alumni association with strong alumni base.

SEMINARS / SYMPOSIA / WORKSHOP: Department is actively organizing large number of Seminars / Symposia / Workshop for the benefit of faculty/ students