



An Intellectually Vibrant Ambience



Brochure 2014



Jaypee Institute of Information Technology,
Noida, Uttar Pradesh

Jaypee University of Information Technology,
Waknaghat, Himachal Pradesh

Jaypee University of Engineering & Technology,
Guna, Madhya Pradesh


JAYPEE
GROUP
NO DREAM TOO BIG



*The Jaypee full time engineering program
is about more than just a technical course -*



its about changing your perspective

Founder Chairman's Message

During the last decade, the Indian education sector has seen upheaval and simultaneously dominated economic planning. Within the next 15-20 years, India will be amongst the youngest nations in the world. Further within the past decade, we have seen countries like China, Korea and Singapore transform into advanced economies – on the strength of strategic planning and laying out a vision linking economic development to systemic changes in the education sector, in particular higher education and research, facilitating global competitiveness.



The basic strategies for higher education institutes seeking to maintain or increase their prestige are becoming increasingly known and accepted – recruiting faculty with excellent research records or potential, supporting research and publication, and seeking to increase student demand and thereby allowing selectivity in the admission process.

In today's knowledge society, technical education has been placed on a higher pedestal. Technical education has carved a critical niche for itself because in today's scenario, technology is impacting all aspects of life. We now live in a global village and our vision of technical education has to be a global vision.

With approximately 150 million Indians in the collegiate group, it is estimated that one in every four graduates in the world will be a product of the Indian higher education system. The Jaypee Group, under the auspices of its not-for-profit Trust, Jaiprakash Sewa Sansthan (JSS), has over the past decade established three higher technical institutes - IIIT Noida, JUIT Waknaghat and JUIT Guna, for providing an intellectually stimulating academic environment and thus ensure creation, generation, dissemination and application of knowledge to educate our youth.

The three educational institutes are inspired by the vision of building intellectual capital for India. The universities represent the essence of academic excellence where the best of faculty, students and educational infrastructure coupled with an innovative teaching-learning process provide a unique learning environment. We believe that education builds character, sharpens the intellect, and encourages free thinking. We provide students with opportunities to become innovative and enterprise ready to face global challenges. We are producing quality professionals and citizens capable of making India a developed nation, and ultimately contributing towards improving the quality of life of our people.

Best wishes to our students.

A handwritten signature in black ink, appearing to read 'Jaiprakash Gaur'.

Jaiprakash Gaur

Vision & Mission



Vision

To become a Center of Excellence comparable to the best in the world for producing professionals with leadership quality in technology, innovation, entrepreneurship and management.

Mission

- Develop as a benchmark University in emerging technologies
- Provide state-of-the-art teaching-learning process and R&D environment
- Harness human capital for sustainable competitive edge and social relevance

Jaypee Institute of Technology (JIIT), Noida, U.P.



JIIT NOIDA – PROGRAMS OF STUDY

Undergraduate (4 Years)

B.Tech – Biotechnology, CSE, ECE and IT

Dual Degree (5 Years)

B.Tech – M.Tech – Biotechnology, CSE and ECE

Post Graduate (2 Years)

M.Tech – Applied & Computational Maths, Biotechnology, CSE, CSE with specialization in Information Security, ECE with specialization in Communication Systems, ECE with Specialization in Micro Electronics Systems & Embedded Technology, Information Technology and Entrepreneurship, Materials Science & Engineering and MBA

Ph.D.

Biotechnology, CSE, ECE, Humanities & Social Sciences, Management, Maths and Physics & Materials Science and Engineering

Student/Faculty Profile		
YEAR	STUDENTS	FACULTY
July 2001	250	15
July 2013	4950*	245*

*Of above, 202 are PhD scholars; 205 are M.Tech students; 440 are MBA students; and 123 faculty have PhD degrees.

Infrastructural Details		
Infrastructure Item	2004	2014
Covered Area (sq.m.)	46,000	141,444#
Hostel Seats	872	2664
Computers (PCs)	270	1600
Laboratories (Nos)	6	53

#43000 Sq.m. under construction

Significant Achievements

- Ranked Best Engineering Institute in Delhi-NCR region in Year 2013 by Hindustan Times Survey
- Experienced faculty with an average of 11 years academic experience
- UG student admissions on basis of All India Merit in the JEE (Main) examination
- 5818 alumni including 44 Doctoral, 451 M.Tech, and 833 MBAs
- 8 International Conferences, 180 invited talks, 60 national workshops organized with around 5000 delegates from around the world participating
- More than 1800 publications, 20 Books and 50 Book Chapters
- 35 research grants from various government agencies
- Biotechnology Program consistently ranked in top 10 by "Biospectrum"
- Graduating students placement more than 95% every year in established organizations such as Microsoft, IBM, Google, Cadence, Ericsson, Amazon, Accenture, Infosys, Wipro, HCL, TCS, Jaypee and others
- Completely networked academic campus

Jaypee University of Information Technology (JUIT), Waknaghat, H.P.



JUIT WAKNAGHAT – PROGRAMS OF STUDY

Undergraduate (4 Years)

B.Tech – Biotechnology, Bioinformatics, Civil, CSE, ECE and ICT

Dual Degree (5 Years)

B.Tech – M.Tech – Biotechnology, CSE and ECE

Post Graduate (2 Years)

M.Tech – Applied & Computational Maths, CSE, ECE, Structural Engineering, Construction Management; Computational Biology, Biotechnology, M.Pharma and M.Sc - Physics

Ph.D.

Bioinformatics, Biotechnology, CSE, ECE, Humanities & Social Sciences, Management, Maths, Pharmaceuticals Sciences and Physics.

Student/Faculty Profile		
YEAR	STUDENTS	FACULTY
July 2002	172	12
July 2013	2134*	135*

Infrastructural Details		
Infrastructure Item	2004	2014
Covered Area (sq.m.)	31,420	73,150
Hostel Seats	500	1700
Computers (PCs)	300	912
Laboratories (Nos)	12	56

**Of above, 151 are PhD scholars; 193 are M.Tech students; and 78 faculty have PhD degrees*

Significant Achievements

- Accredited by NAAC and UG programs of study accredited by NBA (AICTE)
- Experienced faculty with more than 10 years academic experience
- UG student admissions on basis of All India Merit in the JEE (Main) examination
- 2678 Alumni including 52 doctoral, and 245 M.Tech
- 10 International Conferences, 150 invited talks, 45 national workshops organized with around 3500 delegates from around the world participating
- More than 2000 publications, 15 Books, and 45 Book Chapters
- 50 research grants from various government agencies
- Biotechnology Program consistently ranked '1' by "Biospectrum"
- Graduating students placement more than 95% every year in established organizations such as IBM, Cadence, Ericsson, Amazon, Accenture, Infosys, Wipro, HCL, TCS, Jaypee and others
- Completely networked academic campus



JUET GUNA – PROGRAMS OF STUDY

Undergraduate (4 Years)

B. Tech – Chemical, Civil, CSE, ECE and Mechanical

Undergraduate (3 Years)

B. Sc.(Honors) - Chemistry, Physics and Mathematics

Diploma (3 Years)

Civil Engineering with specialization in Cement Technology and Mechanical Engineering with specialization in Thermal Power Plant Engineering.

Post Graduate (2 Years)

M. Tech – Chemical Engineering, CSE, ECE, Construction Management, Structural Engineering, Geotechnical Engineering, Environmental Engineering and Mechanical Engineering.

Ph. D

Chemical, Civil, Mechanical, CSE, ECE, Humanities & Social Sciences, Mathematics, Physics and Chemistry.

Student/Faculty Profile		
YEAR	STUDENTS	FACULTY
Jul-2003	102	10
Jan-2014	2360*	122*

Infrastructural Details		
Infrastructure Item	2003	2014
Covered Area (sq.m.)	15000	133000
Hostel Seats	300	2400
Computers (PCs)	30	840
Laboratories (Nos)	6	47

*Of the above, 61 are PhD scholars; 62 are M. Tech students; and 62 faculty have PhD degrees; 56 are IIT/NIT'ans.

Significant Achievements

- Considered Best Private Engineering University in Madhya Pradesh and notified as Private State University under Section 2 (f) of UGC Act 1956.
- Experienced faculty with more than 12 years academic experience
- UG student admissions on basis of All India Merit in the JEE (Main) examination
- 2243 Alumni including 13 doctoral, 102 M. Tech and 227 Diplomas
- 10 International Conferences, 15 national workshops organized with around 1500 delegates, 700 papers, 100 invited talks from around the world participating.
- More than 735 publications, 22 Books and Book Chapters
- Nine research grants from various government agencies
- Graduating students placement more than 95% every year in established organizations such as Infosys, Accenture, HCL Technology, Tech-Mahindra, Wipro, Ericson, Torry-Harris, Birla Soft, iGate, NIIT-Tech, Nuclear Soft, Sapient, Bharti Telesoft, Capital IQ, Huawei Telecom, Ansaldo Switch, Infogain, Ambuja Cement, NOCIL, ERCOM, HOLTECH, Gwalior Chemical, CMC Meghalay, JK-Cement, ERA Construction, APEX-ENCON, Simplex, Kalpatru Synergy, TCE, L&T, BL-Kasyap, B&S Engineering Consultant, IF&LS, Jaypee Group of Companies and others
- Completely networked academic campus

Centres for Learning Excellence



Jaiprakash Centre for Entrepreneurship Development

Jaiprakash Centre for Entrepreneurship Development is being set up at JIIT to provide a platform to foster innovation activities and motivate, guide and support JIIT students to become technology entrepreneurs. The centre will create and provide a network of experts to mentor students to elaborate, validate and refine innovative ideas for developing socially useful and commercially viable products and services.

JIIT Micro Electro Mechanical Systems (MEMS) Centre

The Centre for MEMS Design, set-up in year 2009 focuses on collaborative research efforts related to MEMS and smart sensors of the Departments of ECE and Physics and Material Science Engineering. Research areas targeted are RF Spiral Inductor development, SAW based Temperature/Gas Sensor Design and Advanced Smart Materials.

Cement Research and Development Centre (CRDC)

CRDC undertakes research in the area of cement, with focus on utilization of marginal limestone and waste materials and usage of various industrial wastes as cement additives. The Centre has conducted various short term courses and technical programs for cement industry.

Wind Engineering Application Centre (WEAC)

A state-of-the-art Boundary Layer Wind Tunnel (BLWT) facility is in an advanced stage of establishment at the JUET campus for providing innovative solutions to problems of industry and undertaking wind engineering research.

Synapse

Synapse has been created at JIIT to develop and exhibit students' skills ranging from technical, art to cultural form, in the field of BT-BI.



Research and Development Activities



Several ongoing research projects are being funded by Department of Science & Technology (GOI), Department of Biotechnology (GOI), Ayush (Ministry of Health & Family Welfare, GOI), DRDO, ICMR, Ministry of Environment & Forest, ISRO, CSIR, etc.

University	Number of Ongoing projects	Funding (in ₹ Lacs)
JIIT	35	644.00
JUIT	42	1902.00
JUET	6	46.21

Other Details

- More than 55% faculty with Ph.D. degrees
- 100+ Ph.Ds. awarded
- Around 400+ Ph.D. scholars and 500+ M.Tech students registered
- Faculty research publications exceeding 5000 in national and international journals – with specific inputs in high impact factor journals such as Progress in Electromagnetic Research B & C, Physica Scripta, Physical Review A, PLoS ONE, BMC Genomics, Expert Systems with Applications, Analytica Chimica Acta, Nucleic Acids Research, Bioinformatics, Journal of Computational Electronics, The Scientific World Journal, etc.

UG Academic Programs



The tentative number of seats for programs of study to be offered for 10+2 students during academic session 2014-15 will be 2355 across the three campuses of Jaypee Education System, with 1230 at JIIT Noida (both campuses at Sector-62 & Sector-128), 525 at JUIT, Wagnaghat and 600 at JUET, Guna.

- The UG programs of study emphasize strong conceptual understanding and practical skills in their respective areas of specialization. All students are provided with a sound foundation in the basic sciences (Maths and Physics), coupled with courses in Humanities and Social Sciences.
- The academic system lays great emphasis on continuous evaluation and transparency. By means of well designed tutorials and practicals, every effort is made to reinforce the concepts taught in the classroom. In the final year, major projects are assigned to students.
- Industry internship after the 6th semester is an integral part of the academic program leading to overall development of a student through exposure to practical skills in real life situations.
- Education Methodology comprises multiple learning stages, specifically lectures, self-study, tutorials, lab work, assignments, projects, research, internships, guest lectures, seminars, continuous evaluation, examinations and personality development programs.

PROGRAMS	JIIT-NOIDA	JUIT-WAKNAGHAT	JUET-GUNA
B. Tech - Electronics & Communication Engineering	Offered	Offered	Offered
B. Tech - Computer Science & Engineering	Offered	Offered	Offered
B. Tech - Information Technology	Offered	Not Offered	Not Offered
B. Tech - Information & Communication Technology	Not Offered	Offered	Not Offered
B. Tech - Biotechnology	Offered	Offered	Not Offered
B. Tech - Bioinformatics	Not Offered	Offered	Not Offered
B. Tech - Civil Engineering	Not Offered	Offered	Offered
B. Tech - Chemical Engineering	Not Offered	Not Offered	Offered
B. Tech - Mechanical Engineering	Not Offered	Not Offered	Offered
B.Sc (Honors) in Physics, Chemistry and Mathematics	Not Offered	Not Offered	Offered
3 years Diploma in Civil Engineering with specialization in Cement Technology	Not Offered	Not Offered	Offered
3 years Diploma in Mechanical Engineering with specialization in Thermal Power Plant Engineering	Not Offered	Not Offered	Offered

UG Program in Electronics & Communication Engineering



The program aims at producing high quality engineers in the area of Electronics & Communication Engineering who can take up challenges in design, development, research, manufacturing, management and academics. Students get a good foundation in Basic Sciences, Mathematics, Basic Engineering and in many core subjects like Electronics & Communication Engineering. Through many Professional Development Courses which include Languages, Humanities, Social Sciences and Management, they turn out to be good professionals in their branch of specialization.

Some of the important compulsory subjects include Analog & Digital Electronics, Signals & Systems, Analog & Digital Communications, Digital Signal Processing, Electromagnetic Engineering,

Telecommunication Networks and VLSI Technology. Students are also required to take a number of courses in Computer Science and Engineering to meet the requirements of academics as well as industry. The program is fully supported by excellent laboratory facilities. Options to take many elective subjects provide a wonderful opportunity to the students to go in further specialisation in ECE or broaden their knowledge to cater to the demands of academics and industry. A strong emphasis on the final year project makes the student confident in research, design, development, manufacturing and management. Students get a flavor of working in industry and the work culture there through the mandatory six-weeks industrial training at the end of the third year.



UG Program in Computer Science Engineering & Information Technology



The institutions with the passage of their evolution and growth have succeeded in creating their place of excellence in the country and abroad. The institutes have been attracting bright students from all parts of the country for quality education in Computer Science and Information Technology at undergraduate, postgraduate and doctoral levels. During the course of time it has offered opportunities to its inmates in the area of quality education and research in pursuance of a long cherished mission of the Group.

Most of the courses are supported by good laboratory practice through excellent computer laboratories and software. There is a provision of six elective subjects which a student can choose depending on market demand and his/her interest in emerging areas and need for further

specialization. Though most of the courses have elements of research and design, a heavy emphasis on the final year project gives students an excellent opportunity to develop and demonstrate their innovation skills, design skills and research interests. These projects quite often lead to publications of their original work. Some of the core subjects of the programs include Object Oriented Programming, Micro Processors & Controllers, Algorithms, Operating Systems, Software Engineering, Computation Theory, Computer Networks, Compiler Design, Computer Organization and Architecture. Students have to undergo a thorough six-week mandatory industrial training at the end of their third year of study to get a feel of the work culture in relevant industries.



UG Program in Information & Communication Technology (ICT)



An interdisciplinary programme of Computer Sciences and Communication Engineering leading to the Degrees of Bachelor of Technology in Information & Communication Technology – B.Tech (ICT) has obtained wide acceptance as a distinct discipline. ICT produces graduates having certain performance capabilities not found in conventional CSE and/or ECE graduates. ICT demands comprehension at the systems level and the depth desired by scientific understanding of the fundamentals along with the computational concerns like constructing mathematical models,

simulating and quantitative analysis techniques and using computers to analyze and solve scientific problems with applications in engineering and social sciences. The program offers courses like Java programming, Web Application Engineering, Mobile and Analogue Communication, Graphic Designs, Wireless and Computer Networks. The courses have been designed keeping in view the industrial and academic demands worldwide to keep the pace with latest developments in Technology, Industry and academics.

UG Programs in Biotechnology and Bioinformatics



The exponential growth and rapid development in modern biotechnology as well as the diversity of knowledge and skills required to pursue careers in biotechnology has inspired us to educate and train youth in biotechnology. The program makes available specialized labs in areas such as Proteomics Technology, Genomic Technologies, Plant Biotechnology, Microbial Biotechnology, Animal & Plant Cell Culture, Environmental

Biotechnology Industrial Biotechnology and Pharmacy. The Biotech programmes at JUIT & IIIT have been ranked among top 3 private Biotech Programs in the country for the last 2-3 years.

Bioinformatics has emerged as a separate discipline due to an upsurge in genomics data through sequencing of whole genomes of microbes, plants, animals and human. Anticipating a high demand of technocrats with knowledge base of a combination of biotechnology and CS & IT, a specialized degree program B.Tech. Bioinformatics (BI) is offered.

The multidisciplinary nature of bioinformatics involves in-depth knowledge in biotechnology, computer science & IT, mathematics & biostatistics and physics, in addition to core subjects in bioinformatics.

UG program in Chemical Engineering



The objectives of the program are to provide the students a broad-based education with emphasis on theory and practice of Chemical Engineering keeping in view the current and future requirements of the country. The courses offered aim at preparing trained manpower to meet the demand in the process industries including cement, food processing, petroleum processing, pharmaceuticals, mineral processing and polymers besides design, development & troubleshooting.

Graduates have been placed successfully in reputed organizations like NOCIL, Hindustan Lever, Jaypee Group, IOCL, Reliance, DMCC, KJS Cement, APAC Consulting etc.

Nine fully equipped state-of-art laboratories with air/water/steam lines are available to students. The course syllabus is flexible and includes all components of modern engineering education with wide choice of electives from areas like design, analysis, modelling, energy and environment.

UG program in Civil Engineering



Undergraduate program in Civil Engineering (offered at JUIT, Wagnaghat and JUET, Guna) has been developed to meet the latest requirement of the infrastructural development of our country in areas like construction, Transportation, Hydropower and Environmental Engineering. The curriculum has been developed to keep it more practice and industry oriented without losing its academics focus.

Students are provided with comprehensive theoretical knowledge through lectures, tutorials and assignments covering the basic as well as advanced topics in various subjects of civil engineering. They are trained for practical understanding in departmental laboratories namely Concrete and Structural Engineering, Geotechnical Engineering, Environmental Engineering, Highway Engineering and Surveying, in addition to the traditional Engineering Graphics and Workshop Practices. All laboratories are equipped with modern equipments and facilities and highly trained manpower. Students are exposed to construction industry during the practical training in reputed construction companies. Training on software like STAAD Pro, MATLAB, Auto-CAD and PRIMAVIRA enhances employability of students in the various fields of Civil Engineering. Opportunities are provided to students for post graduation and research in the areas of Geotechnical, Structural, Environmental and Transportation Engineering.

UG program in Mechanical Engineering



Mechanical Engineering is offered by the Department of Mechanical Engineering, JUET. The program has established laboratories like Thermodynamics, Computer Aided Design & Drafting, Strength of Materials, Fluid Mechanics & Machinery, Measurement & Control, Theory of Machine, I.C. Engines, Heat & Mass Transfer, Advanced Machining, Refrigeration & Air Conditioning, Dynamics of Machines, and CIMS, for hands on experience in practice and design. It

lays emphasis on subjects like Flexible Manufacturing Systems, Computer Integrated Manufacturing, Additive Manufacturing, Robotics, Tribology, Composites and Laser Materials, Finite Element Methods to provide the graduates to take up the challenging tasks for leading different sectors of manufacturing, design and energy generation & conservation and R & D and provides adequate exposure for hands on experience.

B. Sc. (Hons.) Physics, Chemistry and Mathematics



To achieve a balance of scope and depth of study, the UG programs will be characterized by the study of fundamental courses of Physics, Chemistry and Mathematics to build a solid foundation in sciences, particularly in the earlier semesters, to promote a general understanding of these areas. This would be followed in later semesters by more intensive courses related to various academic disciplines in fulfillment of the requirements for majoring in an academic discipline or a combination of disciplines of study. In addition, the program of study will encompass a combination of courses designed to promote the acquisition of certain skills that students can bring to bear in a variety of learning and career/professional situations.

Diploma Programs



3 Years Diploma Program in Mechanical Engineering with specialization in Thermal Power Plant Engineering

3 years diploma program is designed for students completing high school (10th class). Diploma holders are imparted training to work in industry on production shops to conduct repair and maintenance of machine parts/estimating the cost, designing of parts, jigs and fixtures and supervising production processes.

3 Years Diploma Program in Civil Engineering with specialization in Cement Technology

3 years diploma is designed for students completing high school (10th class). Diploma holders in civil engineering are imparted training to work on construction site & in office, which includes survey, analysis, design & estimation, execution & supervision of engineering structures on the field.

Dual Degree Programs

B.Tech - M.Tech in Biotechnology

Besides the regular 4-year program, students are exposed to various advanced level courses such as Protein Engineering, Bioprocess Technology, Cell Signaling, High Throughput Screening, Antibody Engineering and Manufacturing Processes and Clinical Data Base Management.



B.Tech - M.Tech in Computer Science & Engineering

Besides the regular 4 - year program, students study advanced courses which focus on themes with deep theoretical foundations as well as contemporary practical relevance with respect to emerging trends in R&D. Areas covered include Algorithms, Distributed systems, Software Engineering, Machine Learning, Databases, Computer Architecture, Computer Networks, Information and Networks Security, etc.

B.Tech - M.Tech in Electronics & Communication Engineering

Five year dual degree programme in Electronics & Communication Engineering, where the student studies all the courses of B.Tech and additional courses in Signal & Speech Processing and Coding, Wireless Communication, VLSI, System on Chip, Satellite Communication, Microwave Engineering and many other state of art courses. At the end of the programme the student is awarded a degree in B.Tech and M.Tech (ECE).

Post Graduate Programs



Provides for compulsory core courses, elective subjects and intensive project work in the respective area of specialization. The objective of the program is to impart advanced level knowledge in the field of specialization making the students suited to better academia as well as industry and assume responsibilities requiring greater research, design and development aptitude. Through compulsory core subjects the students acquire a state-of-the-art advanced knowledge in a chosen field of specialization. The elective courses give the opportunity to further specialize in the field depending on his/her interest and the future career plan. For project work, students are required to take-up problems on particular topic in the field culminating in submission a dissertation/report.

Applied and Computational Mathematics

The program is designed to train students in computational mathematics and theoretical computer science, so that they are well equipped to take up jobs in the software industry, research & development organizations. The program enables them to learn computing, simulation and numerical techniques.

Computer Science and Engineering

The program provides advanced level education and research exposure in various areas of computing - Algorithms, Distributed Systems, Software Engineering, Machine Learning, Databases, Computer Networks,

Computer Architecture, Computer Networks, Information and Networks Security, etc. These advanced level courses and M. Tech dissertation lay the foundation for potential doctoral work in CSE.

Computer Science and Engineering with specialization in Information Security

Information security is a fast growing area and has been recognized as a national priority. This program aims to enhance the knowledge and core competencies in contemporary computer science and also provide a deep understanding of security related aspects. The curriculum includes a comprehensive set of core and elective courses to achieve both these purposes.

Electronics & Communication Engineering / Electronics & Communication Engineering with specialization in Communication Systems

The program covers a number of areas at advanced level like Mobile, Wireless, Satellite, Optical and Computer Communication Systems and Networks, Signal Processing, Spread Spectrum Communication and Error Control Coding Techniques, Microelectronics & VLSI Design and Information & Communication theory.

Electronics & Communication Engineering with specialization in Micro Electronics Systems & Embedded Technology

This interdisciplinary program focuses on Microelectronics and MEMS Devices and Technology, VHDL based Digital Design, Analogue and Digital CMOS Design and Embedded Systems Design. Students are able to make use of modern tools and techniques to implement VLSI Design on Silicon.



Chemical Engineering

The program provides advanced courses in areas such as Process Modeling and Optimization, Advanced Separation Processes, Advanced Process Control, Advanced Transport Phenomenon and Fluidization Engineering. The course offers a wide range of electives. The students have to take a major research activity as a part of the course. The aim of the program is to train students to assume independent responsibilities laying emphasis on the country's current and future requirements in industry, R&D organizations, design firms and academic institutions.

Environmental Engineering

The interdisciplinary program is aimed at imparting advanced level education in Environmental Science and Engineering for analyzing and controlling environmental pollution, control technologies, management practices and sustainable development. The course offers a wide variety of electives in areas like clean technologies, membrane separation processes, resource conservation, water quality management and solid waste management.

Information Technology & Entrepreneurship

This is a joint program by department of CSE&IT and Jaypee Business School. It is designed for graduates with IT background who are interested in pursuing information technology centric entrepreneurship or taking leadership positions in innovative technology-based start ups and other organizations. The curriculum includes courses on information technology and entrepreneurship management. Second year of the program is devoted to industrial internship and IT entrepreneurship project to develop an investor-ready business plan. Through this program, the student will also network with successful 'role model' innovators, entrepreneurs, and enterprise development experts.

Materials Science & Engineering

The interdisciplinary program is aimed at imparting advanced level education in areas of Nano-Materials & Technology, Semiconductor & Optoelectronics Materials

& Technology, Polymers, Ceramics & Composites, Materials for Storage Devices with a strong foundation in fundamentals of structures, properties and processing of materials and computer aided modeling and simulation techniques.

Mechanical Engineering

M.Tech in Mechanical Engineering (with specialization in Manufacturing Technology) has been developed keeping the industrial requirement in view. Applications of Manufacturing Technology are used to manage manufacturing resources efficiently and effectively and thus improve the productivity of an industrial organization. The curricula of this program is open to Mechanical Engineering graduates only.

Biotechnology

M.Tech in Biotechnology program is designed to offer diverse and extensive aspects of biotechnology and life sciences and has strong emphasis on research. It encompasses streams such as Bio-separation, Metabolic Engineering and Process, Medical Biotechnology, Metagenomics, Microbial Technology, Molecular Modelling, Gene and Omics Technologies, Bioprocess and Industrial Biotechnology, etc. Curriculum is enriched and helps the students follow interest compliant to his/her research aspirations and current industrial demands. Working along with a blend of Ph.D students and research fellows involved in intense research enhances the quality of research experience for graduate students.

Computational Biology

The Masters programme in Computational Biology has been designed to prepare students with theoretical and practical knowledge in processing, storage, analysis and modeling of different types of biological data. The programme outcome will provide valuable insights into understanding of complex biological systems and their quantitative data. The students will acquire competence in fundamental and advanced algorithms, advanced data structures, data warehousing and mining, computational genomics and biomedical image processing. The students



can choose subjects of their choice in final year of degree. They also undertake project work to find a solution to a biological problem through computational approaches.

M. Pharmacy (Medicinal Chemistry)

Two years masters programme in medicinal chemistry has been launched to educate students to acquire theoretical and practical knowledge of drug design and discovery, chemical synthesis, natural products chemistry, pharmaceutical chemistry, computer aided drug design, and advanced analytical and spectroscopic techniques. The students are exposed to a multi-disciplinary interface of biological sciences such as chemical biology, biochemistry, molecular biology, pharmacology, toxicology, etc. to prepare them for the current requirements of industry and academia. The students will undertake one year project in their final year of degree, either at host institution or industry.

M. Pharmacy (Pharmacology)

The masters programme in pharmacology has been designed to educate students on various theoretical and practical aspects in modern techniques in drug discovery and development, biological screening of drugs, preclinical pharmacology, mode of action of drugs, pharmacogenomics, personalized medicine and pharmacotherapeutics. The students would also be exposed to a multidisciplinary environment to prepare them for careers in industry and academia. The students will undertake one year project in their final year of degree, either at host institution or industry.

M.Tech (Structural Engineering)

This course is designed for students who may eventually wish to specialize in structural engineering. The programme emphasizes analysis and design of structures like bridges and multi-storied buildings. The course introduces numerically demanding research and design exercises relating to a wide-range of structures using computational software programs. The programme lays equal emphasis on laboratory work, industrial visits and research based dissertation. M. Tech programme in

Structural Engineering provides a basic preparation for professional careers and an understanding of design, comprehension of the commercial world and competence in transferable skills.

Construction Management

The program provides preparation for effective leadership in the field, which includes light (residential and small office buildings) and heavy (large office buildings and facilities, infrastructure) projects. It aims at learning the regulatory, insurance, management, safety, planning tools, estimating and environmental aspects of construction management necessary for overall planning and control of a project. The course helps in gaining problem-solving skills to determine costs and apply time-value-of-money concepts to effectively evaluate alternatives. With a curriculum developed in collaboration with the University of Florida (USA), the programme assures of a relevant, up-to-date education.

Geotechnical Engineering

The program has been designed to impart deeper, wider and up-to-date knowledge of soil mechanics and foundation engineering beyond the basic knowledge provided at undergraduate level. The curriculum includes the traditional courses and modern courses mainly Geo-environmental Engineering, forensic Geo-technical engineering and critical state soil mechanics. The thrust is provided to the solutions of the field problems through advanced laboratory courses.

M.Sc (Physics)

The programme will focus on the basics and application of physical sciences, Specially Nanotechnology, Materials Science, Electronics etc. The programme stresses on inter-disciplinary fields like modeling, simulation and extensive laboratory and Project work. The courses will prepare students for research career in an industrial or national research laboratory environment. The course designed provides a platform for the research in cutting edge technology and it covers all the aspects of national examination of reputed like GATE, NET.



Post Graduate Programs

PROGRAM	JIIT- NOIDA	JUIT-WAKNAGHAT	JUET-GUNA
2 Year M. Tech			
M. Tech - Applied & Computational Maths	Offered	Offered	Not Offered
M. Tech - Computer Science & Engineering	Offered	Offered	Offered
M. Tech - CSE with Specialization in Information Security	Offered	Not Offered	Not Offered
M. Tech - Electronics & Communication Engineering	Not Offered	Offered	Offered
M. Tech - ECE with specialization in Communication Systems	Offered	Not Offered	Not Offered
M. Tech - ECE with Micro Electronic Systems & Embedded Technology	Offered	Not Offered	Not Offered
M. Tech - Chemical Engineering	Not Offered	Not Offered	Offered
M. Tech - Environmental Engineering	Not Offered	Not Offered	Offered
M. Tech - Information Technology and Entrepreneurship	Offered	Not Offered	Not Offered
M. Tech - Materials Science & Engineering	Offered	Not Offered	Not Offered
M. Tech - Mechanical Engineering	Not Offered	Not Offered	Offered
M. Tech - Biotechnology	Offered	Offered	Not Offered
M. Tech - Computational Biology	Not Offered	Offered	Not Offered
M. Pharmacy (Medical Chemistry)	Not Offered	Offered	Not Offered
M. Pharmacy (Pharmacology)	Not Offered	Offered	Not Offered
M. Tech - Structural Engineering	Not Offered	Offered	Offered
M. Tech - Construction Management	Not Offered	Offered	Offered
M. Tech - Geotechnical Engineering	Not Offered	Not Offered	Offered
5 Year Dual Degree			
5 Year Dual Degree B. Tech - M. Tech (Biotechnology)	Offered	Offered	Not Offered
5 Year Dual Degree B. Tech - M. Tech (Computer Science Engineering)	Offered	Offered	Not Offered
5 Year Dual Degree B. Tech - M. Tech (Electronics & Communication Engineering)	Offered	Offered	Not Offered
M.Sc (Physics)	Not Offered	Offered	Not Offered
MBA	Offered	Not Offered	Not Offered

Doctoral Programs (Ph.D)



The Ph.D programs are available in various specializations such as Bioinformatics, Biotechnology, Computer Science and Engineering, Information Technology, Electronics and Communication Engineering, Management, Humanities, Social Sciences, Mathematics, Physics, Materials Science and Engineering at various campuses. The scholars are required to take up intensive research work under the guidance of a supervisor on a specific problem for a minimum of two to three years in this program. The research work is expected to result in new findings contributing to the knowledge in the chosen field.

The doctoral research program gives an opportunity to students to demonstrate their analytical, innovative and independent thinking leading to creativity and application of knowledge. The scholars are required to deliver seminars on their research progress regularly and publish their work. Finally, they are required to submit the thesis embodying their research findings for awarding of the Ph.D. degree. They may also be required to take part in some advanced level course work.

Financial Assistance during Ph.D Program

Financial Support will be provided to all full time Ph.D students in the form of Research/Teaching Assistantship



PROGRAM	JIIT-NOIDA	JUIT-WAKNAGHAT	JUET-GUNA
Electronics & Communication Engineering	<p>Telecommunications Networks, VLSI Design, FPGA based System Design, Image Compression including Medical Imaging, MIMO-OFDM System, Optical Communication</p> <p>MEMS based design, MOS compact Modeling, Microwave Tubes, Design for Testability, Error Control Coding</p>	<p>Signal Processing, Speech coding, Processing and Recognition, Image Processing and Designing image processing filters, Embedded System Design</p> <p>Mobile & Wireless Communication, Error Control Coding, Biomedical Engineering & Control Systems</p>	<p>Digital Signal Processing, Multi-dimensional and Multi-rate Signal Processing, Image Processing, Wavelet Analysis and Pattern Recognition, Integral Transforms, Wireless Communication, Digital Commutation, Multicarrier Communication Systems, Soft computing, Neural Networks, Renewable Energy, RF and Microwave Tubes, micro-strip Antenna, Compressive Sensing, Adaptive Filtering, MINO Antenna and Bio-metrics.</p>
Computer Science & Engineering	<p>Multimedia Technology and Applications, Knowledge Based Systems, Artificial Intelligence, Information Retrieval, and Machine Learning, Distributed Systems, Computer Networks, and Wireless Networks, Web & Mobile Technologies and Information Systems, Cyber Security, Computing Education and Learning Technologies, Computer Architecture & Embedded Systems, Software Engineering, Multimedia Technology and Applications, Knowledge Based Systems, Artificial Intelligence, Information Retrieval, and Machine Learning, Distributed Systems, Computer Networks, and Wireless Networks, Web & Mobile Technologies and Information Systems, Cyber Security, Computing Education and Learning Technologies, Computer Architecture & Embedded Systems, Software Engineering</p>	<p>Parallel, Distributed and Grid Computing, Mobile Computing, Cloud Computing, Computer Data Networks, Wireless Sensor Networks, Cyber Security, Digital Forensics, Network Security, Information Security, Software Requirement Engineering, Software Development Models, Software Matrix, Software Testing, Image Information Processing, Computer Graphics, Computer Vision, Database systems, Data Mining & Warehousing Algorithms, Information Retrieval, Analysis and performance of Algorithms, Artificial Intelligence, Expert Systems, Knowledge Management.</p>	<p>Distributed Processing, Grid Computing, Image Processing, Pattern Recognition, Image Security, Network Communication, Information System Security, Software Engineering, Data Mining & Warehousing.</p>
Biotechnology, Bioinformatics & Pharmaceutical Sciences	<p>Medical Biotechnology, Bioinformatics, Genomics & Proteomics, Structural Biology, Plant & Microbial Biotechnology, Bioremediation, Environmental Biotechnology, Natural Products & Molecular Mechanism, Novel Drug Delivery System & Nanobiotechnology</p>	<p>Genetic Engineering, Genomics, Microbial Biotechnology, Medical biotechnology, Plant biotechnology, Industrial biotechnology, Environmental Biotechnology, Food Technology, Computational Biology, Natural Products as Drugs and Nutraceuticals, Computational Drug, Discovery, Medicinal Chemistry, Neuro Pharmacology, Stem Cells, Medical Genomics, Infectious Diseases, Cancer Biomarkers</p>	
Physics & Materials Science and Engineering	<p>MEMS and Smart Systems, Advanced Materials, Nanoscience and Nanomaterials, Quantum Optics & Quantum Computing, Atomic & Molecular Physics, Energy Materials and Devices, Photonics and Plasma Physics</p>	<p>Semi Conducting Chalcogenides, Nano-ferrites, Microstrip Antennas, Nanoscience and Nanotechnology, Polymers</p>	<p>Spectroscopic Studies of Polymers and Finite Crystals, Nanomaterials, Energy Storage Devices, Nonlinear Dynamics and Quantum Optics.</p>

PROGRAM	JIIT - NOIDA	JUIT - WAKNAGHAT	JUET - GUNA
Mathematics	Wavelets, Fractals and Chaos, Analysis, Numerical Analysis and Computational Fluid Dynamics, Statistics, Queuing Systems and Fuzzy Set Theory, Continuum Mechanics Information and Coding Theory	Differential Equations, Integral Equations, Mathematical Modelling and Simulation, Numerical Solutions of PDE, Elasticity, Thermoelasticity, Wave Propagation, Soft Computing Techniques (Genetic Algorithms, Neural Network, Fuzzy Set Theory), Optimization Techniques, Project Scheduling Problems, Fuzzy Statistics, Fuzzy Information Theory. Decision Making, Bio-Statistics, Probability and Stochastic Modelling, Reliability Theory, Decision Theory, Stochastic Ordering and Aging Properties. Differential Geometry, Geometry of Submanifolds. Algebraic Coding Theory, Sequence Design for Mobile Applications, Distributed Video Coding.	Numerical Analysis, Reliability Theory, Operations Research, Fluid Mechanics, Information Theory, Fuzzy sets and Logic, Fuzzy Information Measures and Control Theory.
Humanities and Social Science	Sociology -Women Studies, Cultural Studies, Political Sociology, Gerontology; Psychology -Positive Psychology, Industrial Psychology, Mental Health, Applied Psychology; Economics -Micro & Macro Economics, Public Finance, Development Economics, Health Economics; Finance -Financial Accounting, Financial Evaluation, Corporate Finance, Personal Tax Planning, Behavioral Finance, Financial Markets, Banking, Insurance, Mutual Funds, Income tax; English - Socio-Linguistic, Communication Skills and Translation; Marketing -Branding, Customer Relationship Management, Digital Marketing, Consumer Behavior, Social Media Marketing; Human Resource Management -Organizational Behavior, Strategic Management, Emotional & Social Intelligence, Leadership, Executive Coaching, Knowledge Management	Finance, Economics, Management, English	Industrial Economics, Micro & Small Business, Financial Management, Marketing Management, Innovative Management, New Product Development, Consumer Behavior, Business Economics, Corporate Governance, Business & Government.
Civil Engineering		Materials, Structures, Soils, Environment, Fluid mechanics, Rock Mechanics	Concrete Technology, Environmental Engineering, Geotechnical Engineering, Hydraulics & Water Resources Engineering.
Chemical Engineering			Transport Phenomena, Process Modeling & Simulation, Energy Environmental issues in Chemical Processes, Fluid Practical System, Heat Transfer, Mass Transfer Operations, Cement Technology.
Mechanical Engineering			Laser Beam Machining, Additive Manufacturing, Dynamics of Machine Tools, CAD/CAM, Thermal Sciences.
Chemistry			Novel Surfactants, Polymer Chemistry, Oleo chemicals, Environmental Sciences, Natural Products.
Management	Consumer Behaviour & Segmentation, Customer Satisfaction and Marketing Strategy, E-Marketing, Brand Management, Marketing Flexibility, Waste Management, Financial Economics, Mutual Funds, Mergers and Acquisition, Behavioural Finance, Corporate Finance, Training & Development, Workplace Passion, Leadership Competencies, Management Effectiveness, Communication & Negotiation, Employee Behaviour, Employee Engagement, Employee Wellbeing, Sustainable Supply Chain Management, Service Operations Management, Process Management, Firm Efficiency & Labour Productivity, E-Procurement Sustainability Index.		

Training and Placement

In order to remain updated with the new emerging technologies and their application, Jaypee Institutions continually collaborate with companies such as Accenture, Infosys, TCS, Ericsson, etc. Industry experts are invited periodically to conduct workshops and deliver lectures to the students on various topics of interest. Students are also sent for

six weeks to Industry to experience and understand the nuances of the industrial set up besides doing a project on a chosen area. T&P facilitates placement of students by inviting Companies to the Campus and also helps them in identifying opportunities for industrial training.

Representative list of companies which provided job opportunities to our students is as follows. Detailed list is available on our website.



Jaiprakash Sewa Sansthan



The Group has always believed in “growth with a humane face” and to fulfill its obligations it has set up Jaiprakash Sewa Sansthan (JSS), a 'not-for-profit' Trust which primarily serves the objectives of socio-economic development, reducing the pain and distress in society.

For over 5 decades now, Jaypee Group has supported the socio-economic development of the local environment in which it operates and ensures that the economically and educationally challenged strata around the work surroundings are also benefited from the Group's growth by providing education, medical and other facilities for local development.

The Group also undertakes Comprehensive Rural Development Programme (CRDP) which covers a

wide range of projects such as free medical camps, health check-ups for village school children, literacy campaigns like Balwadis for young boys and girls, safe drinking water supply, creating huge water reservoirs in different villages, self employment which includes tailoring classes for women and animal husbandry. Some other important activities undertaken include the renovation of old temples, other schools and hospital buildings in the adjoining adopted villages.

JSS has translated its social responsibility into reality by building up schools and training institutes that cater to the needs of providing quality education to the rural masses. The trust also helps in times of natural catastrophe to reach the affected communities in distress.

Jaypee Group at a Glance



Transforming challenges into opportunities has been the hallmark of the Jaypee Group ever since its inception five decades ago. The Group is a diversified infrastructure conglomerate with business interests in Engineering & Construction, Cement, Power, Real Estate, Expressways, Fertilizer, Hospitality, Healthcare, Sports, Information Technology and Education (not-for-profit).

Engineering & Construction

The Engineering and Construction wing of the Group is an acknowledged leader in the construction of multi-purpose River Valley and Hydropower projects. The Group is the only integrated solution provider for Hydropower projects in the country with a track record of strong project implementation in different capacities and has participated in projects that have added over 8840 MW of Hydroelectricity to the national grid between 2002 to 2009.

Cement

Jaypee Group is the 3rd largest cement producer in the country. The Group produces special blend of Portland Pozzolana Cement under the brand name 'Jaypee Cement'. Its Cement Division currently operates modern, computerized process control cement plants with an aggregate capacity of 33.8 MnTPA. The Group is in the midst of capacity expansion of its cement business in Northern, Southern, Central, Eastern and Western parts of the country and is slated to have a production capacity of 41.40 MnTPA in FY13 (expected) with Captive Thermal Power plants totaling 672 MW.

Power

The Group is India's largest private sector Hydropower producer and is on its way to be an integrated power producer with expansion in Thermal, Wind and Power Transmission. Jaypee Group's operational power plants are 300 MW Baspa-II (Himachal Pradesh), 400 MW Vishnuprayag (Uttarakhand) and 1000 MW Karcham Wangtoo (Himachal Pradesh) with operational hydropower capacity being 1700 MW. The total power generation including hydro and thermal, will be 5500 MW by March 2015.

Real Estate

Jaypee Group is a pioneer in the development of India's first golf centric Real Estate. Jaypee Greens - a world class fully integrated complex at Greater Noida consists of an 18 hole Greg Norman Golf Course, stretching over 452 acres. It also includes residences, commercial spaces, corporate park, entertainment and nature in abundance. Jaypee Greens also launched its second project in Noida in November 2007. India's First Wish Town at Noida is an integrated township spread over 1162 acres of land comprising one 18 hole and two 9 hole golf facility and world class residences.



Expressways

The Group has entered into construction of expressways with the Yamuna Expressway project – a 165 km access controlled 6 lane super expressway along the Yamuna river connecting Noida and Agra on Build-Own-Transfer basis.

The Group has commissioned the first RFID Technology based Electronic Toll Collection Plaza and four laned Zirakpur-Parwanoo Section of NH-5, the Himalayan Expressway from km 39.96 to km 67.55 in the states of Punjab, Haryana & Himachal Pradesh.

Fertilizers

The fertilizer plant situated in Panki, Kanpur is one of the oldest Urea manufacturing plants in the country with an installed capacity of 7.22 lac MT per annum. Urea production has started from June 2013 and the product is sold in the brand name of "Jaypee Chand Chaap Urea" which enjoys a very high degree of acceptance amongst the farming community. The plant was successfully converted to gas based, from Naptha and currently prills urea by using the latest in technology.

The company has also entered into the value added agri inputs space by marketing speciality inputs like Micro nutrients, Zinc sulphate Mono hydrate and organic manure under the flagship brand of Jaypee Chand Chaap.

Hospitality

The Group owns and operates 4 Five Star Hotels, two in New Delhi and one each in Agra and Mussoorie with a total capacity of 644 rooms. Another 5 Star luxury with 170 rooms state-of-the-art resort and SPA is now operational in collaboration with SIX SENSES at Greater Noida.

Healthcare

With the vision of promoting world-class health care amongst the masses by providing quality and affordable medical care with commitment, the Jaypee Hospital is being constructed. The hospital has been planned as a 1200 bedded tertiary care multi-speciality facility and is currently in the process of commissioning 525 beds in the first phase.

Sports

The Group has hosted India's first ever Formula One™ Grand Prix on 30th October, 2011. In addition to F1, the track is expected to host other top-level international motor sports events.

Information Technology

JIL Information Technology Limited (JILIT), the IT arm of the Jaypee Group offerings encompass a diverse range of areas such as IT Infrastructure Management, Networking & Communication, Multimedia & Content Development Services, E-learning and Software Solutions. JILIT is today partnering with leading IT companies such as IBM and CISCO.

JILIT's quality management system is ISO 9001:2008 certified and the information security management system & data centre operations is attested by ISO 27001:2005

Education

In addition, JSS offers education through 34 Schools, 6 ITI's, 2 Polytechnic, 1 Advanced Skill Development Centre, 1 Post Graduate College, 1 B.Ed College catering to learning of over 30,000 students across the complete spectrum of the learning curve.

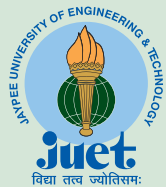




JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA, U.P.
(Declared as Deemed to be University under section 3 of the UGC Act, 1956)
A-10, Sector 62, Noida - 201307 (U.P.)
Tel: +91-120-2400972-76 **Fax:** +91-120-2400986 **Website:** www.jiit.ac.in



JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT, H.P.
(Approved by UGC under section 2(f) of the UGC Act, 1956)
P.O. Vahnaghat - 173234, Distt. Solan (H.P.)
Tel: 01792- 257999 **Fax:** 01792-245362 **Website:** www.juit.ac.in



JAYPEE UNIVERSITY OF ENGINEERING & TECHNOLOGY, GUNA, M.P.
(Approved by UGC under section 2(f) of the UGC Act, 1956)
A.B. Road, Raghogarh, Distt Guna - 473226 (M.P.)
Tel: 07544-267051, 267310-14 **Fax:** 07544-267011 **Website:** www.juet.ac.in

For admission enquiries please email us at webadmin@jiit.ac.in