

CHITKARA
POLYTECHNIC



AFTER CLASS X
JOB-FOCUSED SKILL BASED
3-YEAR DIPLOMA PROGRAMS

AUTOMOTIVE | CIVIL | ELECTRICAL | MECHANICAL

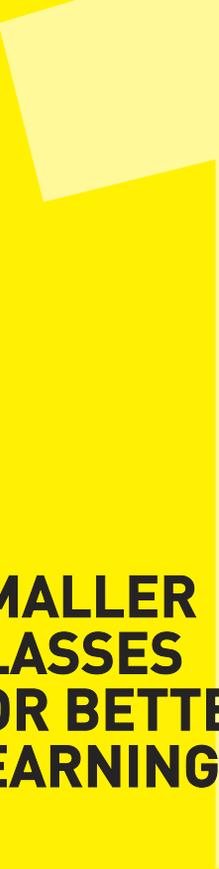


CHITKARA
UNIVERSITY





**EMBARK ON
RESEARCH
FROM DAY ONE**

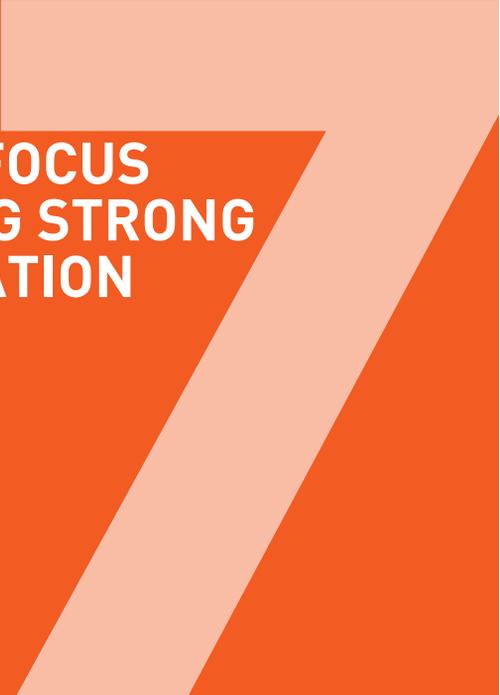


**SMALLER
CLASSES
FOR BETTER
LEARNING**



**GREAT
PLACEMENTS
GIVE YOUR
FUTURE A
BOOST**

**GREAT
TO
CHITKARA**



**INTENSIVE FOCUS
ON BUILDING STRONG
COMMUNICATION
SKILLS**

**BRING
OUT THE
CREATOR AND
STRATEGIST
IN YOU**

**EMPOWER
YOU TO BUILD
A BETTER
WORLD WITH
AN INDUSTRY
BASED
EDUCATION**

REASONS JOIN UNIVERSITY

**VIBRANT
STUDENT
LIFE**

- DEDICATED TIME TO PURSUE YOUR INTERESTS
- START SOMETHING YOU ARE PASSIONATE ABOUT

**COLLABORATION
WITH GLOBAL
UNIVERSITIES
TO BRING YOU A
WORLD-CLASS
EDUCATION**

AN INSPIRATIONAL
STUDENT EXPERIENCE
AT A LEADING
**NON-PROFIT PRIVATE
UNIVERSITY OF
INDIA**

WHO ARE WE?

Chitkara University has been founded by **Dr. Ashok K Chitkara** and **Dr. Madhu Chitkara** who have been passionate teachers for more than 40 years now.

Since the inception of the University, Chitkara University has been **different**. Our students have been different. So are our faculty, our academic strengths and our outlook on **teaching** and **learning**.

The unique difference being that Chitkara University has been established by and managed by **passionate** academicians with the sole mission of making each and every student **"Industry ready"**

This difference has been acknowledged by students, parents, alumni, Government and Industry since the inception of the University. Within a decade, most of our academic programs are ranked among the **top 50** programs in the country which speaks volumes about our **strong** academic heritage, highly committed **faculty**, extensive Industry collaborations, great international connections and state of the art campus facilities.

JOIN CHITKARA UNIVERSITY TO
EXPLORE **YOUR** POTENTIAL !!





Dr. ASHOK K CHITKARA
CHANCELLOR
CHITKARA UNIVERSITY

Selecting a university program marks the start of an exciting period of your life. When you are selecting a program at an institution, you add life-changing experiences and expanded opportunities as well.

Students from around the country are attracted to Chitkara University because of our commitment to teaching excellence, because we conduct research that makes a difference, because of our industry partnerships and because of our tailored courses.

We look forward to welcoming you to Chitkara University.

**STRONG
ACADEMIC
HERITAGE**

Dr. MADHU CHITKARA
PRO CHANCELLOR
CHITKARA UNIVERSITY

Chitkara Education brings with it a reputation that has been earned through years of serving the career-needs of the student community. It is a reputation for excellence and innovation among coveted employers for preparing graduates, who have the knowledge and skills they need for success in their workplace.

There are many reasons to choose Chitkara University. Our graduates go on to great careers, we're hands-on and responsive in our teaching, we provide a great environment to study and our research is world-class.



“ The learning environment at **CHITKARA UNIVERSITY** represents a unique blend of distinguished faculty, brilliant and intellectual students with a proactive collaboration with industry.”



CHITKARA UNIVERSITY, PUNJAB

Chitkara Educational Trust established its Punjab campus in the year 2002 on the Chandigarh-Patiala national highway which is 30kms from Chandigarh. In the year 2010, Chitkara University was established by the Punjab State Legislature under "The Chitkara University Act". Chitkara University is a government recognized University with the right to confer degrees as per the sections 2(f) and 22(1) of the UGC Act, 1956. Chitkara University Punjab is a multi-discipline student centric campus with more than 10000 students.





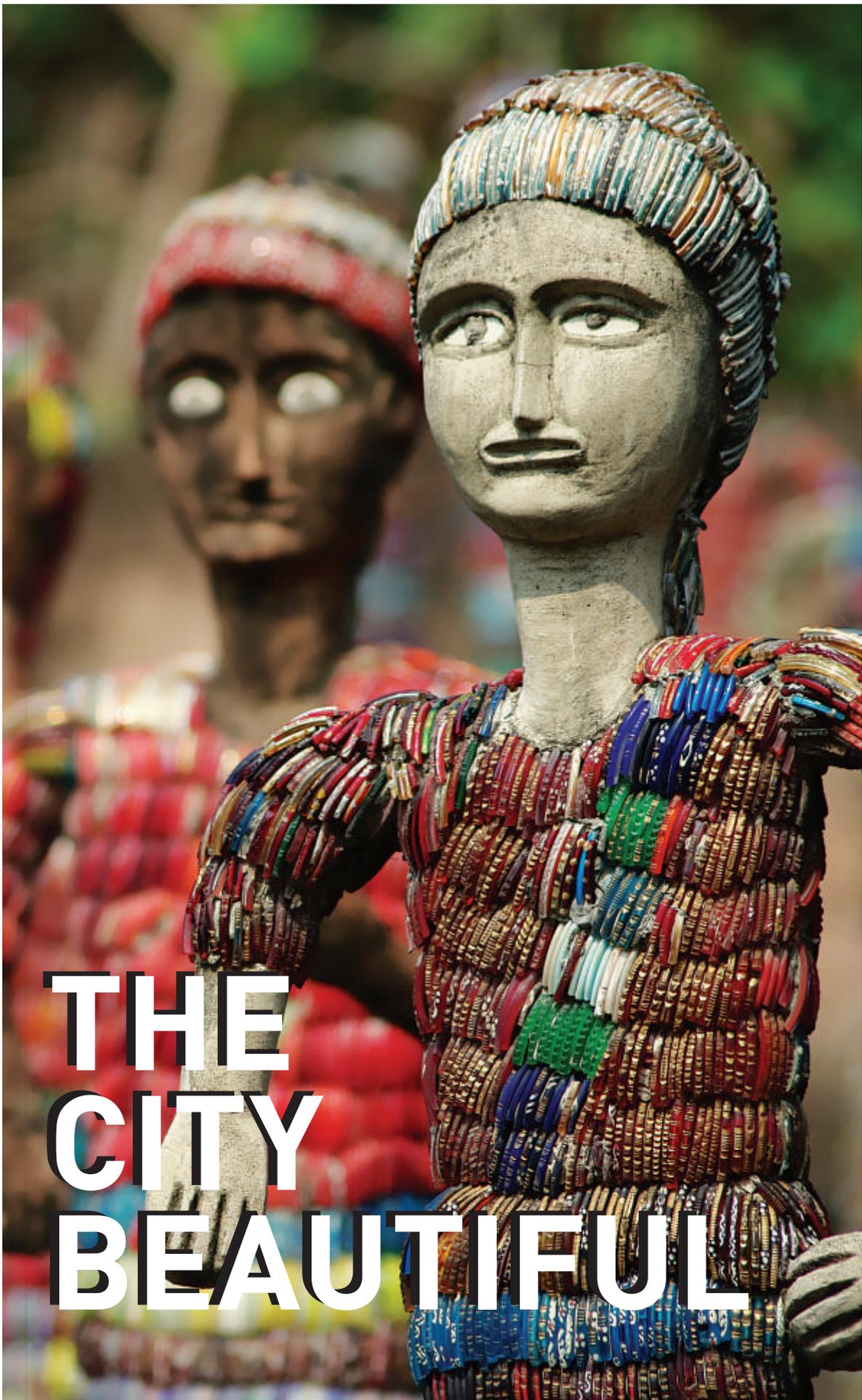
Chitkara Polytechnic has derived its academic strength from the strong reputation and proactive industry collaborations of Chitkara University, which is the leading non-profit private University of North India.



Chitkara University has been in the forefront of higher education in North India and boasts of a learning environment that represents a unique blend of distinguished faculty, brilliant students with strong industry collaborations and extensive partnerships with International Universities.

Our major academic programs are consistently ranked among top 50 in the country that speaks volumes about our enduring commitment, strong academic heritage and innovative teaching practices.

Chitkara University offers full time Degree Programs in :
[Engineering](#) | [Architecture](#) | [Hospitality](#) | [Culinary Arts](#)
[Pharmacy](#) | [Mass Communication](#) | [Business](#) | [Accounting](#)
[Allied Healthcare](#) | [Nursing](#) | [Education](#) | [Art & Design](#)



**THE
CITY
BEAUTIFUL**

CHANDIGARH

A million people; infinite possibilities

Located in the foothills of the Shivalik mountain ranges, Chandigarh is India's best planned city, with world renowned architecture and an unparalleled quality of life. The face of modern India, Chandigarh, is the manifestation of a dream that Pt. Jawahar Lal Nehru envisaged and Le Corbusier executed.

Chandigarh was the first planned city in India post independence in 1947 and is known internationally for its architecture and urban design. The city has projects designed by architects such as Le Corbusier, Pierre Jeanneret, Jane Drew and Maxwell Fry. It is an urban showpiece - where plants and trees are as much a part of construction plans as the roads and buildings.

Chandigarh and its surrounding areas, namely Mohali and Panchkula are on their way to become the north Indian hubs for IT industry with major presence of companies such as Infosys Technologies, Tech Mahindra, Quark and Wipro. Chandigarh is also home to several regional offices for major multinational banks, retail establishments and real estate corporations.

With its world class infrastructure and highest per capita income Chandigarh is fast emerging as the entrepreneurship hub of the country.

Chandigarh is also attracting the service industry, education, health, food processing and a host of other companies who view it as their regional center for all north Indian states namely Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab and Haryana.

- Chandigarh is a city that comes under 'Times' 15 best Asian spots. 'Times' magazine has dubbed Chandigarh as "the thinking man's city" amidst a continent of mindless growth
- In major surveys, Chandigarh beats Bangalore, Chennai & Hyderabad in the overall ranking of India's best cities for doing business.
- A confederation of Indian Industries (CII) commissioned study has ranked Chandigarh as the overall third best city for doing business among 35 cities with an urban population exceeding population of one million.

With easy connectivity to major cities across India by flight as well as rail Chandigarh serves as the gateway to northern India. There are also direct flights to connect with the rest of the country mainly Mumbai, Delhi and Bangalore. Indian rail network connects this city to various Indian cities chiefly Delhi, Shimla, Lucknow, Jaipur, Mumbai, Goa and Kerala.



THE DIPLOMA ADVANTAGE: A HIGH-QUALITY, JOB-FOCUSED TECHNICAL EDUCATION AFTER CLASS X

The aim of the diploma education is to create a pool of skill & knowledge based manpower to support shop floor and field operations as a middle level link between technicians and Engineers. The pass-outs of Diploma level institutions in Engineering & Technology play an important role in managing shop-floor, technical service and manufacturing operations. It is further an established fact that small & medium industry prefer to employ Diploma Holders because of their special skills in interpreting Engineering drawings, estimating, costing, billing, supervision, measurement, testing, repair & maintenance etc.

Chitkara Polytechnic is a Chitkara Education initiative to provide students, opportunity to grow vertically & horizontally in their career paths with Electrical, Mechanical, Civil & Automotive specialization. All our programs comes with mandatory industry internship and are offered with 100% placement assistance with partner organisations, which ensures a successful career start in various industry domains.

Our 3-Year program provides career-focused and community-responsive education developed in partnership with employers combining theoretical and applied learning, relevant work experience for students and the opportunity for them to participate in applied research and commercialization projects.

ENGINEERING EDUCATION @ CHITKARA POLYTECHNIC

Creating, inventing, innovating, attacking challenges, solving problems, improving the quality of life—these are the driving forces for Diploma Engineers. The Diploma Engineer’s ingenuity is a driving force in our society. From space stations to microsystems, the potential for innovative Engineering is endless. If you’re wondering what the future might look like, Chitkara Engineering programs can show you the way.

Our courses enable you to develop your Engineering knowledge, skills, imagination and experience to the highest levels in readiness for your future career. The engineering diploma programs at Chitkara Polytechnic combine classroom learning and laboratory/workshop practice in technical areas with a broad liberal arts curriculum and industry assignments to give you an Education tuned to the 21st century wavelength. We are dedicated to giving you an exceptional Engineering experience with knowledgeable and engaged faculty and the latest equipment and technology.

For the academic year 2018, we are offering the following programs:

- **3-Year Diploma in Civil Engineering**
 - **3-Year Diploma in Electrical Engineering**
 - **3-Year Diploma in Mechanical Engineering**
 - **3-Year Diploma in Automotive Engineering**
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SO WHAT DOES IT TAKE TO BECOME A DIPLOMA ENGINEER?

Technical Excellence

At Chitkara Polytechnic, it's given that you will be challenged technically. Our students take Engineering classes from day one and other technical electives. Classes normally have a lecture, a lab, and practical. We offer diploma's in three traditional disciplines:

Civil Engineering, Electrical Engineering, Mechanical Engineering & Automotive Engineering.

Exploration and Innovation

Our students must have the ability to think for themselves. Chitkara students are passionate and focused. Our students all have that drive—the need to investigate and ferret out solutions, to build, to invent, to design, to develop. Not only do we recognize it, we welcome you to bring it on!

We prioritize teaching students on how to bring their ideas to fruition, not just by enhancing technical skills, but by teaching them how to foster innovation. We teach students to manage the process, to make sure that you have the skills to take your ideas to the highest possible level. We know you have the passion; we will teach you how to harness and apply it.

Intellectual Curiosity

At Chitkara, you should expect more than a course schedule and books. We want you to get your hands dirty. Majority of our students participate in industry driven projects during their Diploma years. You will be given opportunities to work with faculty and can even apply for financial support for your own research projects.

Communication Skills

The stereotypes of Engineers are a thing of the past. Students, who graduate from Chitkara must be capable of articulating their ideas, contributing successfully in teams, and working collaboratively with non-Engineers, such as product designers or business managers. To manage projects, to solve problems, to partner on ideas, to successfully advance your career.

Verbal and written communication is also essential to be a world class Engineer. You can have the best idea in the world, but if you can't articulate it, it probably isn't going very far. Chitkara students are required to fulfill general education requirements that include intensive focus on communication skills.



STRONG INDUSTRY COLLABORATIONS

Chitkara Engineering has established an unassailable reputation for very strong campus recruitment on the sheer virtue of our intensive focus on making all our graduates "Industry Ready".

For our Engineering programs, we realize that our technical graduates are the foundation of the new knowledge based Indian economy. We also know that an active industry-academic interface is required to achieve the goal of producing "industry ready" students who are well rounded and quick learners.

Marquee companies such as nVidia, ARM, cadence, nxP semi conductors and Texas Instruments have recently supported us in terms of supplying state of the art latest equipments for best hands-on training for our students.

- Chitkara University is privileged to be part of the SAP University Alliance.
- The Google Student Ambassador Program is an opportunity for students to act as liaison between Google and the University.
- We have dedicated Apple funded labs for making our students proficient in IOS mobile applications.
- Microsoft Innovation Centre at Chitkara University provides incubation and expert hands-on support on Microsoft technology innovation, research, and software solutions.
- Chitkara University in collaboration with Quick Heal Academy has introduced 4-Year B.E. specialisation in Cyber Security & Forensics
- nVIDIA which is one of the leading companies in the parallel computing space has granted the status of "CUDA teaching Centre" to Chitkara University.
- Marquee companies such as ARM, Cadence and NXP Semiconductors are supporting us in terms of supplying state of the art equipments for best hands-on classroom training.
- Infosys Campus Connect and Wipro 10X Mission has provided us an important framework for our Engineering curriculum
- Strong linkages with Industry leaders such as CISCO, Ericsson & National Instruments to develop and deploy industry-relevant curricula on various technologies for our Engineering curriculum.
- Mechanical Engineering degree programme by Rasco Automotive for 3D scanning and reverse engineering technologies.



STRONG INDUSTRY COLLABORATIONS @ CHITKARA POLYTECHNIC

For our Engineering Diploma programs, we realize that our technical students are the foundation of the new knowledge based Indian economy. We also know that an active industry-academic interface is required to achieve the goal of producing "Industry Ready" students who are well rounded and quick learners. These industry collaborations will help our students to acquire skills and capabilities, prepare them to get appropriate employment and ensure their competitiveness in national and international work environment.



IEEMA was the first association established right next after the day of Indian independence. It is the largest Industry association encompassing 800 plus manufacturers covering the entire gamut of electrical, industrial electronics and allied equipment company. Chitkara University being the frontrunner in proactive industry interface was felicitated and accepted to become the 1st Academic partner of IEEMA to take up academic reforms and to implement academic policies concerning electrical engineering education.



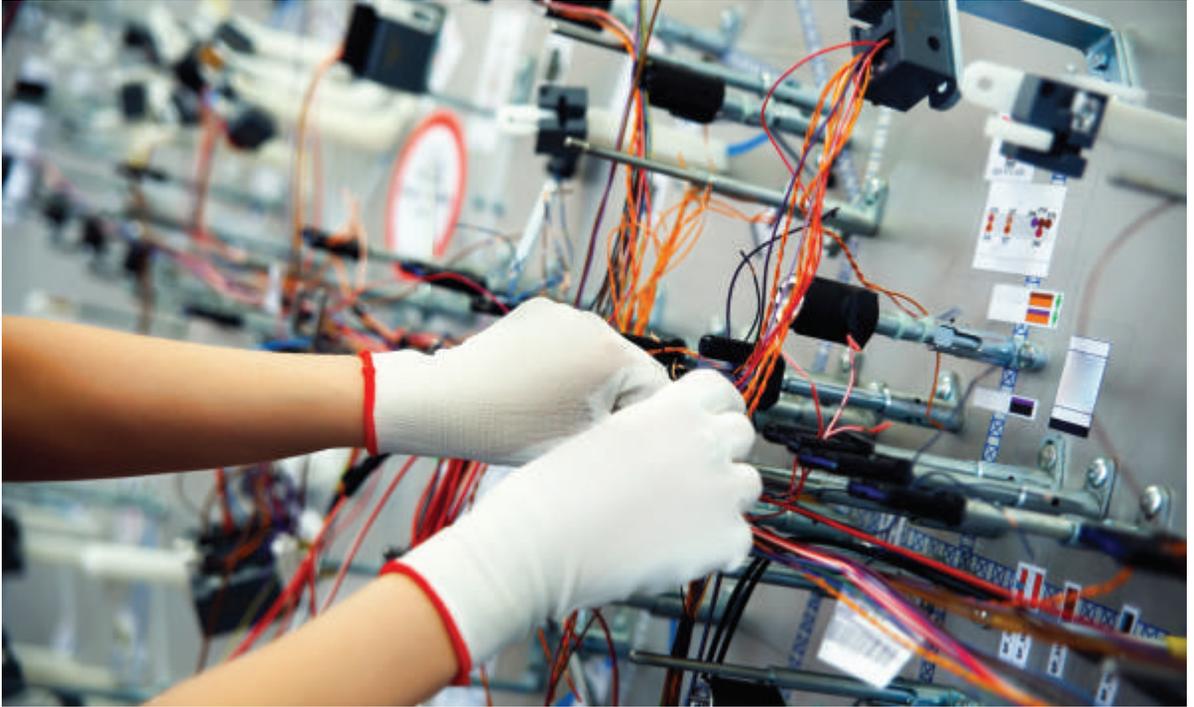
Indian Plumbing Association is apex body of plumbing professionals in India. Established in 1993 with objective to promote development of plumbing and building services industry. Helping in creating design engineers and installation engineers for modern plumbing system. Chitkara University became 1st academic university partner to seek active support of IPA in establishing first ever academic program in Plumbing & Public Health Engineering in India.



Chitkara University is strategic academic partner to IESA in academic collaboration panel, thus enabling modern curriculum for engineering education. In association with IESA Chitkara university promotes the technical startups, active student projects and industry driven research led innovations.



The Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE), was founded in 1981 at New Delhi by a group of eminent HVAC&R professionals. ISHRAE today has more than 12,000 HVAC&R professionals as members and additionally there are 7,500 Student-members. ISHRAE operates from 41 Chapters and sub Chapters spread all over India, with HQ in Delhi. ISHRAE is strategic industry body represented the whole HVAC industry in enabling first ever program of Heating Ventilation & Air Conditioning at graduate level. As part of the collaboration with Chitkara University, ISHRAE is involved in setting up assisting in development of model curriculum, faculty training, enabling setting up of largest HVAC lab and recognizing graduating student with career support.



PSSC has been established with the objective of facilitating the skill development activities including capacity building for training delivery to meet the needs of Power Industry that consists of conventional sector (Generation, Transmission and Distribution), Renewable Energy and Power equipment Manufacturing sector. Association of Chitkara University brings new dimensions to the skill gaps identification, curriculum development, strategic academic alignment and talent generation. Together we offer, new age programs in electrical energy, management and energy audit domains.



ASDC is the 1st Sector Skill Council that was established by Ministry of Finance in India. It is formed in association with FADA, SIAM & ACMA bringing the whole eco system of Auto Manufacturing, Servicing and Component Manufacturing verticals. Chitkara University is partnering with ASDC to bring new dimension to skill gap identification, curriculum development, talent generation, candidate assessment and certification through NSQF framework for all qualifying candidates.



IPSC Is A Company Incorporated Under Section 25 Of The Indian Companies Act 1956. Chitkara University and IPSC participate in Affiliation, Accreditation, Examination and Certification of all qualifying candidates in Plumbing and Public Health Engineering domain programs. In addition, IPSC works as principle support body in enabling talent development for international skill competitions, which includes Worldskills and Euro Skills. IPSC supports Chitkara University's endeavor in creating full fledged academic program in Plumbing and Public Health Engineering with technical cum knowledge support and periodical assessment of Plumbing Lab, which also includes certification of trainers and technicians.



Capital Goods Skill Council works with Chitkara University in redefining Mechanical Engineering program for the need of ever growing manufacturing industry in India. Under this joint initiative, profiles like manufacturing engineer, quality engineer and installation engineer are being redefined with the support of spruced up curriculum in addition to adequate industry exposure



ESSEL is a private limited company producing Faucets, Bath Fittings, Fixtures and accessories; established as per guidelines framed by Indian companies act 1956 and was established in year 1998. This association was aimed at following:

1. To understand the shortage and also foreseen demand of skilled, knowledgeable and certified manpower in the Plumbing, Sanitation, Public Health Engineering & its allied sector.
2. Under this joint initiative, Essel will help in creating design faucet engineers and installation engineers for modern plumbing system.
3. To partner in helping create Asia's largest iconic plumbing lab.



Jain Irrigation is world's largest manufacturer of drip irrigation products. It has manufacturing plants worldwide. Jain specializes in large size pipes for water supply, waste water handling and irrigation water supply. Jain Irrigation is partnered with Chitkara University in creating Asia's largest iconic plumbing lab. They support us with curriculum of maiden plumbing engineering program on water supply domains. The support also extends in faculty training and student career support with appropriate recognition.



Mitsubishi Electric is a world leader in air conditioning systems for residential, commercial and industrial use. Challenged to create air conditioning systems that provide exemplary performance in the wide-ranging climatic conditions found throughout Japan, our engineers develop amazingly sophisticated yet durable units and systems capable of constant use under virtually any natural climatic condition on earth. Mitsubishi Electric India as principle collaboration industry partner takes responsibility of bringing industry blended curriculum, subject contents, pedagogy advocacy, faculty training, establishment of state of the art lab infrastructure, which makes learning truly world class. In addition Mitsubishi Electric along with Chitkara University shall also facilitate intensive internship, assessment of students and certification, which is globally recognized. What more, subject matter experts (SME's) from Mitsubishi Electric will be available in Chitkara University to oversee delivery of the program for quality, consistency and to bring special emphasize in hands on industry driven practical's.



Ashirvad stands as largest Pipe manufacturer in India with annual turn over crossing 130 Millions of INR. Ashirvad being market leader felt acute demand of qualified plumbing supervisors and plumbing engineers in India to execute leading projects. Ashirvad partnered with Chitkara University in creating Asia's largest iconic plumbing lab. Secondly, working closely to establish model curriculum and help in recognizing graduating student.



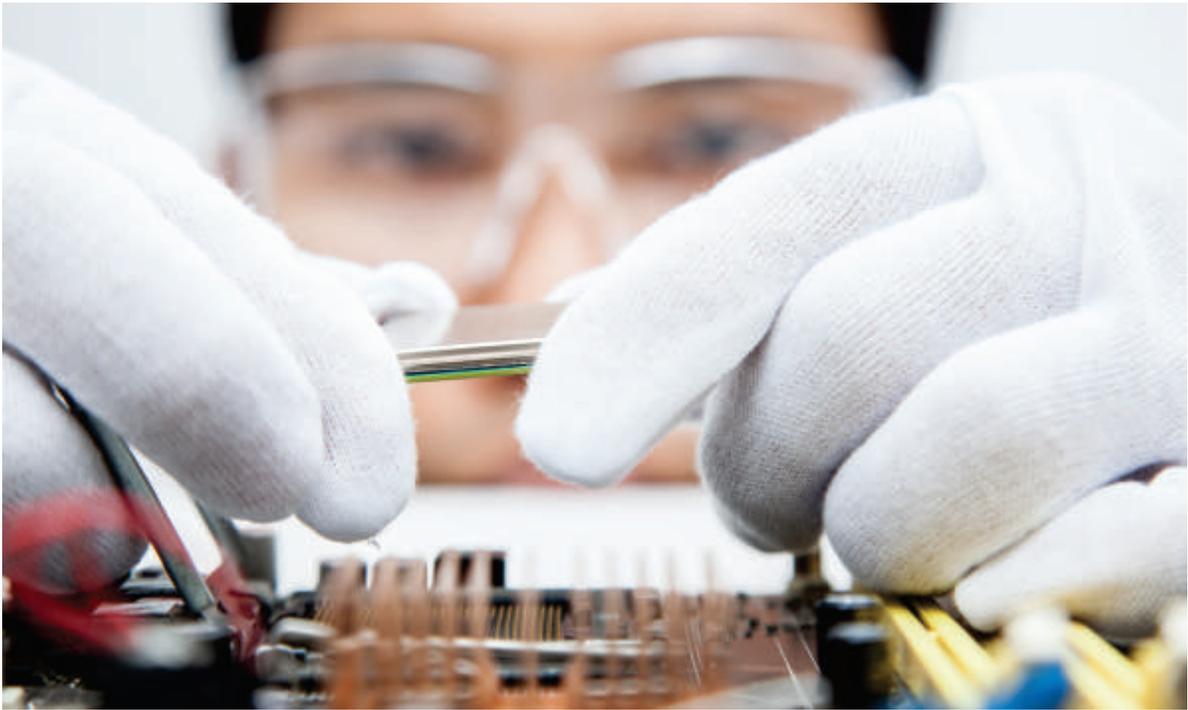
WITTUR is in the international elevator industry and defines itself as competence centre for the production and development of components and system packages for elevators and deploys its components on a worldwide basis. Chitkara University and WITTUR will jointly develop new customized courses, job roles, occupation standards and qualification competency- matrix for WITTUR suiting the market dynamics and ensuring availability of right talent pool for Indian growing elevator & escalator industry.



HONDA Motorcycle & Scooters in India is 2nd largest 2-wheeler manufacturer by market size. Honda visualizes the growing market of two wheelers in India and demand of talent pool, which is needed in providing quality service and customer experience. It is a reputed industry partner for Chitkara University in setting up model curriculum for two wheelers, faculty training and assessment of candidates. This initiative is actively supported by state of the art two wheeler technology labs, which was established and fully donated by Honda.



FIAT CRYSLER AUTOMOBILES in association with Chitkara University has established a largest footprint for automobile training of passenger cars in INDIA. This facility caters to training of FCA's field force and academic students of Chitkara University. Besides this FCA also partner with Chitkara in enabling talent development for World Skills and regional cum national competitions pertaining to automotive domains.



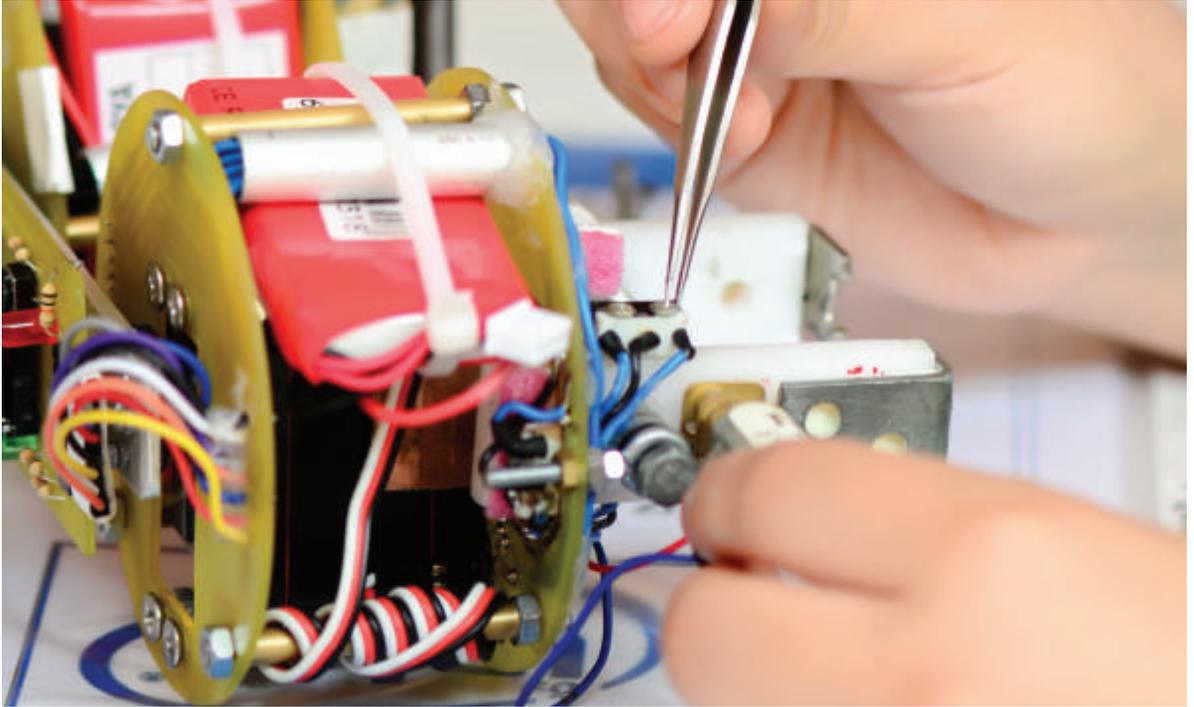
Schneider Electric is world's largest French multinational corporation that specializes in energy management and automation solutions, spanning hardware, software, and services. Schneider Electric is strategic electrical partner with Chitkara University and both jointly offer unique electrical program with specialization in Low Voltage domain. Under this initiative, Schneider Electric has trained & certified many faculties and also assisted in development of Industry led curriculum with much emphasis on hands on learning.



Ashok Leyland traces a successful history in India having travelled multiple decades spanning operations across Pan India. It is 2nd largest commercial vehicle manufacturer in India. Ashok Leyland has partnered with chitkara university in setting up commercial vehicle 4 wheeler training programs and effectively incorporated it as part of the curriculum in Mechanical Engineering program. Besides it provides training faculty and facilitate internship support, assessment of students and certification, which is globally recognized.



Fuji Electric, the driving force behind Eco Changes in a nation emerging as a major economy in the global market. Fuji Electric is focused on turning environmental responsibility into a profitable way of business while making profound social contributions to the nation. Fuji Electric along with Chitkara University shall facilitate intensive internship, assessment of students and certification of competency, which is globally recognized. What more, subject matter experts (SME's) from Fuji Electric will be available in Chitkara University time to time to oversee delivery of the program for quality, consistency and to bring special emphasize in hands on industry driven practical's.



ESPA India is a subsidiary of ESPA Pumps Spain is in the business of importing and Supplying all pumps, pump accessories, booster sets for domestic, industrial, HVAC and commercial including swimming pool applications in India. ESPA and Chitkara University works jointly in developing job roles, occupation standards and qualification packs competency- matrix for the plumbing industry and develop the courses as per expectations of industry. Partner in creating Asia's largest iconic plumbing lab and help in recognizing graduating student with career support facilitate industry intensive internship.



SIEMENS is a subsidiary of Siemens AG, Germany is a well-established business conglomerate in India. With a focus on electrification, automation and digitalization, Siemens in India stands for engineering excellence, innovation, and reliability. As one of the world's biggest producers of energy-efficient, resource-saving technologies, Siemens is a pioneer in infrastructure and energy solutions (Building Technologies & Building Automation), as well as automation and software for Industry. Siemens and Chitkara University jointly work in developing roles, occupation cum working standards and qualifications, competency-matrix for the Building Technologies & Automation industry and develop the courses meeting the end employer expectations. Technical Training and Certification of teachers and students, Course standardization, jointly prepare courses and delivery methodology. SIEMENS will provide strategic support including faculty/candidate training, certification, and support in getting opportunities for internship for all qualifying students.



OPPORTUNITIES AREN'T GIVEN

THEY'RE MADE.

 **CHITKARA** MADE

OUR CAMPUS RECRUITERS

SINCE INCEPTION, CHITKARA UNIVERSITY HAS A PATH BREAKING RECRUITMENT RECORD FOR GRADUATES FROM VARIOUS ACADEMIC PROGRAMS. SOME OF THE PROMINENT RECRUITERS ON CAMPUS ARE:

aaautosync

AUTOMOTIVE
centre of excellence



AAUTOSYNC

Automotive Centre of Excellence

Autosync is an innovation research centre incepted at Chitkara University, formulated to provide automobile intellect with a blend of practical training and theoretical demonstrations and aims to feed the automotive sphere to fulfill their research targets every year. Autosync has excellent resources in terms of Research and Validation laboratories and expert Industry faculty promoting academic excellence. We have very strong Industry collaboration with world leaders in automotive technologies.



Tata Technologies and Dassault Systemes lend their technical plus software knowhow to set up a brilliant lab for design, manufacturing and documentation to cater to the rising demands of designers, analysts in the Automotive industry.



Autosync has collaborated with Steinbeis Centre for Technology Transfer India, which aims to bridge the world of science, academia, and business articulately.



Mahindra Rise Igniters have collaborated with the centre forming "Igniters Innovation Lab".



BOSCH Aftermarket - Automotive Testing equipment's and theories, which the students shall undergo to form a more coherent linkage with what they have taught.



RASCO Auto and LMI Technologies, U.S.A. associated with the centre to initiate a state of art Laboratory for "Reverse Engineering and 3D Scanning" Technology development. Autosync stands synonymous to Innovation, Technology Transfer and Live Project management.



**3-Year Diploma in
ELECTRICAL ENGINEERING**

3-Year Diploma in **ELECTRICAL ENGINEERING**

Electrical engineering is one of the largest and most diverse technological and engineering disciplines in today's world. Electrical engineering is the study and application of electricity, electronics and electromagnetism for the development and maintenance of electrical and electronics equipments such as electric motors, navigation systems, medical devices, broadcast and communication systems, power generation systems, electrical distribution systems, electric grids etc., while keeping in mind the safety, quality, economic feasibility and sustainability of these products and systems.

Based on the fundamentals of Physics and Mathematics, Electrical Engineering became a field of it's own in the 19th century due to innovations such as the generator, motors, telephone, wireless communications and electronics. Since then, electrical engineering has sure come a long way. Not only has it been one of the major driving forces behind cutting edge technology in areas such as power engineering, computer engineering, communications and mobile technologies, it has also significantly impacted several other fields such as nanotechnology, biomedical engineering, neuroscience and biotechnology, to name a few.

The Diploma in Electrical Engineering will focus on:

- A. Domestic Electrical Applications**
- B. Industrial Electrical Applications**
- C. Energy Utilization & Management**

India is growing—our economy, our population, our industry and our demand for energy. Electrical Engineers are specialists in the generation, transmission, distribution and utilization of energy. It's a powerful career choice that demands good problem-solving skills and an eye for detail. As the world prepares for the challenges posed by climate change and if you want to make a difference in combating this pressing global problem by innovating environment-friendly products, systems and services to improve quality of life, this diploma in Electrical Engineering will put you on the right track.

Electrical Engineering will enable you to excel and grow in critical industry sectors such as energy & power, green buildings as well as the rapidly emerging clean and green technology sector. What's more, this program also prepares you to pursue further studies leading to undergraduate and postgraduate qualifications from reputed local and foreign universities.



STUDENT LEARNING OUTCOMES

Some of the key student-learning outcomes for the Diploma in Electrical Engineering are as follows :

- Apply knowledge and technical expertise in building, analyzing, testing, operating and maintaining electrical, instrumentation, control systems and associated green technologies, including relevant industry standards and code of practices
- To do maintenance, repair and production of electrical equipment and its systems
- Procure, inspect and test electrical and electronic Engineering materials.
- To do fault diagnosis, repairing small electrical gadgets/domestic appliances, making joints and carrying out wiring work
- To select, operate, maintain, test and repair/replace electrical machinery used in various industrial and domestic appliances
- Ability to do industrial installation, laying cables, earthing, installing motors with their accessories, wiring and testing of control circuits
- Preparing estimates of different kinds of jobs in domestic wiring, industrial wiring in transmission and distribution systems to install, erect and commission the power equipment
- Designing wiring schemes for domestic and power installation and drawing layouts for wiring & industrial automation



ACADEMIC FRAMEWORK

- The Diploma in Electrical Engineering is a 3-Year full time program offered by **Chitkara Polytechnic**, constituent institution of **Chitkara University**, Punjab.
- This program is offered in collaboration with **Schneider Electric & Power Sector Skill Council**, bringing a complete blend of academic learning and best hands-on support.
- There are six academic semesters including a dedicated Intensive Industry Internship Program.
- Dedicated laboratories allow students to combine their practical and theoretical studies providing real time simulation that prepares them for field situations.
- Curriculum is industry focussed to ensure the student stays connected with real time working.
- In addition, students will undergo assessment and certification by PSSC (Power sector skill council).
- Candidate will receive NSQF level #5 certification enabling them to graduate as Electrical supervisor from Chitkara Polytechnic.



PROGRAM CURRICULUM

YEAR - 1

- Emphasis is laid on foundation science courses and basics courses in Electrical & Electricity.
- Intensive focus on developing communication skills, which equip students for better learning.

YEAR - 2

- Introduces students to the domestic electrical environment allowing them to read & prepare Electrical schematics, laying wiring and also applying concepts learned through electrical machines and electrical circuits.
- Students learn industrial Electrical environment by applying all conditions starting from preparing schematics, laying out wiring in panels and driving heavy electrical machines by feeding high energy
- Later part of the year students learn, understand and work on automation in domestic & industry environments using newer techniques and equipments, which compliment real time environment and data logging for statistical power analysis solutions

YEAR - 3

- Focuses on learning majorly in the domain of energy audit, energy quality & automation and preparing students for the niche market.
- With the acquaintance of knowledge in electrical, electricity and in energy domains, students will undergo focused intensive industry internship program, resulting in practicing all the core learning in real life industry environment. Also the student will prepare a major technical project, which demonstrates his learning and capability for starting his career with blue chip companies across the world.

CUTTING EDGE INFRASTRUCTURE

Major focus is laid in creating best in class lab & workshop infrastructure, which makes blended learning possible and the lab is equipped with advanced equipments from **Schneider Electric, France**. This allows deeper conceptual learning by simulating real time industry environment part of electricity & energy domains

TECHNOLOGY LABS

- Basic electrical & electricity lab (AC & DC)
- Domestic wiring lab (Single & Multi Floor Concept)
- Industrial wiring lab (Single & Multi Panel Concept)
- Energy quality and energy audit lab
- Non conventional energy generation lab
- Power transmission & distribution lab
- Domestic switching & consumption lab
- AC machines & drives Lab

PRACTICE WORKSHOPS

- Individual cubes to allow students to lay piping, fittings and install electrical accessories
- Indian, European, American style of wiring layouts for practice & replication
- Space with all connections in place to conduct final certification assessments
- Open area (Roof & Floor) for construction and underground exercises
- Fitting workshop with all amenities
- Welding workshop with all amenities
- Height adjustable platforms up to 24 feet to allow students to work on various heights
- Building automation & building power management workshop
- Fire protection system workshop

SUPPORT INFRASTRUCTURE

- AC – 3 phase power supply (Uninterrupted)
- AC - Single phase power supply (Uninterrupted)
- 3 Phase 440 V Solid State Bus Bar
- DC power supply (Uninterrupted)
- 64 KW back up generator
- Single & Multi Stage Transformer with Capacitors
- Low voltage switch gear display area (Static & Functional)

INDUSTRY COLLABORATION



Schneider Electric is world's largest electrical & energy solution company having its head quarters at France. From 1836 to today, Schneider Electric has transformed itself into the global specialist in energy management. Starting from its roots in the iron and steel industry, heavy machinery, and shipbuilding, it moved into electricity and automation management. After 170 years of history, Schneider Electric has become today the solution provider that will help you make the most of your energy.

“Institute of Electricity & Energy Management” (IEEM) is the whole new initiative of Schneider Electric in association with French Ministry of Education, France jointly working to establish state of the art learning facilities in Electricity & Energy Management domains across globe. As part of this initiative, Schneider Electric joined hands with Chitkara Polytechnic an integral part of Chitkara University to offer Diploma in Electrical Engineering with special focus on electricity & energy management.

Schneider Electric as principle collaboration industry takes responsibility of bringing industry blended curriculum, subject contents, pedagogy advocacy, faculty training, establishment of state of the art lab infrastructure, which makes learning truly world class. In addition Schneider Electric will also facilitate intensive internship, assessment of students and certification from IEEM, which is globally recognized. What more, subject matter experts (SME's) from Schneider Electric will be stationed in Chitkara Polytechnic to oversee delivery of the program for quality, consistency and to bring special emphasize in hands on industry driven practical's.

CAREER OPPORTUNITIES FOR DIPLOMA ENGINEERS IN ELECTRICAL ENGINEERING

At Chitkara Polytechnic, we are collaborating with major blue chip companies so that you can start your career with flying colors. Given below are some of the companies, which have huge requirement of Electrical Engineers.



Career opportunities abound in wide spectrum of industries as executives, specialists, technologists, Engineers or managers in:

- Electrical Engineering & Services
- Power Engineering
- Energy Management
- Facility Management
- Operations Management
- Sustainable Design & Solutions
- Clean Energy
- Research & Development

3-Year Diploma in Electrical Engineering program is recognized nationally and internationally. After completing the diploma, you can also enter the 2nd year of B.Tech degree through the lateral entry in Engineering institutions across the country.



**3-Year Diploma in
CIVIL ENGINEERING**

3-Year Diploma in CIVIL ENGINEERING

Civil Engineering is one of the ancient Engineering disciplines that deals with design, construction, maintenance of the physical and naturally built environment. To ensure safe, secure and modern structure for human rehabilitation becomes one of the core objectives of Civil Engineering Domain. At its core, it deals with 3 of the natural resources available such as Air, Water & Land extensively.

The fast growing India's population presents innumerable problems in personal and public housing & commercial complex systems. This coupled with growing environment & green house gas laws bring unimaginable level of complexity to today's construction industry. Secondly, growing population & economy of India brings urbanization and enabled construction industries grow multifold in last 2 decades. The demand for Civil Engineers is on rise and soon to become major choice for any aspirants to have wonderful career. It's a powerful career choice that demands good problem-solving skills and an eye for detail. The job itself has a complete construction site & soil focus.

The Diploma in Civil Engineering at Chitkara Polytechnic will focus on:

A. Public Health Engineering (Fresh & Waste Water Engineering)

Around the world, changing geographical demographics are putting pressure on the planet's most precious resource - **WATER**. This is increasing the demand for skilled engineering technologists, who have specialized knowledge and expertise in water resource management. How our society uses water in the years ahead will impact every sector—business, industry, agriculture, recreation and government.

India has 16% of world's population and has just 4% of fresh water resources of the available water footprint on earth. In recent years, India has emerged as one of the fastest growing economies of the world. Most projections suggest that India is heading towards becoming the world's 3rd largest economy by 2050. Water is one variable that could halt India's march to economic greatness. By 2050, India might have only half the water it needs. If you want to make a difference in combating this pressing global problem, as innovators of water- friendly products, systems and services to improve quality of life, Our program in Civil Engineering will put you on the right track.

Our 3-Year Diploma in Civil Engineering also prepares you to pursue further studies leading to undergraduate and postgraduate qualifications from reputed local and foreign universities.



STUDENT LEARNING OUTCOMES

Some of the key student-learning outcomes for the Diploma in Civil Engineering are as follows:

- Apply knowledge and technical expertise in building, analyzing, testing, operating and maintaining civil, green water, grey water and associated green technologies, including relevant industry standards and code of practices
- To do maintenance, repair and production of plumbing, sanitation & water resources equipment and its systems
- Procure, inspect and test civil and plumbing Engineering materials
- To do industrial installation, laying pipes, installing different types of pumps with their accessories, wiring, testing of control & automation circuits
- Preparing estimates of different kinds of jobs in domestic plumbing, industrial plumbing in transmission and distribution systems to install, erect and commission the water (fresh/waste) system
- Designing water supply schemes for domestic and industry installation and drawing layouts for piping & building automation
- Apply knowledge and technical expertise in designing, building, analyzing, testing, operating and maintaining civil, soil & construction systems, aggregates and components as per laid out instructions
- To do maintenance, repair and management of construction sites, soils and other properties
- Procure, inspect and test engineering materials related to civil construction engineering
- Preparing estimates of different kinds of jobs relating to new construction, site/colony development & maintenance of existing properties



ACADEMIC FRAMEWORK

- The Diploma in Civil Engineering program is a 3-Years full time program offered by **Chitkara Polytechnic**, constituent institution of **Chitkara University**, Punjab.
- This program is offered in collaboration with **IPSC** (Indian Plumbing Skills Council) being very unique offer bring complete blend of seasoned learning with best of the partner bringing industry support (Public Health Engineering Specialization)
- The specialization of construction engineering & management part of civil engineering is offered in guidance with **CIDC** (Construction Industry Development Council) & **CSDC** (Construction Skill Development Council) to bring best of the practices & learning followed by the industry
- There are 6 academic semesters including a dedicated Intensive Industry Internship Program.
- Academic framework lays strong emphasize on learning through hands on. Courses in foundation, technology and advanced technology feature state of the art lab infrastructure enable this without any hassles
- Subjects carry full industry focus to ensure student stays connected with real working atmosphere all the time by means of live projects and active site visits
- To get further ahead, you will work on latest cutting edge lab, which not only simulates the real-time, but also makes you cope up with field situations.

PROGRAM CURRICULUM

YEAR - 1

- Provides excellent foundation for the 1st Year diploma with emphasis on foundation science courses
- Intensive focus on developing communication skills, which makes students equipped for better learning
- Foundation skill gives hands on learning in underground pipe laying, construction of man holes and inspection spots
- 2nd part of year allows students to learn basic courses in Electrical & Electricity backed by full hands-on experience in state of the art labs

YEAR - 2

- Introduces students to the basic Civil environment with surveying & concrete technology and also plumbing codes, standards, work place preparation techniques, water supply (plumbing) in domestic & industrial area
- In addition, allowing students to read & prepare plumbing/building schematics, laying pipes and also applying concepts learned through cold water, hot water supply and wastewater disposal
- Students learn advanced surveying, soil mechanics, concrete technology, structural Engineering subjects, which adds adequate flavor of construction engineering to the incumbent
- In addition, students learn water supply functioning, design of drainage systems, sewage treatment plants including water recycling methods in actual. Student also learns advance piping layout schematics applied at large construction sites, commercial and industrial projects
- Later part of the year, students learn advance piping for domestic and industrial environment for better conservation of water

YEAR - 3

- Brings altogether new focus of learning in water domain by focusing majorly in rain, storm water management, study, application & implementation of water based fire protection systems for high-rise complexes
 - Students get opportunity to learn and work on centralized heating systems using water as primary fuel and also works on advanced climate control chambers
 - In addition, students learn green building practices to save energy and to bring best recycling practices in domestic & industrial shelters
 - With the acquaintance of knowledge in civil, construction, soil, structural, water and in sanitation domains, students will undergo focused intensive industry internship program, which makes students to practices all the core learning in real life industry environment
 - Students will also prepare a major technical project, which demonstrates his learning and capability to be part of blue chip companies across the world
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CUTTING EDGE INFRASTRUCTURE

Major focus is laid in creating best in class lab & workshop infrastructure, which makes blended learning possible and the lab is equipped with advanced structural equipments from **Jains, Hindware, Viega, Grundfos, Duravit & Ashirvad** and complete layout from **IPSC**. This allows deeper conceptual learning by simulating real time industry environment part of public health Engineering domains

Technology Labs

Drinking water supply lab (Storing, RO & Hygienic Supply) Industrial water supply lab (Storing, Supply & Disposal)

- Sewage system lab
- Domestic house infrastructure
- Disabled toilet infrastructure
- Multi storied infrastructure (3 tier)
- Brick building & septic tank construction
- Public toilet infrastructure
- Modern flat infrastructure
- Hospital toilet infrastructure
- Under ground piping (Open area)
- Drainage demo infrastructure

Civil Labs

- Structure and Construction lab
- Computer lab
- Soil mechanics lab
- Hydraulics and fluid machinery lab
- Strength of materials lab
- Concrete and highway lab
- Survey lab
- Environmental engineering lab

Shower system labs

- Simple VFD infra
- Hydro-Pneumatic infra
- Modern VFD & Rain flow infra

Practice Workshops

- Individual cubes to allow students to lay piping, fittings and install Cistern, wash basins and toilets (Conventional & Western Style)
- Space with all connections in place to conduct final certification assessments
- Open area (Roof & Floor) for construction and underground exercises
- Fitting workshop with all amenities
- Welding workshop with all amenities
- Height adjustable platforms up to 30 feet to allow students to work on various heights
- Basic electrical & electronics workshop
- Fire protection system workshop
- Central heating with various temperature control chambers simulation workshop

Support Infrastructure

- AC – 3 phase power supply (Uninterrupted)
- 64 KW back up generator
- Drinking water storage pump house (Booster)
- Industrial water storage pump house (Booster)
- Sewerage forced disposal (Pump)
- RO set up
- Rain/storm water storage tank
- Industrial water disposal set-up
- Sewage Treatment Plant (STP)

INDUSTRY COLLABORATION



IPSC is a company incorporated under Section 25 of the Indian Companies Act 1956. The Indian Plumbing Industry faces the mammoth challenge of huge gap between the supply of skilled workforce and the demand of skilled workforce. Plumbing industry, since a long time has been awaiting an opportunity to skill its workforce, and through the mandate of the National Skills Development Corporation (NSDC) has got an excellent opportunity to train its workforce with the latest skills, technology and best practices in the Industry.

The IPSC acts as an accrediting and certifying body; and will work to fill the gap of skilled and unskilled workforce in India. For this purpose, we are partnering associations and organizations, which share its vision, and work to upgrade the skills deficit in the plumbing (water resources) industry. The 11th five-year plan stressed the need to improve the skill level across all the sectors in the Indian Industry; this laid the foundation of the National Skills Development Corporation (NSDC). IPSC is the SSC for the plumbing industry in India to cater to its specific needs and demands.

IPSC as principle collaboration industry body takes responsibility of bringing industry-blended curriculum, subject contents, pedagogy advocacy, faculty training, and establishment of state of the art lab infrastructure, which makes learning truly world class. In addition IPSC will also facilitate intensive internship, assessment of students and certification from Ministry of Labor, which is globally recognized. What more, subject matter experts (SME's) from IPSC & from allied industry will be there in Chitkara Polytechnic to oversee delivery of the program for quality, consistency and to bring special emphasize in hands on industry driven practical's.

CAREER OPPORTUNITIES FOR DIPLOMA ENGINEERS IN CIVIL ENGINEERING

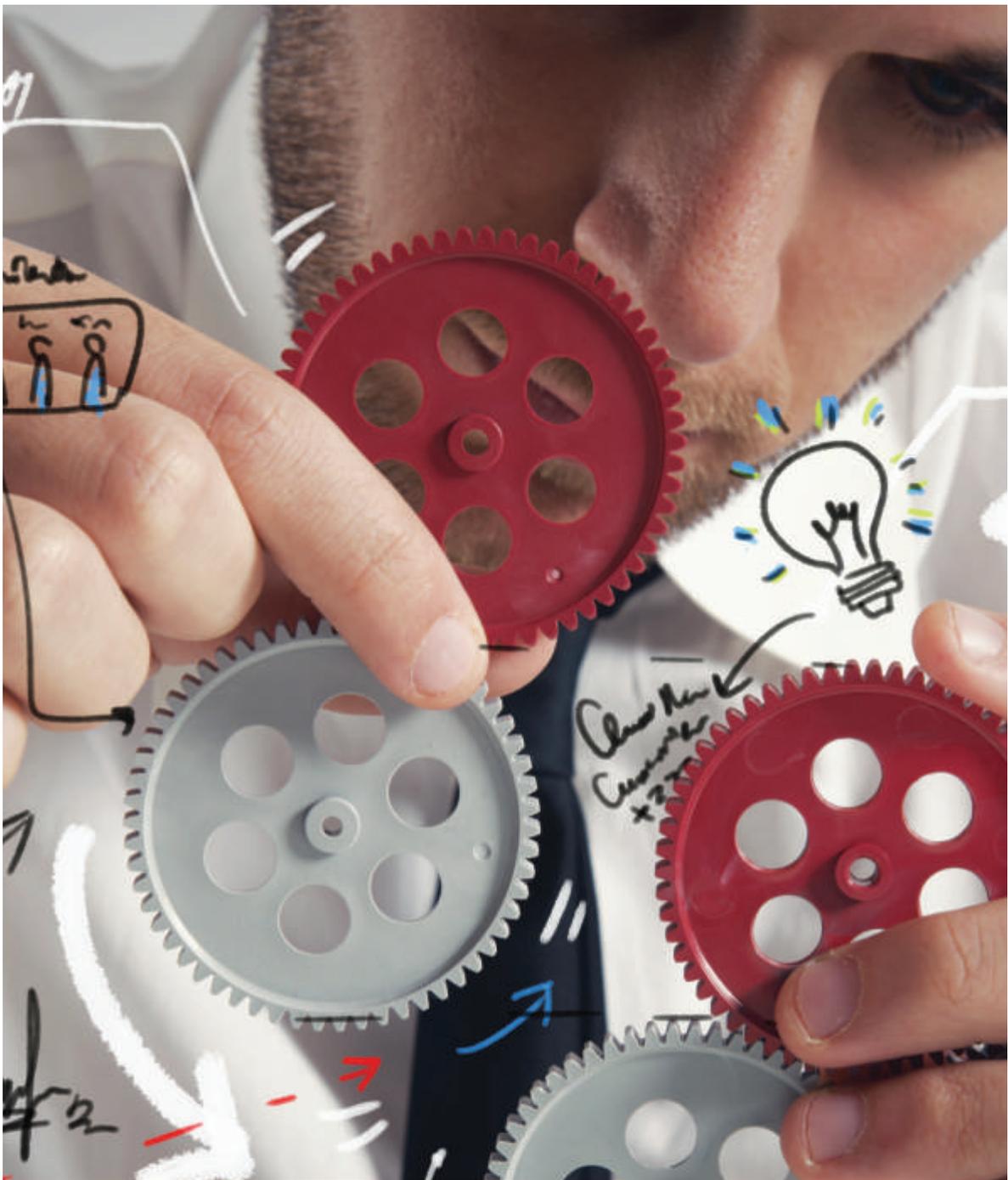
Given below are some of the companies, which have huge requirement of Civil Engineers. At Chitkara Polytechnic we are collaborating with major blue chip companies so that you can start your career with flying colors.

Many of the world's largest construction and engineering companies including L&T, HCC, Technip, GMR Infrastructure, Shapoorji Pallonji & Co. and Gammon Infra regularly visit our campus for recruitments.:

- Building Engineering & Services
- Water Resources Engineering
- Renewable Water Resources Management
- Facility Management
- Operations Management
- Sustainable Design & Solutions
- Clean Energy
- Research & Development

3-Year Diploma in Civil Engineering program is recognized nationally and internationally. After completing the diploma, you can also enter the 2nd year of B.Tech degree through the lateral entry in Engineering institutions across the country.



3-Year Diploma in MECHANICAL ENGINEERING

3-Year Diploma in MECHANICAL ENGINEERING

The Diploma in Mechanical Engineering provides broad-based and diverse engineering learning in areas such as material science, solid and fluid mechanics, thermodynamics, fuels, combustion, instrumentation and control, product and system design and manufacturing. The impact of Mechanical engineering touches almost every area of our lives. Mechanical Engineers are the creators and not only create new technology but also innovate for them.

The Diploma in Mechanical Engineering at Chitkara Polytechnic will focus on :

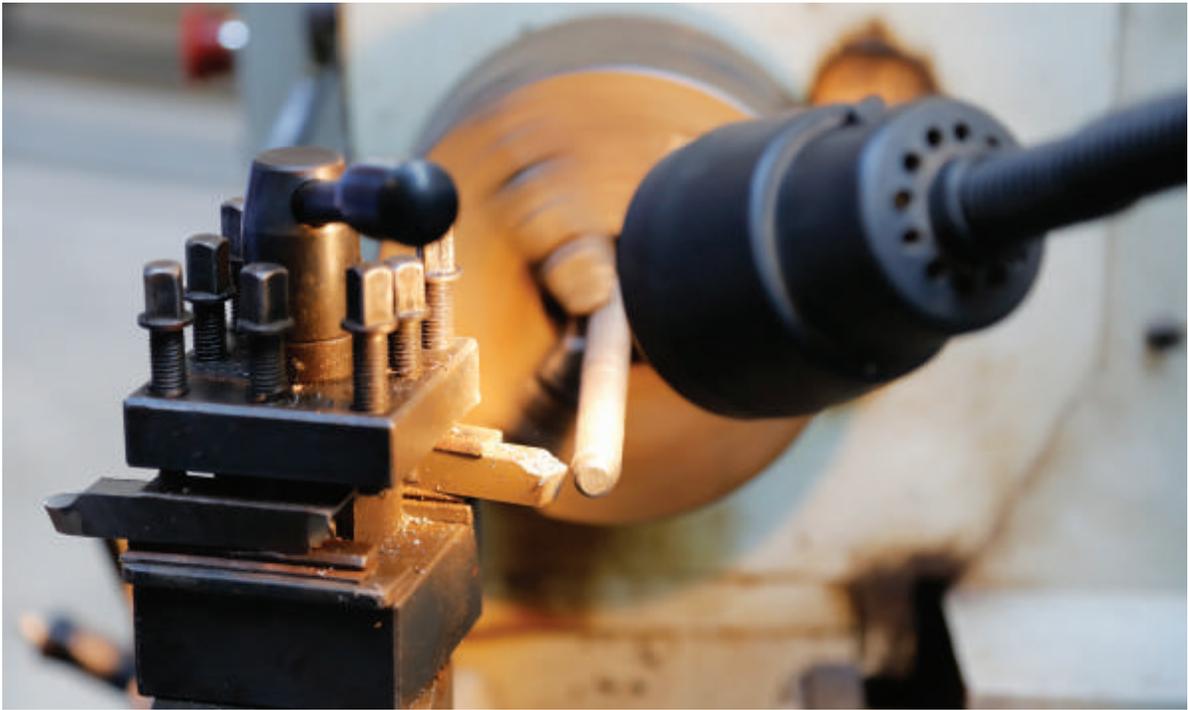
- A. HVAC** (Heating, Ventilation & Air Conditioning)
- B. Vertical Transportation** (Elevators & Escalators)

India is growing—our economy, our population, our industry and our demand for modern infrastructure & sophisticated transport systems are steadily growing. Mechanical Engineers are specialists in the infrastructure design, development and maintenance, which include elevators, central heating, ventilation and air conditioning system and advanced security arrangements. There's a lot of technology at work in today's commercial and institutional buildings, from energy efficient boilers to complex **HVAC** systems (heating, ventilation, air conditioning). Building systems require regular, skilled maintenance-mechanical and technical Engineers. That's why Diploma Mechanical Engineers with specialization in **HVAC** systems are in high demand. You install, maintain and repair refrigeration and air conditioning systems.

As Indian population is ever growing, the urbanization is on full swing. Every metropolitan city and towns in India is stretching its boundary to accommodate the increase in population with adequate support systems. Buildings are growing taller day by day creating complex situation of transporting people vertically within buildings. The birth of Vertical Transport Systems (Elevators, Escalators & Auto Walks) are no longer luxury, rather it is mandatory and need of the hour utility. As the urban culture is growing steadily in India inviting malls, concerts and theme auditoriums being built to cater large audience, which cannot be conceived without the inclusion of elevators, escalators & auto walks. Similarly, elevators, escalators and auto walks find huge applications in Airports, Railway stations and major district transport hubs.

Chitkara College of Applied Engineering takes giant leap in Introducing Diploma in Mechanical Engineering program with specialization and focus on Vertical Transportation in collaboration with Kone. Kone currently is the market leader in India and enjoys 3rd largest manufacturer in terms of installed systems across the world. What more the program brings hands on approach in learning Vertical transport, which will pave path for exceptionally technical personnel with hands on skill developed to serve not only India the world. The demand for Mechanical Engineers with specialization in Vertical Transportation (Elevators & Escalators) is on rise and soon to become major choice for many aspirants to have wonderful career. It's a powerful career choice that demands good problem-solving skills and an eye for detail. The job itself has a mechanical focus.

Our 3-Year Diploma in Mechanical Engineering also prepares you to pursue further studies leading to undergraduate and postgraduate qualifications from reputed local and foreign universities.



STUDENT LEARNING OUTCOMES

Some of the key student-learning outcomes for the Diploma in Mechanical Engineering is as follows:

- Apply knowledge and technical expertise in building, analyzing, testing, operating and maintaining mechanical, electrical, instrumentation and control systems associated with HVAC technologies, including relevant industry standards and code of practices
- To do maintenance, repair and production of HVAC equipment and its systems
- Procure, inspect and test refrigeration and air conditioning engineering materials
- To do fault diagnosis, repairing HVAC gadgets/domestic appliances, making joints and carrying out ducting & piping work
- Enable to do industrial installation, laying pipes, ducting, earthing, installing indoor, outdoor units with their accessories, wiring, testing of control & operational circuits
- Preparing estimates of different kinds of jobs in domestic, industrial installation in refrigeration and air conditioning systems to install, erect and commission entire equipments
- Designing & load estimation for domestic and industrial installation and drawing layouts for piping, ducting wiring & building automation
- Apply knowledge and technical expertise in designing, building, analyzing, testing, operating and maintaining elevator, systems, aggregates and components as per laid out instructions
- To do maintenance, repair and production of elevator & escalator equipment and its systems
- Procure, inspect and test engineering materials related to elevator & escalator engineering
- To select, operate, maintain, test and repair/replace mechanical/elevator machinery used in various industrial and domestic environment
- Students will also prepare a major technical project, which demonstrates his learning and capability to be part of blue chip companies across the world



ACADEMIC FRAMEWORK

- The Diploma in Mechanical Engineering is a 3-Year full time program offered by **Chitkara Polytechnic**, constituent institution of **Chitkara University**, Punjab.
- This program is offered with guidance of blue chip companies like **Kone Elevators & ISHRAE** (Indian Society of Heating, Refrigeration and Air Conditioning Engineers) bringing a complete blend of academic learning with best of industry support
- There are six academic semesters including a dedicated **Intensive Industry Internship Program** facilitated by participating industry
- Academic framework lays strong emphasize on learning through hands on. Courses in foundation, technology and advanced technology feature state of the art lab infrastructure enable this without any hassles
- Subjects carry full industry focus to ensure student stays connected with real working atmosphere all the time
- To get further ahead, you will work on latest cutting edge lab, which not only simulates the real-time, but also makes you cope up with field situations.
- In addition, students will undergo assessment and certification by ISHRAE.
- Candidate will receive NSQF level #5 certification enabling them to graduate as HVAC&R supervisor from Chitkara Polytechnic.

PROGRAM CURRICULUM

YEAR - 1

- Provides excellent foundation for the 1st Year diploma with emphasis on foundation science courses
- Intensive focus on developing communication skills, which makes students equipped for better learning
- 2nd part of year allows students to learn basic courses in Electrical & Electricity backed by full hands-on experience in state of the art labs

YEAR - 2

- Introduces students to the basic mechanical environment, which allows them read & prepare mechanical schematics, material sciences, manufacturing processes and also applying concepts learned through strength of materials and fluid mechanics
- Students learn thermodynamics, various machining processes that includes machining processes along with advanced mechanical drafting of machine elements
- Courses like Metrology and Heat Transfer are taught in very innovative manner using cutting edge labs, which enable students to understand concepts and apply in real world situations
- Later part of the year allows student to learn, understand and work on refrigeration and air conditioning processes in depth with adequate hands on experiments to foster your conceptual understanding (HVAC Specialization)
- Students will learn elevator systems, components, escalator systems, control systems & regulatory affairs giving them required depth of understanding & knowledge in core elevator & escalator engineering

YEAR - 3

- Brings advanced learning in HVAC domain by focusing majorly in R & AC operations and applications, which allows students to prepare themselves for niche domain with complete hands on experience featuring HVAC industry of today & tomorrow (HVAC Specialization)
 - Students will learn automotive electronics, telematics, bus communication systems, engine diagnostics and advanced vehicle simulations and emission monitoring enabling them to meet & surpass of the expectations of automotive industry (Automobile Specialization)
 - With the acquaintance of knowledge in mechanical, materials, manufacturing, refrigeration, air conditioning and in elevator domain, students will undergo focused intensive industry internship program, which makes students to practice all the core learning in real life industry environment.
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CUTTING EDGE INFRASTRUCTURE

Major focus is laid in creating best in class lab & workshop infrastructure, which makes blended learning possible and the lab is equipped with advanced equipments. This allows deeper conceptual learning by simulating real time industry environment part of **HVAC & Vertical Transportation** (Elevators & Escalators) domains

Technology Labs

- Refrigeration & Heat Pumps lab
- Air conditioning & Psychrometry lab
- Industrial refrigeration & cold storage lab
- Industrial air conditioning & cold chamber lab
- Heat Transfer lab
- Fluid mechanics, Hydraulics & Pneumatics machinery lab
- Strength of materials lab
- DC machines & drives lab
- AC machines & drives lab
- CAD, CAM & CAE lab
- HVAC efficiency & controls lab
- Elevator control lab
- Auto door shutting systems
- Escalator & Auto walk system lab
- Safety and cabin pressurization system

Practice Workshops

- Individual cubes to allow students to lay piping, fittings, ducting and install HVAC accessories
- Indian, European, American style of piping/ducting layouts for practice & replication
- Space with all connections in place to conduct final certification assessments
- Fitting workshop with all amenities
- Welding workshop with all amenities
- Foundation workshop with foundry, carpentry and smithy practices
- Height adjustable platforms up to 30 feet to allow students to work on various heights
- HVAC repair & maintenance workshop
- Central heating with various temperature control chambers simulation workshop
- Cabin Car system workshop
- Control gear workshop
- Drivetrain workshop
- Dynamometry workshop

Support Infrastructure

- AC – 3 phase power supply (Uninterrupted)
- 64 KW back up generator
- Drinking water storage pump house (Booster)
- Industrial water storage pump house (Booster)
- Sewerage forced disposal (Pump)
- RO set up
- Rain/storm water storage tank
- Industrial water disposal set-up
- Sewage Treatment Plant (STP)

INDUSTRY COLLABORATION



The Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE), was founded in 1981 at New Delhi by a group of eminent HVAC&R professionals. ISHRAE today has more than 12,000 HVAC&R professionals as members and additionally there are 7,500 Student-members. ISHRAE operates from 41 Chapters and sub Chapters spread all over India, with HQ in Delhi.

IIE, the educational arm of the Society, is working towards human resource development in the HVAC&R industry in the country by conducting various courses. One of the most important objectives of ISHRAE is Training Programs & this is attempted at various levels.

ISHRAE promotes research in the field of HVAC&R technology. It offers financial support to Graduate/Post Graduate students, to carry out innovative work on R & D in Technology, Systems, Processes. As part of its objectives to promote the interests of the HVAC&R Industry, ISHRAE is involved in various activities. ISHRAE reaches out to all its members and seeks their active participation & involvement in all the Events/Programs.

ISHRAE student chapters in more than 150 engineering colleges encourage students to opt for careers in the HVAC&R industry. Knowledge dissemination is done through seminars, quiz contests, plant and site visits. K-12 initiative of ISHRAE is focused on school students' contests, in making them aware of subjects like, energy conservation and environmental concerns through drawing competitions, poster design, quiz and planting of trees.

ISHRAE works with Chitkara Polytechnic as Principle Collaboration Partner part of HVAC & R industry. It brings unparalleled access to technology, domain expertise and subject matter knowledge. ISHRAE provides detailed curriculum and course content to Chitkara Polytechnic in defining Diploma engineers role in HVAC & R industry. Besides this ISHRAE sends top notch industry & subject matter experts for periodical lectures and special sessions. Final assessment of students will be conducted by ISHRAE and students shall carry ISHRAE certification, which carries recognition across the world in the field of HVAC & R.

CAREER OPPORTUNITIES

FOR DIPLOMA ENGINEERS IN MECHANICAL ENGINEERING

Given below are some of the companies, which have huge requirement of Mechanical Engineers. At Chitkara Polytechnic, we are collaborating with major blue chip companies, so that you can start your career with flying colors.

Career opportunities abound in wide spectrum of industries as executives, specialists, technologists, Engineers or managers in:

- Mechanical & Elevator Engineering industry
- Cement, paper, chemical & other manufacturing industry
- Building services industry
- HVAC & Facility management industry
- Operations management
- Sustainable Design & Solutions
- Clean Energy & Automation
- Research & Development

3-Year Diploma in Mechanical Engineering program is recognized nationally and internationally. After completing the diploma, you can also enter the 2nd year of B.Tech degree through the lateral entry in Engineering institutions across the country.



3-Year Diploma in AUTOMOTIVE ENGINEERING

3-Year Diploma in AUTOMOTIVE ENGINEERING

The Diploma in Automobile Engineering program came into its existence, since early 90's, after India achieved its economical stability and financial freedom. The spread and recognition of this program is the direct interpretation of the growth of Automobile Industry in India. India is ranked as 1st in Two wheeler vehicle segment, similarly, India is ranked as 5th in Passenger vehicle segment and most importantly India is ranked as 3rd largest market for commercial vehicles in the world.

The study of automotive engineering is to design, develop, fabricate, and testing vehicles or vehicle components from the concept stage to production stage. Production, development, and manufacturing are the three major functions in this field. Automobile Engineering is a branch study of engineering, which teaches manufacturing, designing, mechanical mechanisms as well operations of automobiles. It is an introduction to vehicle engineering, which deals with motorcycles, cars, buses trucks etc. It includes branch study of mechanical, electronic, software and safety elements.

Automobile engineering technologists help ensure the vehicles, transport means and systems our society depends on commute and transport goods the way they're supposed to. You need an aptitude & passion for all things automobile, but you also need good problem-solving and analytical skills, because your job will involve troubleshooting problems, finding better, more efficient ways to do things, and ensuring vital systems stay up and running.

India is growing—our economy, our population, our industry and our demand for safe, secure & lean transport means are steadily growing. Automobile engineering technologists are specialists in the vehicle design, development and maintenance, which include all segments of vehicles, logistics, and service operation planning and reliable transportation support. There's a lot of technology involved in Automobiles today. Be it passenger vehicle or commercial vehicle the involvement of electronics and sensors has significantly enhanced the complexity of diagnostics and trouble shooting in automobiles. That's why Automobile Engineers are in high demand for setting things right and that too on first time every time.

The job itself has an intense focus on mechanical manufacturing practices. You install, maintain and repair vehicle systems & sub systems. As the world prepares for the challenges posed by increase in population, ever changing climatic conditions, if you want to make a difference in combating this pressing global problem, as innovators of climate-friendly products, systems and services to improve quality of life, this integrated Diploma in Automobile Engineering will put you on the right track.

Our 3-Year Diploma in Automotive Engineering also prepares you to pursue further studies leading to undergraduate and postgraduate qualifications from reputed local and foreign universities.



STUDENT LEARNING OUTCOMES

The specific student-learning outcomes of the Diploma in Automotive Engineering are as follows:

- Apply knowledge and technical expertise in building, analyzing, testing, operating and maintaining mechanical, electrical, instrumentation and control systems associated with Automobile technologies, including relevant industry standards and code of practices
- To do maintenance, repair and production of Automobile vehicles, systems and its components
- Procure, inspect and test automobile engineering materials
- To do fault diagnosis, repairing vehicles of all kind and develop serviceability studies and recommend diagnostics & trouble shooting procedures to be followed uniformly
- To select, operate, maintain, test and repair/replace mechanical machinery used in various industrial auto components manufacturing environment
- Preparing estimates of different kinds of jobs in all types of vehicles that includes 2 wheelers, passenger vehicles, commercial vehicles and earth movers for its periodical maintenance and service upgrades
- Design, analysis and development of performance vehicles, off track vehicles and rapid mass transport systems and its components



ACADEMIC FRAMEWORK

- The Diploma in Automotive Engineering program is 3 years full time offered by **Chitkara Polytechnic** an integral part of **Chitkara University**, Punjab.
- This program is offered in collaboration with **FCA India** (Fiat Chrysler Automobiles Group), **Honda 2 Wheelers**, **Ashok Leyland & ASDC** (Automobile Skills Development Council) being very unique offer bring complete blend of seasoned learning with best of the partners' bringing required industry support.
- There are four (4) academic semesters and last two (2) semesters are solely dedicated to **Intensive Industry Internship Program (IIIP)** facilitated by our program partners'.
- Academic framework lays strong emphasize on learning through hands on. Courses in foundation, technology and advanced technology feature state of the art lab/workshop infrastructure enable this without any hassles.
- Subjects carry full industry/domain focus to ensure student stays connected with real working atmosphere all the time.
- To get further ahead, you will work on latest cutting edge lab/workshop co developed and co created with industry partners, which not only simulates the real-time, but also makes you cope up with field situations.

PROGRAM CURRICULUM

YEAR - 1

- Provides excellent foundation to the beginner, who has just laddered from secondary school with all foundation science courses.
- Provides excellent foundation to the beginner, who has just laddered from secondary school with all foundation science courses.
- Later part of year allows students to learn petrol engine foundation and working principle backed by full hands on labs providing innovative learning at faster pace created by Honda 2 Wheelers.

YEAR - 2

- Introduces students to the basic mechanical & automobile environment, which allows them read & prepare mechanical schematics, material sciences, manufacturing processes and also applying concepts learned through strength of materials and fluid mechanics.
- Students learn thermodynamics, various machining processes that includes machining processes along with advanced mechanical drafting of machine elements.
- Students harness their skill by applying all the learning's by doing exploded experiments in the labs, which feature state of art latest equipments as available in industry today.
- Courses like Measurements & Metrology and Heat Transfer are taught in very innovative manner using cutting edge labs. Students in parallel are exposed to automobile systems, components and working models.
- Later part of the year allows students to learn, understand and work on vehicle systems that includes chassis, powertrain, electrical and body to gain adequate knowledge in all types of vehicles.

YEAR - 3

- Brings altogether new focus of learning in Automobile domain by focusing majorly on fuel injection systems, exhaust systems and vehicle on board diagnostics systems connected with OBD scanner, which allows students to prepare themselves for niche domain with complete hands on thru innovative labs featuring Automobile industry of today & tomorrow.
 - With the acquaintance of knowledge in mechanical, materials, manufacturing, automobile and in on board diagnostics, students will undergo focused intensive industry internship program, which makes students to practices all the core learning in real life industry environment.
 - In addition, student will prepare a major technical project, which demonstrates his learning and capability to demanding world.
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CUTTING EDGE INFRASTRUCTURE

Major focus is laid in creating best in class lab & workshop infrastructure, which makes blended learning possible and the lab is equipped with advanced diagnostics equipments supplied by Jeep-USA, Honda-Japan & Bosch-Germany. This allows deeper conceptual learning by simulating real time industry environment part of automobile & on board diagnostics domains

Technology Labs

- Petrol engine simulation and hands on lab - Honda
- Petrol engine simulation and hands on lab - Fiat
- Diesel engine simulation and hands on lab - Jeep
- Manual & Automatic Gear Box workshop
- Chassis system lab including brakes, steering & integrated transaxle wheel drives
- Vehicle diagnostics & on board simulation and data logging lab
- Heat Transfer lab
- Fluid mechanics, Hydraulics & Pneumatics machinery lab
- Strength of materials lab
- DC machines & drives lab
- AC machines & drives lab
- CAD, CAM & CAE lab
- Fuel injection systems lab
- Vehicle climate control systems & diagnostics lab
- Engine testing dynamometry & performance measurement set-up

Practice Workshops

- Wheel & tyre geometry setting infrastructure
- Full range of hands tools, power tools & support tackles for engine assembly & disassembly
- Vehicle air conditioning workshop with state of the art equipment RobinAir from USA & EATC diagnostics set up from Bosch-Germany
- Fitting workshop with all amenities
- Welding workshop with all amenities
- Foundation workshop with foundry, carpentry and smithy practices
- Height adjustable platforms up to 30 feet to allow students to work on various heights
- Turbo charger & Common rail injection service set-up with clean room and temperature control
- Vehicle electrical & electronics including trouble shooting set-up with bread board, diagnostics tools for tracing faulty circuits and electrical components
- Central charging station for restoring battery energy and battery charge management & diagnostics set-up

Support Infrastructure

- AC – 3 phase power supply (Uninterrupted)
- AC - Single phase power supply (Uninterrupted)
- 3 Phase 440 V Solid State Bus Bar
- DC power supply (Uninterrupted)
- 64 KW back up generator
- Full set of hand tools, power tools clubbed with trollies to ensure every student has grip of tools & tackles
- Personal protective gear for all students including gear to work on different heights
- Advance integrated vehicle on board diagnostics equipments supplied by industry partners

Program Collaboration & Partner's



ASDC (Automotive Skills Development Council) was established by NSDC (National Skills Development Corporation) part of MSDE (Ministry of Skill Development & Entrepreneurship) to work exclusively on Automobile & allied industries covering Manufacturing, Sales, Servicing, R & D, and Auto Finance. This was the first sector skill council came into existence in India after formation of NSDC. It is jointly promoted by ACMA, FADA, and SIAM & DHI to ensure skill eco system to cater ever-growing auto industry in India. ASDC shall be responsible for defining the scope/syllabus/curriculum outline/curriculum standard/content of the training program. Setting the qualification standards for the Trainers. Setting the qualification standards for the Trainee. The Training, Assessing & Certifying the Trainers of Chitkara University from time to time. Designing the training curriculum and training modules. Providing training standards for the trainees as well as trainers to the Training Partner. Accrediting and approving the existing training program/programs of the Training Partner provided it meets the accreditation criteria of ASDC.

Assessment of Trainees post completion of training. Certification of Trainees based on the qualification, assessment & skill attained. Maintaining a database for Trainees who have successfully completed the program. Assist in Coordination with industry and overall promotion of the program.

Chitkara Polytechnic has established cordial relationship with some of the leading auto giants in India like FCA (Fiat Chrysler Automobiles), Honda 2 Wheelers, Ashok Leyland Limited, UM Motors, Mahindra Swaraj, JCB, Claas & Bosch to name a few. As a principle collaboration industry they take responsibility of bringing industry-blended curriculum, subject contents, pedagogy advocacy, faculty training, and establishment of state of the art lab infrastructure, which makes learning truly world class.

In addition they will also facilitate intensive internship, assessment of students for the fitment in industry. What's more, subject matter experts (SME's) from these industry partners will be there in Chitkara Polytechnic to oversee delivery of the program for quality, consistency and to bring special emphasize in hands on industry driven practical's.



CAREER OPPORTUNITIES

FOR DIPLOMA ENGINEERS IN AUTOMOTIVE ENGINEERING

Given below are some of the companies, which have huge requirement for Automotive Engineers. At Chitkara Polytechnic, we are collaborating with major blue chip companies, so that you can start your career with flying colors.



Career opportunities abound in wide spectrum of industries as executives, specialists, technologists, engineers or managers in:

- Mechanical & Automobile engineering industry
- Auto components manufacturing industry
- Automotive sales & service industry
- Off track, race track and performance vehicle design studios
- Operations management
- Sustainable Design solutions for pollution friendly
- Research & Development
- Entrepreneurship & Own venture

The Diploma in Automobile Engineering program is recognized nationally and internationally. In addition all major mechanical and Automobile industries in India & Abroad are connected to this program and they recognize it. The program allows you to further your studies at reputable local and overseas universities through lateral engineering entry scheme. You can join engineering degree directly into 2nd year, if one wishes to pursue higher education to bring further knowledge and growth.

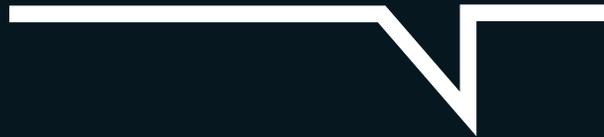
CHITKARA
UNIVERSITY



www.chitkara.edu.in
admissions@chitkara.edu.in

For more information about the University
give a miss call on 1800 267 1999

Admissions Helpline: +91 95011 05718



CHITKARA
POLYTECHNIC



CHANDIGARH INFORMATION CENTRE
SCO 160-161, Sector 9-C | 160 009 | India

CHITKARA UNIVERSITY (PUNJAB)
Chandigarh-Patiala National Highway | Punjab- 140 401