

Academic Year 2019

# EXPLORE

your  
potential



**CHITKARA**  
UNIVERSITY

Information Brochure

Engineering | Information Technology  
Hospitality | Nursing



# CHITKARA UNIVERSITY



**STRONG ACADEMIC  
HERITAGE**



**HIMACHAL  
PRADESH**



**LEARN FROM  
THE BEST MINDS**



**INDUSTRY BACKED  
CURRICULUM**



**LEARNING  
BY DOING**

# EXPLORE



**WHERE  
LEADERS ARE MADE**



**GET A CAREER  
HEAD START**



**THE WORLD IS  
YOUR CAMPUS**



**HOME AWAY  
FROM HOME**



**LEARN,  
PLAY, LIVE**

Whether you want to broaden your mind, advance your career, increase your knowledge, travel the globe or change the world, **CHITKARA UNIVERSITY** can provide you with the opportunity and real life skills to do it.

# CHITKARA UNIVERSITY

# YOUR POTENTIAL



**ENGINEERING**



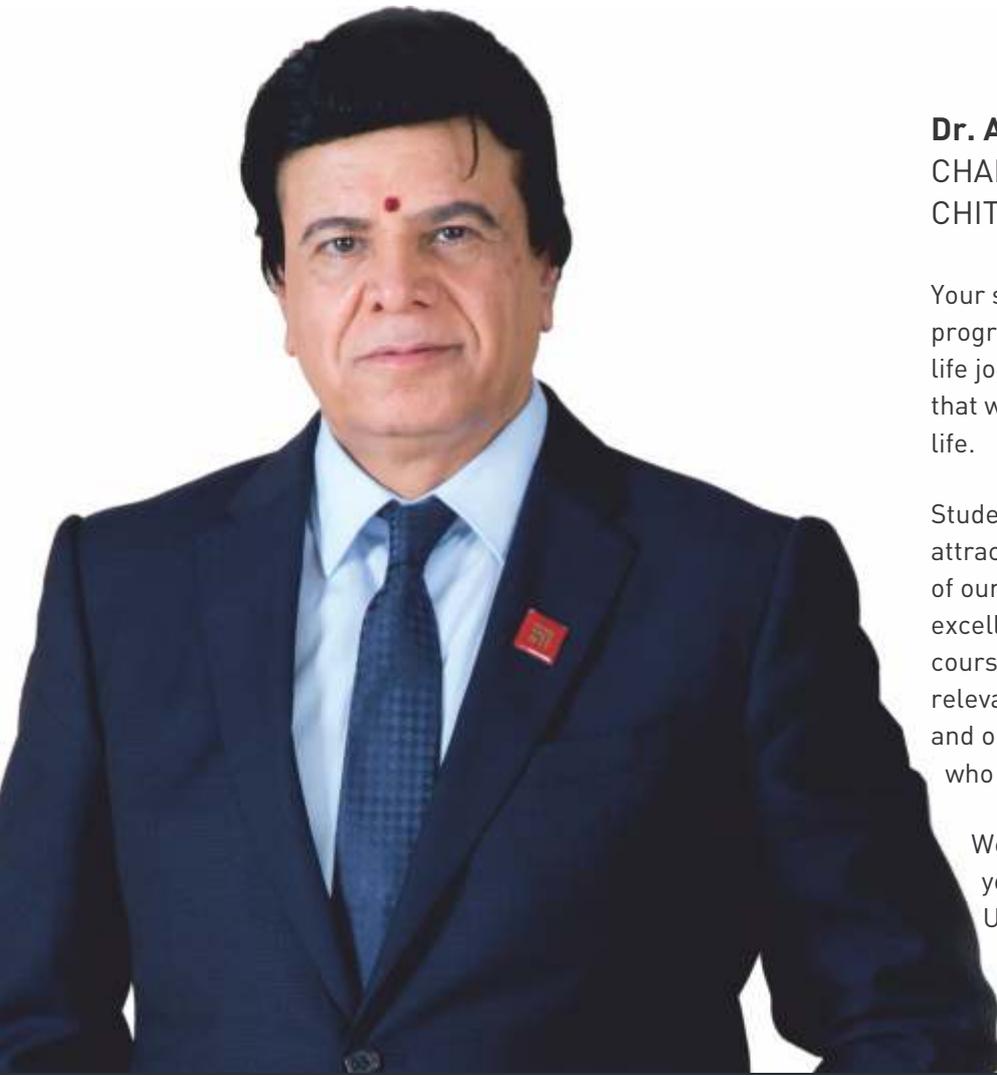
**INFORMATION  
TECHNOLOGY**



**HOSPITALITY  
& CULINARY**



**NURSING**



**Dr. ASHOK CHITKARA**  
CHANCELLOR  
CHITKARA UNIVERSITY

Your selection of a University, and a study program starts an exciting phase of your life journey. You embark upon a journey that will lead to building your careers and life.

Students from around the country are attracted to Chitkara University because of our commitment to teaching excellence, focus on research, tailored courses that makes our education relevant to changing career dynamics and our formidable industry partnerships who believe in our academic excellence.

We look forward to welcoming you to your bright future at 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. At Chitkara, we have a single minded obsession to deliver consistent academic quality that will impart the necessary skill sets to our graduates.

There are many reasons to choose Chitkara University including a great infrastructure, accomplished faculty, international partnerships etc. but it is the focus on academic rigour and critical thinking that has kept us and our students ahead of the curve. Our alums have demonstrated their learning skills acquired at the University and have made us proud, something that fuels each one of us at Chitkara to produce the next well equipped workforce, year after year.



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



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# WELCOME TO CHITKARA UNIVERSITY HIMACHAL PRADESH

Chitkara University was established in the year 2008 by the Himachal Pradesh State Legislature under the "Chitkara University Act". Chitkara University is a government recognized University with the right to confer degrees as per the sections 2f and 22(1) of the UGC Act, 1956 and is included in the list of universities maintained by the University Grants Commission. Our 17 acres campus located at Atal Shiksha Kunj in Barotiwala is 32 kms from Chandigarh and 12 kms from Pinjore. It currently has more than 4000 full time students and over 300 faculty.

**FOR THE ACADEMIC YEAR 2019, CHITKARA UNIVERSITY HIMACHAL PRADESH IS OFFERING THE FOLLOWING PROGRAMS:**

- **4-Year Bachelor of Engineering (B.E.) Programs in**
  - Computer Science Engineering
  - Electronics & Communication Engineering
  - Electronics & Computer Science Engineering
  - Civil Engineering
- **Master of Engineering (M.E.) Fellowship Program in Civil Engineering**
- **3-Year Bachelor in Computer Application (BCA)**
- **5-Year BCA-MCA Integrated**
- **3-Year B.Sc in Hospitality Administration**
- **4-Year B.Sc Nursing**



# Chitkara is more than just a University

From the minute you step  
on our campuses, you  
become a part of an  
innovative, passionate,  
and motivated community  
that is dedicated to  
helping you achieve your  
dreams

# YOUR DEFINING EXPERIENCE



Chitkara University has been founded by **Dr. Ashok 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 !!

**OPEN YOUR MIND  
TO NEW  
OPPORTUNITIES**

# WHY CHITKARA UNIVERSITY

Chitkara University is different. Our students are different. So are our faculty, our academic strengths and our outlook on business. Within a short span of time Chitkara University has emerged as one of the top private Universities of the country.

Educational programs at Chitkara University aim even higher and go beyond the traditional approach of imparting an analytic framework to solving problems.

Our programs enable you to find the route to success at the intersection of theory and practice, discover and implement innovative solutions to real-world problems. The main focus of educational programs at Chitkara University is to make each and every graduate industry ready and exposed to latest trends.

Chitkara University views the world-and the traditional educational programs differently. Our strengths include topics that will matter in the next global economy.

### **A Rigorous, Flexible Curriculum**

Chitkara University has established an unassailable reputation for strong on-campus recruitments on the sheer virtue of our intensive focus on making all our graduates "industry ready". Our students have gained employment in diverse professional roles and areas across the globe. From managing hotels to discovering new drugs to helping patients in hospital to analyzing the stock market, your Chitkara University degree can lead to varied and rewarding career paths.

### **Excellent Campus Placements is the Hallmark of our Programs**

You will also learn from experienced teaching staff and be exposed to some of the industry's top employers through opportunities such as field trips, internships, real-life scenarios and practical assignments, guest lectures from industry professionals and networking events.

### **Passionate Scholars & Teachers**

Chitkara University curriculum is based on the framework of strategic competitiveness, which teaches the concepts of creativity, entrepreneurship, innovation, sustainability, leadership and incisive decision making. You will learn how to compete-and create transformative change-in your profession.

### **Learning By Doing**



# RANKED AS ONE OF THE CLEANEST UNIVERSITIES OF INDIA

**CHITKARA UNIVERSITY, COUNTED  
AMONG THE TOP 3 UNIVERSITIES OF INDIA  
IN THE 'SWACHHTA' RANKING 2017**



**MHRD**  
Ministry of Human  
Resource Development  
Government of India



**Chitkara University** has been declared as one of the cleanest universities in the country. Around 3500 institutions participated in the "**Swachhta**" Rankings 2017 launched by the **Ministry of Human Resource Development of India**.

After the scrutiny of each institution by the MHRD, Chitkara University was **adjudged as third in the ranking**. A national level award function was organised at Hotel Ashok, New Delhi where Union HRD Minister Shri Prakash Javadekar felicitated the winners.



# CHOOSE YOUR PATH. EMBRACE YOUR POTENTIAL.



## COUNTED AMONG THE BEST

**Chitkara University's reputation for innovative teaching, strong industry links and highly employable graduates continues to set us apart from other Indian Universities.**

## FEEL AT HOME

Immaterial of any stream of education you pursue with ChitkaraU, we ensure that you feel right at home and have an access to all, perhaps even more comforts so that you stay focussed on your education and the learning outcomes. Chitkara University provides a specially safe and serene setting for your education with pleasant residential facilities in a beautiful campus that supports all of your needs. Our campus is alive 24 x 7 with food courts, fully equipped gym, badminton and tennis courts, basket ball and volleyball courts, library and all you can imagine and seek from the best of national or international campus.

At Chitkara University, Education is not only "State-of-the-art" but truly "State-of-the-heart". Everything we do is entirely focussed on student comfort and their success.

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Come and feel our passion by investing in your future with us.



### **DEVOTED TO YOU**

Any decent road map to success requires that you know where you are going – and also where you have been. The third element is momentum.

In accordance with the Chitkara philosophy, we allocate more and more resources to excellence in teaching and learning. The entire approach at Chitkara University is learning-centric, enhancing knowledge, skills and understanding through practical experience.

Today, we have impressive International collaboration agreements with top International Universities and research institutions that supports us to train Chitkara students for the new global economy.

We strongly believe that we are creating the right kind of future for the professionals of tomorrow whom we are educating today. Our Education is always supported by the exceptional research that we conduct.

### **INDUSTRY-LED COURSES**

Chitkara University offers a real life learning experience that improves your employment prospects. We maintain close links with some leading blue-chip companies and professional associations to deliver most of our academic programs. Through these alliances, we stay in touch with the changing dynamics of the industry, ensuring our courses remain relevant and practical.

Strong corporate relationships also have a direct influence on our degree programs and have resulted in our “industry facing” curricula.

### **STRONG CAMPUS RECRUITMENT**

Chitkara University has established an unassailable reputation for a strong campus recruitment on the back of our intensive focus on making all our graduates “industry ready”.

### **START ME UP**

The combination of business and technology in their studies gives our students unique opportunities to build their future careers, be it through top-class companies or capitalizing on their own innovations in order to create new businesses. We have strong start up incubator culture where we invest in technology and infrastructure to encourage our students to innovate, create and test their ideas.

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**THINK OF CHITKARA AS YOUR OWN LAUNCH PAD TO ENTREPRENEURSHIP**



# YOU COUNT WITH US.

**What defines you? Chitkara believe its YOU.**

And you are exactly what we invest in. You, and your interests, your talents, your goals. Chitkara Business School is where the YOU that you envision becomes a possible reality. It's where you get the instruction and the inspiration you need to chart your course, create your path, and define yourself.

# Chitkara is defined by its people.

Be it formal or informal interactions, the faculty and other staff support your dreams and works together to make them possible. We selectively hand pick most accomplished workforce that demonstrate a similar passion and commitment in executing our passion to deliver consistent academic excellence.

# LEARN THE CHITKARA WAY

One-on-one discussions with the professors make the classes interesting and interactive. The faculty is helpful and approachable at all times—even for the slightest of the doubts. We have a lot of group projects and presentations which help students in team-building, understanding and bonding with classmates.



# GRADUATE WITH A HOLISTIC SKILL SET

Our holistic educational approach is designed with an intensive focus to equip you with a total skill set comprising hard knowledge skills, soft people skills and 'heart' skills. You will be equipped with both depth and breadth of knowledge. You will be transformed into a well-rounded individual, and become a valuable asset to your future employer and society at large.



**Hard Knowledge Skills**  
(specific to your chosen track of study)

+



**Soft people skills**  
(analytical thinking, problem solving, communication, presentation, leadership and team-building)

+



**'Heart skills'**  
(ethical and social responsibility)

# LEARN FROM THE BEST MINDS

## Tradition of Teaching Excellence

Chitkara University faculty members are explorers and discoverers, seeking new ideas and insights at the frontiers of knowledge. They are internationally recognized leaders in the study of the economic, social, political, and technological forces shaping the world today.

The faculty at Chitkara University includes people from core academics having vast experience in academics and industry. Among our talented faculty, you meet academic scholars with doctorate degrees, experts from Industry and authors of important texts in all fields. Our faculty enjoys a good reputation and strong relations with leading industrial houses in terms of consultancy and research work.

Chitkara University faculty members play an active role in national and international business & research communities, serving as consultants, board members, and speakers at major conferences and seminars.

With serious students and talented teachers, you will become a stakeholder in pursuit of purposeful learning and experience. Faculty at Chitkara University is striving hard to impart best of professional experience to students through its fast growing & challenging academic environment.





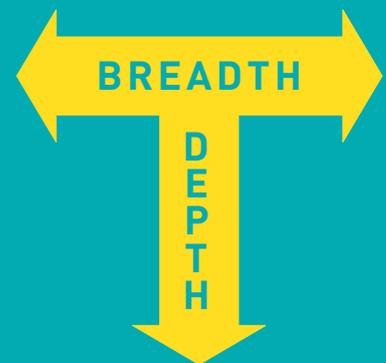
# A RIGOROUS, FLEXIBLE CURRICULUM

PREPARES YOU FOR EVERY KIND OF LEADERSHIP CHALLENGE

Hands-on and interactive learning means classes are never dull. Theories are brought to life, and you learn by experiencing them.

Classes incorporate activities, such as simulations and problem sets conducted in format of mini lectures, video lecturettes, small group recitations, hands-on demos, designettes and concept quizzes to cement the understanding of different concepts in a subject.

The interactive session foster collaborative learning and you will enjoy and better understand concepts that are traditionally viewed as difficult. Real-life examples are demonstrated regularly.



<b>FOUNDATION COURSES</b>	<b>UNIVERSITY CORE</b>	<b>GLOBAL STUDIES</b>	<b>SPECIALISATION</b>
<b>TECHNOLOGY STUDIES</b>	<b>ENTREPRENEURSHIP STUDIES</b>	<b>MODES OF THINKING</b>	<b>GENERAL EDUCATION</b>

# OUR PEDAGOGY

Our degree programs prepare students for the real world and offer the opportunity for practical, hands-on experience, internships and projects. Take advantage of this experience to gain the practical skills employers are looking for and open your mind to career opportunities. Academics at Chitkara University keep pace with workplace demands and ensures that students are 'work ready' and in touch with what's expected in a professional environment.

## Academic Excellence

Our academic programs enjoy a great reputation in the industry. To maintain our leadership position, we focus on inducting the best faculty from across the industry and academia. Our faculty is known for its strong academic orientation contributing to the creation of knowledge in a dynamic, ever changing environment. Classes are built around experiential learning where students are pushed to their limits to take conceptual framework and apply them. Teaching methods include lectures and tutorials that emphasize a learning-centric approach and application of knowledge. Faculty brings their broad based experience into the classroom to enrich the learning process and to ensure that coursework reflects current industry practices.

## Problem Based Learning (PBL)

Some of our courses are being taught using the PBL approach where students apply their knowledge to solve problems they may encounter in a professional context and in doing so, extend their experience beyond their text books. Elements of the work situation are brought into the classroom by the PBL approach. Students undertake a series of tasks that bring industry problems into the academic environment.

## Applied & Project Based Learning

Applied learning is a hallmark of all teaching at Chitkara University. We believe that the best way to learn is by "doing" and that's why we emphasize a hands-on approach. We lay stress on project based learning. Thus, the need for independent thinking and creativity is encouraged among students resulting in interesting and novel projects. Further, a significant increase in the open category credits enables students to have a broad base and pursue interests and adopt a multi-disciplinary approach.

## Specialisation Options

In every program, further specialisation and electives are offered in the last year of the study. To help a student in this task, various tracks have been identified through our curriculum geared towards a variety of specialisations. Our goal is to prepare students for a satisfying career in Engineering. Following a particular curricular track will equip a student with the skills needed for progressing further in the chosen career.

## Faculty

Chitkara University boasts of strong faculty with Masters and Doctorate degrees in different specialisations with appropriate academic and research blend of mind. The entire faculty has been drawn from leading academic institutions and corporations from across the country with years of teaching and research experience. Our faculty enjoys a good reputation and strong relations with leading industrial houses in terms of consultancy and research work. Our faculty not only focuses on conceptual understanding of various academic concepts but also gives first hand experience to all students through role plays, experiential exercises, industrial visits and classroom lectures.

## Guest Lectures

Guest lectures are regularly organised by eminent industry experts, entrepreneurs and HR managers from large and medium sized companies to give information to students on latest trends and happenings.



**WHERE  
LEADERS  
ARE MADE**



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## COMMUNICATION SKILLS

**ATTITUDE, COMMUNICATION AND KNOWLEDGE ARE THREE ESSENTIALS FOR STUDENTS TO SUCCEED IN THEIR LIVES. WE EMPHASIZE MORE ON THESE THREE ASPECTS THOROUGHLY TO MAKE OUR STUDENTS COMPETENT AND CAPABLE PROFESSIONALS.**

We provide specially designed training program to the students in order to improve their employability skills and to prepare them to face the interview boards more effectively. The objective of this program is to provide the students with an integrated module of personality enhancement emphasizing those areas which are essential for the overall growth and development of a confident and well groomed professional.

In a recent survey of recruiters from companies with more than 50,000 employees, communication skills were cited as the single most important decisive factor in choosing employees. The survey points out that communication skills, including written and oral presentations and an ability to work with others are the main factors contributing to job success.

At Chitkara University, our qualified in-house trainers for communication skills provide language training where students learn to speak and communicate effectively. Sufficient opportunities are provided to our students to master their language skills through group discussions and presentations.

# LIBRARY FACILITIES

Library services at Chitkara University are the cornerstone of our education system. The mission of our library services is to facilitate creation of new knowledge through acquisition, organisation and dissemination of knowledge resources.

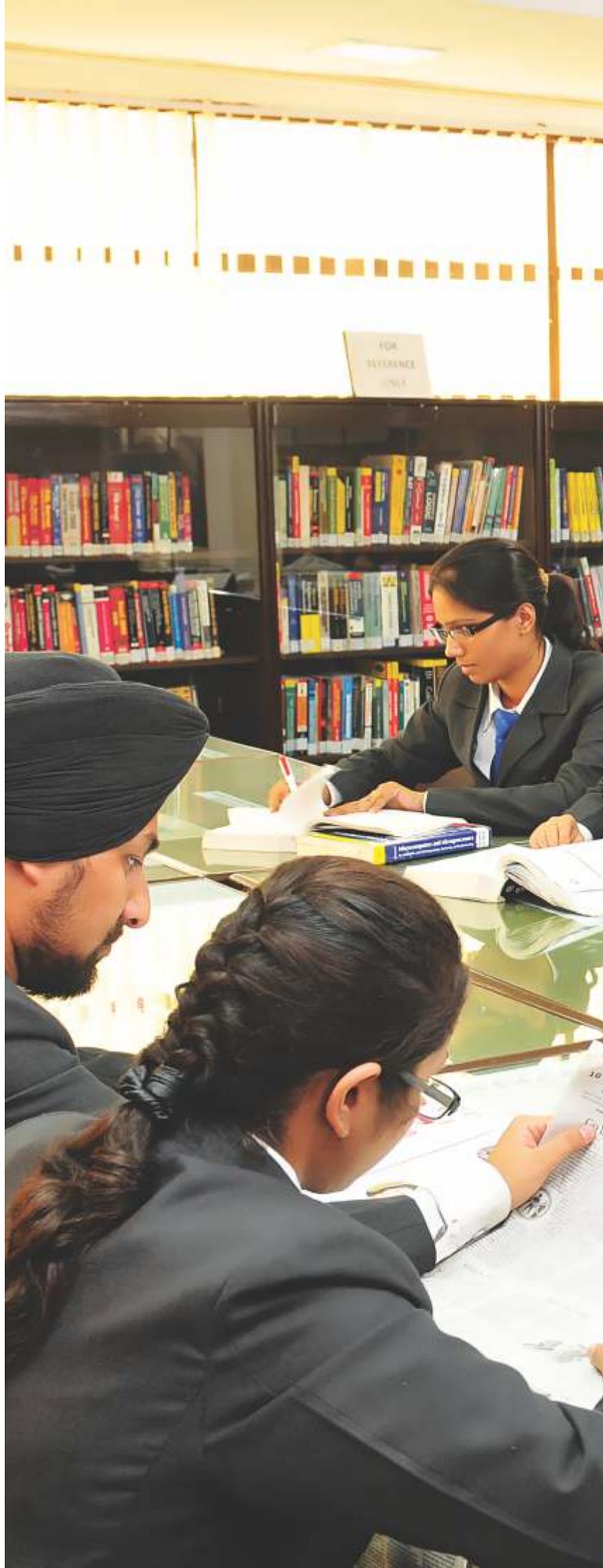
The libraries at Chitkara University Punjab have spacious reading hall, periodical centre, group discussion rooms and online database browsing area.

The University libraries offer a wide range of materials in a variety of formats—from traditional books and serials to films, multimedia and networked information from around the world. Highly skilled staff assists students to use the local collections and find information on specific topics.

Our libraries are a learning space where students are inspired to explore, research, and create. Our libraries are not only the place to think, but also an informal work area where students gather to collaborate. Social elements include a café and vending machines, lounge areas, and newspapers. Use our libraries to study for exams, finish assignments, and to balance study and work.

Our libraries house a collection of more than 20,000 items including books, journals, microfilms, audio-visual material and CD-ROMs. Furthermore, the students have access to more than 10,000 electronic journals available online.

We have access to a large number of e-resources, ASCE Journals, ASME Journals, IEL online, Science Direct, EBSCO, EMERALD, SCIFINDER, SAE-Tech Papers, Indian Standards Codes, ACM, ABI / Inform Complete (PRO QUEST), Springer Link and Engineering Referex. Our libraries have a Video Conferencing facility and also provide classroom teaching through EDUSAT programs and NPTEL video courses in the different fields of education.







# OUR INDUSTRY ACADEMIA RELATIONSHIPS

Chitkara University maintains close link with leading corporations and professional associations to deliver most of our professional programs. Through these alliances we stay in touch with industry, ensuring that our courses are relevant, practical and deliver the skills in demand allowing our graduates to hit the ground running. Some of our leading industry collaborations are:

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# OUR INDUSTRY COLLABORATIONS

CHITKARA UNIVERSITY 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”.

- 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.
- nVIDIA which is one of the leading companies in the parallel computing space has granted the status of “CUDA teaching Centre” to Chitkara University.
- Infosys Campus Connect and Wipro 10X Mission has provided us an important framework for our Engineering curriculum Strong linkages with Industry leaders such as Dassault Systems, National Instruments & Oracle to develop and deploy industry-relevant curricula on various technologies for our Engineering curriculum.
- Our program in Mechanical Engineering has been endorsed by leading companies such as Mahindra, Rasco, Dassault Systemes and Tata Technologies.
- Chitkara Business School is offering a unique 2 year MBA program in Human Resource management with ManpowerGroup which is the leading manpower consultancy in the world.
- Joint management programs with BSE Institute has helped us initiate academic programs in the realm of financial sector knowledge.
- Our program in supply chain management works towards bridging the huge skill gap prevalent in the logistics industry through our industry partner, Safexpress, India’s largest supply chain & logistics company.
- The University is also in strategic partnership with Frost & Sullivan, world leading research and consulting organization with huge footprint in Healthcare Informatics consulting projects across India & Asia.
- The degree programs offered by Chitkara School of Health Sciences are in collaboration with Fortis Healthcare which is one of the leading healthcare providers in Asia
- Our Optometry programs are fully endorsed by Sankara Healthcare which is one of the leading eye care chains in the country.
- The curriculum and program structure for all our Journalism and Mass Communication has been inspired and adapted from the UNESCO Model Curricula for Journalism Education.
- Marquee companies like Honda, Mitsubshi, Fiat Chrysler have established laboratories for our applied engineering programs.
- Blue chip companies like Virtusa, QuickHeal & Pega have established centres of excellence at our campus.
- ImaginXP has established centres of excellence for User Experience Design at our campus.

# KICK-START YOUR CAREER



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# OPENING DOORS TO FUTURE SUCCESS

**with the tools and connections that will set you apart.**

When the world's most selective organizations seek new, innovative talent, they turn to Chitkara University. Top FMCG companies, financial institutions, consulting firms, consumer products manufacturers and Technology companies are among those firms that hire our graduates as interns as well as full-time employees.

Employers seek out our students because they demonstrate not only a mastery of powerful quantitative and management tools, but also a solid understanding of best practices for the changing technological, global, and human dimensions of business.

## **An Impressive Array of Services**

The University's location and deep ties to global firms provides you the tools and connections you need to launch the next stage of your career. Chitkara University offers access to employers through multiple channels. On-campus interviews and corporate presentations are popular forums for presenting oneself to a prospective employer.

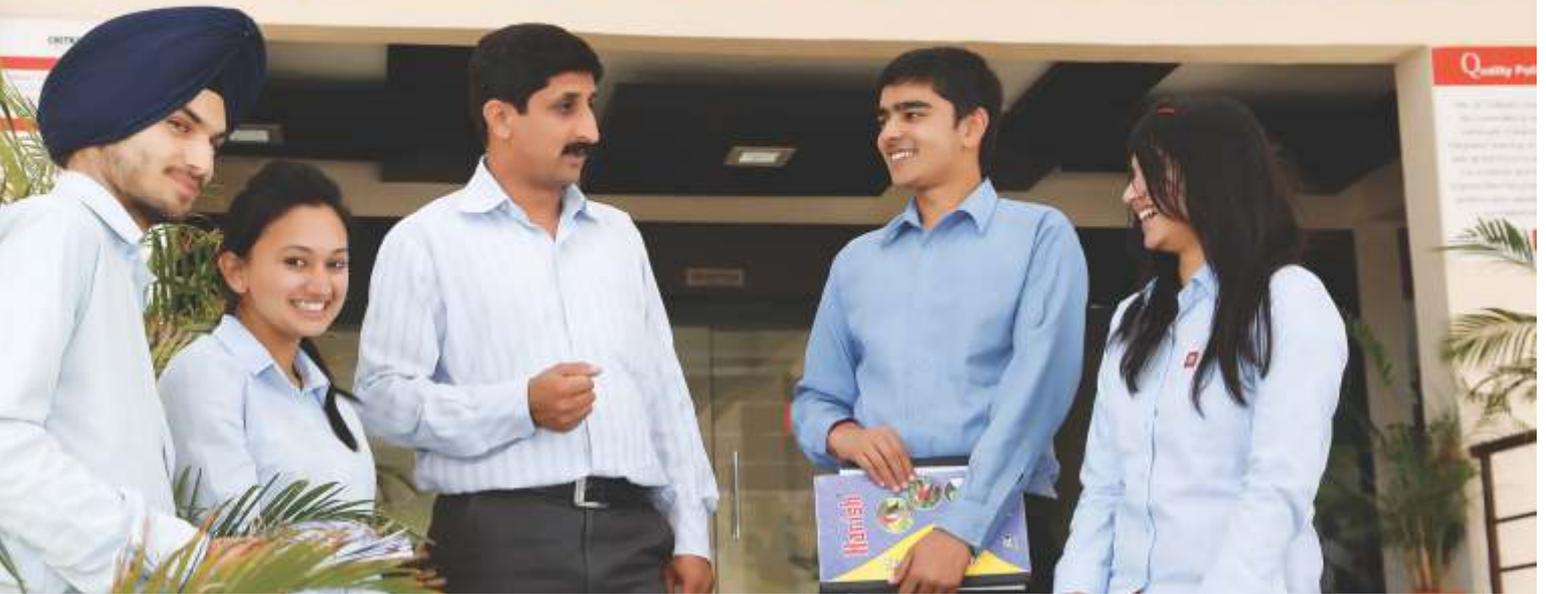
Chitkara University's facilitates hundreds of on-campus interview opportunities for positions spanning the globe and over a thousand electronic job postings specifically targeting our students each year. In addition, you are given the opportunity to interact with hiring managers and recruiters in more informal ways, including industry firm nights, career panels, corporate visits, alumni mixers, and job fairs.

## **A Personal Approach**

The University's optimum class size allows career advisors to offer a personalized, hands-on approach to your career search. Our goal is to provide you with resources and opportunities to successfully match your skills and interests with an employer.

We also offer a broad range of seminars, programs, and services from experienced advisors, coaches, managers, and practitioners at all stages of the career planning process.

# Explore Your Potential



## CAREER SERVICES

Chitkara University offers students comprehensive opportunities to occupy themselves with questions around their career planning right from the beginning of their studies. A broadly diversified choice of career activities accompanies them during their studies and offers numerous networking opportunities with industry leaders and alumni.

### Focus on Careers

Chitkara prepares students for the real world and fulfilling careers. With industry representation our course continues to keep pace with real world practice making students work-ready the moment they graduate.

### Mentoring

Sometimes a little advice and guidance from someone who has “been there and done that” can go a long way. Students have unlimited opportunities to interact with professionals from their field to build contacts and learn about new industry trends.

### Student Support Services

Our Career Centre provides personal career counselling, extensive career development seminars and invaluable assistance in developing one's resumes that showcase his/her skill and experiences.

### Networking

Smart graduates require tapping into network of people, technology and information. At Chitkara, you are connected with world-class faculty, leading managers and innovators. Workshops with guest speakers from the industry are held regularly to acquaint you with the latest happenings.

### Internships

Most students are provided opportunities to pursue internships to gain some real world practical experience. Emphasis is placed on ensuring that students attending the program are placed in rewarding, real-world company assignments that extend the learning experience into areas that are not available at the University. Our programs offer the opportunity for practical, hands-on experience, internships and projects within the local community. This is why our graduates are in demand.



# BUILD YOUR DREAM CV

Advice  
from  
Alumni

Specialise  
further with  
exchange  
Programs

Work  
Placements  
and  
Internships

Career  
Events

Volunteering

Network  
with Top  
Employers

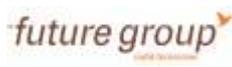
Personal  
Development  
Programs



**THE START  
OF SOMETHING  
BIG**

# 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:



**"CHITKARA IS THE FULL EXPERIENCE:**

Lifelong friendships from around the world, inspiring lecturers, dynamic learning, diverse opportunities, and ongoing support.

**CHITKARA UNIVERSITY FOSTERS  
CRITICAL THINKING."**



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# CHITKARA ALUMNI NETWORK

**The net is not a net until it begins to work. Work your network today through us.**

The main components of the CHITKARA ALUMNI NETWORK mission are to enable alumni, students, faculty and staff to maintain their contact with the University and each other for their shared benefit and for the vital support and development of CHITKARA UNIVERSITY. One of the strongest bonds that survives with our students' over the years is the class bonding and CAN provides a forum to strengthen the bond over the years. We have CAN chapters in Chandigarh, New Delhi, Bengaluru and upcoming chapters in Pune, Mumbai and many other cities in India.

## **ALUMNI TO ALUMNI**

Find old friends and connect to other alumni. Join our official Chitkara Alumni Network page CAN and become a part of a huge global community.

## **ALUMNI TO THE WORLD**

Our Alumni discover business opportunities through Chitkara Alumni Network all over the world and across industries.

## **CAREER SERVICES**

The career services maintain a close relationship to the alumni who significantly support on-campus activities and also help finding national and international job/internship positions. CAN helps our students stay in contact and dialogue with us, take part in the manifold events we offer them, make use of the various information services and actively engage with words and deeds.

# CHITKARA

## INNOVATION INCUBATOR FOUNDATION

Chitkara Innovation Incubator was initiated in the year 2013 with a sprawling 15,000 sq ft facility next to Rajiv Gandhi Information Technology Park, Chandigarh which is the prime destination for major blue chip companies such as Infosys, Tech Mahindra and Airtel.

Chitkara University is a place of original thinkers; nurturing and stimulating inquisitive minds to produce graduates with innovative ideas, perspective and approaches.

Chitkara Innovation Incubator helps turn students' business ideas into reality. Student ventures with scalable, commercial potential are given access to high-tech, collaborative office space, paired with industry mentors, subject matter experts, and community corporate partners to develop scalable business plans, and market-testable products and services.

This Innovation Hub will be one-stop shop for know-how. Entrepreneurs across Chitkara University can access seed capital opportunities, one-on-one mentoring, pro-bono support services, feedback from entrepreneurial experts, and capacity-building workshops covering everything from legal liability to effective marketing to entrepreneurial finance.

It is a community, a nexus point where innovators at Chitkara can meet, interact with other innovators, and learn from peers, all of whom are driven to create lasting positive change. That community includes undergraduate and graduate students, faculty, staff and alumni across any discipline.

- The incubator is a DST - Department Of Science Govt Of India Recognised And Approved TBI
- The incubator is MSME approved TBI-Technology Base Incubator
- The incubator hosts 30 start ups of diverse nature
- The core focus of the incubator is mentoring and hand holding of start ups, through chitkara university mentor and alumni network.

### Some of the companies which have made Chitkara Innovation Incubator are:



### SUPPORTED BY



# IDEATE INNOVATE EXCEL



Chitkara Innovation Incubator always look at encouraging students to become entrepreneurs and regularly facilitate interaction with angel investors and start up mentors.

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# THE GLOBAL UNIVERSITY

Internationalisation and globalisation are key characteristics of today's environment. The world has become a "Global Village" where economic, political, social and cultural dimensions are tightly intermingled. Such a platform offers not only considerable opportunities but also higher complexity. One must prepare for the future by anticipating the challenges and having a vision for the wide-ranging possibilities.

Chitkara University is prepared to face these new challenges, responding to professional and international commitments, by educating and training students and managers to be "Global Ready" for tomorrow's world and by helping them in developing skill sets desired by future employers.

As a consequence, celebrating diversity, preparedness for international careers and "Being Global" are embedded in our organisational culture at Chitkara University.

## **THE INTERNATIONAL EXPERIENCE**

Combining an international education and study abroad experience is a strong asset in today's marketplace. It gives candidates a huge competitive advantage but also greatly contributes to students' personal development.

Students from Chitkara University enjoyed unforgettable experiences during their study abroad programs, such as semester exchange and summer school programs, at partner universities in countries like Germany, France, South Korea, UK and USA.

We, at Chitkara University, believe that combining a state of the art education and study abroad experience is strongly desired in today's marketplace; it enhances candidates' professional, global & intercultural competence but also greatly contributes to students' personal development. Studying abroad is also an important opportunity to build a new network of friends and contacts from all over the world, which is a major asset in an increasingly interdependent world.

## **OUR UNIQUE GLOBAL NETWORK**

Chitkara University has established a unique network of more than a 60 partner universities and educational institutes around the globe. This co-operation network forms the basis for student as well as faculty exchange programs within the framework of our educational programs.

## **OUR INTERNATIONAL AND SUPPORTIVE STUDY ENVIRONMENT**

With its growing number of international students and faculty, Chitkara University offers a truly international study environment. International faculty from partner universities teach short-term courses to students of Chitkara University during global events such as global engineering, automotive and business weeks.

**CHITKARA UNIVERSITY STUDENTS ARE EXPOSED TO A HOST OF INTERNATIONAL PROGRAMS WHICH RESULTS IN A TRULY "GLOBAL" PROFESSIONAL.**



# INTERNATIONAL EXPERIENCE

Programs taught in English by local and international faculty, student exchanges from partner universities all over the world, international research co-operation, articulation program development by international partners, international faculty exchange; all of these are key features of Chitkara University.

## **INTERNATIONAL FACULTY**

We regularly invite faculty from accredited Institutions across the world and it helps our students to understand diverse Education standards

## **SEMESTER EXCHANGE**

Students visit Partner Universities for six months to one year for completing their semesters abroad.

## **SUMMER PROGRAMS**

Summer Program is short duration program of 2-4 weeks on various specialisations. It adds to the international exposure of the students.

## **STUDY BASED SCHOLARSHIPS**

Partner Universities offer full year scholarships and semester long scholarships to students through which study is absolutely free for the students for those terms.

## **INTERNATIONAL COMPETITIONS**

Students participate in competitions conducted by several institutions & organisations at International Level such as MUN.

## **INTERNATIONAL CONFERENCES**

Students participate in International conferences that help them to experience International academic standards.

## **LEADERSHIP CAMPS**

Student based leadership camps for 15 days or more and as of now the students generally travels to South Korea.

## **ARTICULATION PROGRAMS**

Chitkara students have option to finish the last 1/2 years of their degree programs at our partner Universities all across.



The Global  
University

Live independently. Gain cultural awareness. Expand your social network to span the globe. Make new friends who may become your future business collaborators in an increasingly interconnected world.

Learn in a classroom on a different continent. Experience working in the real world, around the world. Lend a hand to those in need. There are so many new experiences awaiting you at Chitkara University.



# THE WORLD IS

## INTERNATIONAL STUDENT EXCHANGE PROGRAMS

Gain a global perspective

Chitkara University's robust international exchange program with more than 60 overseas universities gives you the opportunity to experience living on your own in a different country. The networks you build and experiences you encounter will give you a more global and culturally sensitive perspective.

## SUMMER STUDY PROGRAMS

Immerse in overseas experience

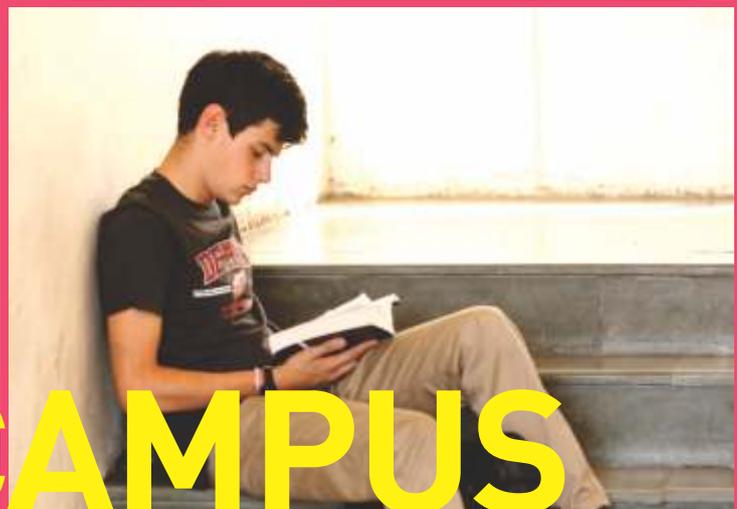
Summer Programs are short duration programs of 2-4 weeks on various specialisations. It adds to the international exposure of the students.

## SEMESTER EXCHANGE PROGRAMS

Foster stronger bilateral ties

Chitkara students have option to finish the last 1/2 part of their degree programs at our partner Universities. Students visit Partner Universities for six months to one year for completing their semesters abroad.

Chitkara University approach to global Education rests on the belief that every student needs broad global knowledge and a global mindset. There are many opportunities to globalize your Education.



# YOUR CAMPUS

## OVERSEAS STUDY MISSIONS

Gain insights from industry leaders

Overseas study missions bring you right into the heart of multinational organisations around the world, giving you current insights on how they function through site visits. You will also go on a networking journey with prominent industry leaders, opening doors to a world of opportunities.

## OVERSEAS INTERNSHIPS

Step into the global marketplace

Experience for yourself how industries and businesses operate, broaden your perspective and apply your skills and knowledge to real-world business operations.

## GLOBAL EXPOSURE

Cultivate empathy and the human touch

We regularly invite faculty from accredited Institutions across of the world and it helps our students to understand diverse cultural and educational contexts.

# Global Connections



CHITKARA UNIVERSITY HAS STRONG AGREEMENTS FOR FACULTY AND STUDENT ACADEMIC EXCHANGE WITH TOP EDUCATION PROVIDERS ACROSS THE WORLD. SOME OF THE MAJOR INSTITUTIONS ARE:

## ASIA

### CHINA

- Qilu University of Technology
- Zhejiang University of Science & Technology
- Qingdao Technological University Qindao College
- University of Nottingham, China

### INDONESIA

- Binus Univesity
- Telkom University
- Airlangga University

### TAIWAN

- China Medical University
- Providence University
- National Tsing Hua University (NTHU)
- National Chi Nan University
- National Chung Cheng University

### JAPAN

- Kindai University
- Gunma University

### THAILAND

- Kasetsart University

### PHILIPPINES

- Mapúa University

### SOUTH KOREA

- Soongsil University
- Kookmin University
- Korea University (Sejong Campus)
- Kongju National University
- Chung Ang University
- Kyung Hee University
- Sookmyung Women's University
- Shinhan University
- Chonbuk National University
- Kyungpook National University
- Chosun University
- Sangmyung University
- Jungwon University
- Kwangwoon University
- Seoul National University of Science & Technology (SeoulTech)
- Woosong University

### MALAYSIA

- HELP University
- Management & Science University (MSU)
- University of Nottingham, Malaysia
- Heriot-Watt University, Malaysia

### DUBAI

- Heriot-Watt University, UAE, Dubai
- University of Birmingham, UAE, Dubai

## EUROPE

### UNITED KINGDOM

- London School of Economics and Political Science (LSE)
- University of Hertfordshire, UK
- University of Birmingham
- University of Nottingham
- Glasgow Caledonian University
- Anglia Ruskin University
- University of Central Lancashire (UCLAN)
- University of West of England, Bristol
- The University College London (UCL)
- Nottingham Trent University
- Heriot-Watt University

### NETHERLANDS

- Amsterdam University of Applied Sciences
- Fontys University of Applied Sciences
- The Hague University of Applied Sciences

### SPAIN

- University of Alicante
- Fundacio Privada Universitat I Technologia
- Universidad de Jaen
- Universidad Católica San Antonio de Murcia (UCAM)
- Universitat Rovira I Virgili

## BELGIUM

- IHECS (Haute Ecole de La Province De Liege)
- Saint-Louis University, Brussels

## CZECH REPUBLIC

- University of Ostrava, Czech Republic

## FRANCE

- École pour l'informatique et les nouvelles technologies-EPITECH
- Lycee Emile Combes, Pons
- The Institut Polytechnique des Sciences Avancées, IPSA
- ESIGELEC – School of Engineering Rouen
- Ecole Pour L' Informatique Et Les Techniques Avacees- EPITA
- EM Normandie
- Kedge Business School
- Institut D' Etudes Politiques De Toulouse
- Sciences Po Lille
- ISTIA-Universite Angers
- Université Montpellier 2 Sciences et Techniques
- Institut Sup'Biotech de Paris
- ECAM Strasbourg
- France International Graduate Schools (FIGS)
- Institut Supérieur de Gestion (ISG)
- École supérieure des techniques aéronautiques et de construction automobile (ESTACA)
- Ecole Spéciale de Mécanique et d'Electricité (ESME Sudria)
- Sustainable Development Management Institute
- Ecole De Biologie Industrielle
- EPF Ecole d'ingenieurs (Sceaux)
- Universite De Technilgies De Troyes
- Groupe EDH (EFAP, ICART, EFJ)

## GERMANY

- Cologne Business School
- Karlshochschule International University
- Hochschule Osnabruck University of Applied Sciences Osnabruck
- Duale Hochschule Baden Wurttemberg (DHBW)
- University of Applied Sciences Stuttgart
- Technische Universitat Chemnitz
- Hochschule Emden/LEER

## HUNGARY

- Kodolanyi Janos University Of Applied Science
- Algebra University College

## SWITZERLAND

- HTMI

## FINLAND

- Helsinki Metropolia University of Applied Sciences
- JAMK University of Applied Sciences

## PORTUGAL

- Politecnico De Coimbra
- Instituto Superior De Engenharia Do Porto

## RUSSIA

- ITMO University

## TURKEY

- Abdullah Gul University
- Middle East Technical University
- Istanbul Ayyansaray University
- Altinbas University, Turkey

## ALBANIA

- University of New York Tirana

## NORTH AMERICA

### U.S.A

- Central Michigan University
- University of Florida
- Purdue University
- San Diego State University
- University of Massachusetts, Lowell
- Missouri University of Science and Technology
- Northern Illinois University
- Northern Arizona University
- Portland State University
- Regents of the University of California, Irvine
- University of La Verne
- The George Washington University
- The University of California San Diego Extension
- Pennsylvania College Of Optometry
- Texas Southern University
- California State University Monterey Bay
- University of Wisconsin-Parkside
- The University of California, Berkeley-Extension
- Kent State University, USA
- California State University San Marcos

## CANADA

- George Brown College
- British Columbia Institute of Technology
- Kings University College at Western University
- University of Prince Edward Island (UPEI)
- Vancouver Island University
- Georgian College
- Vancouver Film School (VFS)
- Lakehead University
- University of British Columbia
- University of Ottawa
- Medicine Hat College
- Trent University
- Red River College

## MEXICO

- Universidad Autónoma del Estado de Hidalgo (UAEH)
- Benemérita Universidad Autónoma de Puebla
- Universidad Popular Autónoma del Estado de Puebla

## GRENADA

- Saint George's University, Grenada

## SOUTH AMERICA

### BRAZIL

- PUCRS
- UNICAMP (University of Campinas)
- The Federal University of Lavras
- Federal University of São João del-Rei

### PERU

- Universidad San Ignacio de Loyola (USIL)

### AUSTRALIA

- Deakin University
- Edith Cowan University
- Flinders University
- Federation University
- Murdoch University
- Griffith University
- James Cook University
- Western Sydney University
- Macquarie University
- Western Sydney University
- University of New Castle

## AFRICA

### SOUTH AFRICA

- Regenesys Business School, Johannesburg

# STUDENT LIFE **EXCITEMENT DEFINED**

**There are countless opportunities to get active and involved,** engaged and enriched, and we want you to become a part of our diverse community of people who work together to make an impact on the future and have fun in the present.

With more than 20 student clubs and organizations based on a wide range of academic, cultural, and recreational areas of interest, you can find a way to express yourself.

Join, lead, or start your own—the important thing is to participate. Engaging with these organizations builds strong connections with fellow students, provides personal growth, and enhances your Chitkara experience.

Student life at Chitkara University is more than just ardent toil next to a big pile of books. The wide range of clubs and student associations, as well as the surrounding environment, provide memorable experiences ranging from culture to extreme sports.



**EXPLORE YOUR INTERESTS**





# LEARN,



## CHANDIGARH THE CITY BEAUTIFUL

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.

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.



# PLAY, LIVE



## VIBRANT STUDENT LIFE

The great experiences that you have at Chitkara University are what you will remember long after you graduate – these are made up of the times you spend with friends and teammates exploring shared interests. Choose from vast array of co-curricular activities covering sports, performing and visual arts, community service, entrepreneurial and international interest groups. If you can't find what you like, there's always the option of starting your own hobby club.

We give you invaluable opportunities to hone team, leadership and time management skills while pursuing your passion and networking with students from all backgrounds.





# LEARNING IS FUNDAMENTAL

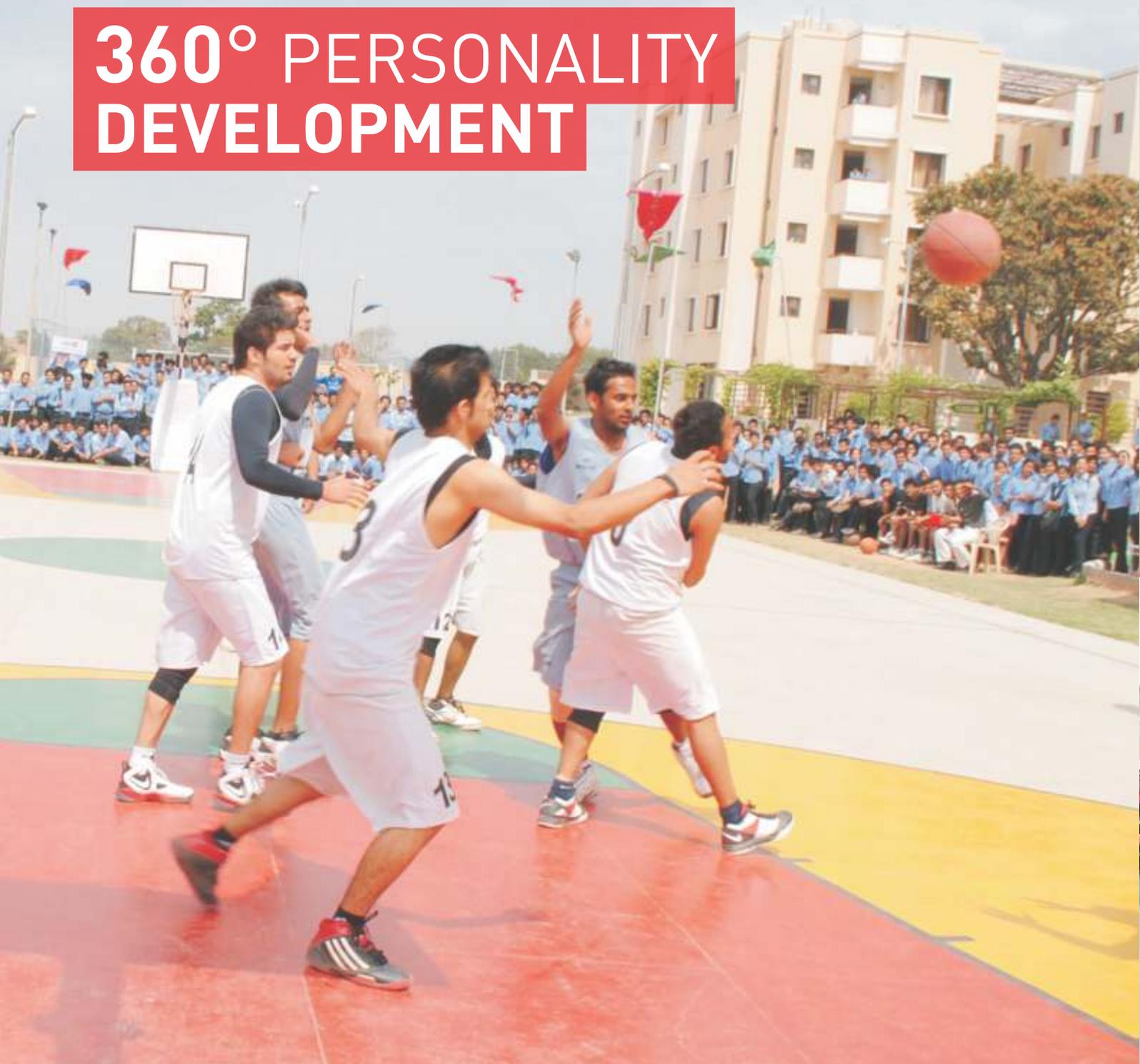
## CHITKARA UNIVERSITY IN A NUTSHELL?

Cool vibes, great events & excitement all year round, sports, theatre, excursions, always somebody home next door. That is it.





# 360° PERSONALITY DEVELOPMENT



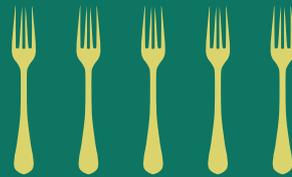


NO  
PLACE  
LIKE  
HOME





OF FIRST-YEAR STUDENTS LIVE ON CAMPUS IN OUR RESIDENCE HALLS.



**GREAT PLACES ON CAMPUS TO GRAB A BITE TO EAT & COFFEE TO SHARE**

## YOUR SENSE OF PLACE

Chitkara University offers comprehensive hostel facilities within the campus. We understand that most of our students are moving away from home for the first time, so we strive to make the transition as smooth as possible by offering comfortable and safe hostels within the campus, providing a homely atmosphere. We offers separate magnificent hostels for boys and girls with hostel warden in each hostel to supervise day to day management. All the rooms have been designed to provide adequate moving space and ample air and light. Each hostel has its own mess providing hygienic and nutritious meals three times a day. The menu is designed to cater to a range of taste buds.

There is hardly ever have a dull moment in the hostel where all our classmates are also our neighbours, friends and confidantes. Whether it is having a nice home-cooked meal together, helping one another with school work or making music, the most mundane of activities, when shared with good company, become the best of times.



**TOP  
20  
RANKING**

Chitkara University has been consistently ranked among the Top 20 Non-Profit Private Universities of the country.



**LEARN FROM  
THE  
BEST**

You'll study under some of the brightest and most inspiring academics, lecturers and researchers in the world.



**TRAVEL  
THE WORLD**

At Chitkara University, we offer over 100 exchange destinations to consider.



## **LEADING INNOVATION**

Chitkara Innovation Incubator helps turn students' business ideas into reality. Student ventures with scalable and commercial potential are given access to state-of-the-art technology, collaborative office space to develop market testable products and services.



## **CAMPUS PLACEMENTS**

Chitkara University has established an unassailable reputation for strong on-campus recruitments. Our students have gained employment in diverse professional roles and areas across the globe. From managing hotels to discovering new drugs to helping patients in hospital to analysing the stock market, your degree can lead to rewarding career paths.

# Chitkara Engineering Education

You're curious about the way things work – from gadgets to engines, motorways and skyscrapers – and creating, inventing, innovating, and taking on challenges are your driving forces, then Chitkara Engineering Programs can show you the way to ensure a bright future.

Chitkara Engineering Programs were initiated in the year 2002, with the sole focus to prepare students for careers as Engineers in a rapidly changing, technologically driven environment. **Within a decade, our Engineering Programs have emerged as among the top 50 of the country, giving testimony to our strong academic heritage, innovative teaching methodology and proactive industry collaborations.**

We, at Chitkara University, are dedicated to give you an exceptional learning experience with expert faculty, state-of-the-art equipment and cutting edge technology. The Engineering Programs at the University are taught through a combination of lectures, tutorials, seminars, workshops, laboratory classes, presentations and individual teaching sessions. Visiting faculty and critics of international repute regularly contribute to the wealth of expertise in the department. As a result, our graduates are highly sought after in a range of Engineering careers, and have successfully entered doors to employment in diverse sectors like finance, education and manufacturing.

**NVIDIA.**

**NVIDIA CUDA PARALLEL COMPUTING  
LABORATORY**



# CAREERS AND YOUR FUTURE

Getting a respectable and rewarding career after graduation is one of the main reasons for going to a University. At Chitkara University, we plan your education in a way that your future career and skills development is embedded within our degree programs, through modules on employability, and opportunities to spend time in industry. In order to get you ready for an increasingly competitive job market or pursue further study or even your aspiration to study overseas, we offer an exceptional range of possibilities to gain practical work skills, experience and expertise that the future employers will seek.

We are the university of choice for many career-minded students and employers from all sectors; locally, nationally and internationally. Employers visit our campus to recruit graduates who can show evidence of team work, leadership or who have spent time travelling and experienced challenging situations and cultures. Everything you do here at the University – be it socially, academically or during internships, will make you more employable. We will help you identify, learn and leverage your learning skills to prospective employers.

**This year, 10th batch of Engineering graduates from Chitkara University, Himachal Pradesh, appeared for the campus recruitment process this year.**

Major highlights of the campus recruitment for the batch graduated in the year 2018:

179 companies came on-campus for hiring Chitkara Engineering students

Out of batch of 1050 students around 350 got "Dream Job Offers" from marquee companies, including Amazon, HP Labs, Verizon, FICO, Evalueserve, MakeMyTrip, Reliance Industries, HP, Quick Heal, OYO Rooms, Panasonic, Quicker

Top on-campus recruiters included, Infosys, Capgemini, Cybage, ITC Infotech, Virtusa, Wipro, Hitachi, Newgen, Unisys, Amdocs, Eclerx, Credforce Asia

For Civil Engineering students some of the major companies that visited our campus included, L&T Construction, Sobha Developers, 3 C, Shapoorji Pallonji, Sterling & Wilson, Cinda Construction, Lafarge, Afcons, Raheja Construction, DLF, JSW Steel, Mahindra EPC



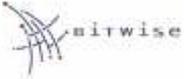
# Coliseum THEATRE



# SOME OF THE MAJOR COMPANIES THAT VISITED OUR CAMPUS THIS YEAR AND HIRED OUR ENGINEERING GRADUATES

## IT INDUSTRY

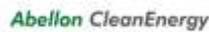
# SOME OF THE MAJOR COMPANIES THAT VISITED OUR CAMPUS THIS YEAR AND HIRED OUR ENGINEERING GRADUATES

## HEAVY ENGINEERING /AUTOMOBILE / CONSTRUCTION



Asahi India Glass Ltd.





## SEMI CONDUCTORS / KPO / CONSULTING



# CHITKARA UNIVERSITY WILL EMBARK ON LET YOU RESEARCH FROM DAY ONE

## RESEARCH OPPORTUNITIES ARE OPEN TO 100% OF CHITKARA ENGINEERING STUDENTS.

We believe every student benefits from being taught by experts active in research and practice. You will discuss the very latest ideas, research discoveries and new technologies in seminars and in the field and you will become actively involved in a research project yourself. All our academic staff are active in internationally-recognised scientific research across a wide range of topics. You will also be taught by leading industry practitioners.

There are always numerous engineering research projects in progress, funded by industry, charities, government departments and research councils. Our undergraduate students benefit through access to up-to-date equipment, industrially linked projects and staff expertise.

Through **Chitkara University Research and Innovation Network (CURIN)**, our researchers, staff and students work across disciplines to extend the boundaries of knowledge. 11 Centres of advanced research under CURIN build and sustain Chitkara University's competitive advantage through leadership. These centers and institutes are the locus of research for collaborative groups of investigators pushing the frontiers of knowledge forward. They are involved in cutting edge research, exploring new technologies to improve the country's infrastructure and safety — and contributing to society through many other discoveries and innovations.



# CHITKARA UNIVERSITY RESEARCH & INNOVATION NETWORK (CURIN)



INTELLECTUAL  
PROPERTY INDIA

Year after year, Chitkara University has been ranked among the top 10 Universities of the country for filing maximum patents which speaks volumes about our research team, state-of-the-art infrastructure and intensive focus on working at new ideas and technologies.



# COMPUTER SCIENCE ENGINEERING

4-Year Bachelor of Engineering

## SPECIALISATIONS

After completion of the 4th semester in B.E. (Computer Science Engineering), students will have the opportunity to pursue specialisation in any one of the following fields:

- **Cyber Security in academic collaboration with Quick Heal Academy**
- **Data Analytics**
- **Cloud Computing & Virtualisation Technology**
- **Full Stack Development**
- **DevOps (Development & Operations)**
- **Mobile Computing**
- **Game Design and Augmented Reality**
- **UI/UX Design in collaboration with ImaginXP**

## Program Objectives

The fundamental objective of our Computer Science Program is to provide our students with an opportunity to develop a firm foundation in Mathematics, Science and Design methodology of computing systems. Our course curriculum, which covers design, implementation and management of information system, of both hardware and software, has been designed keeping in mind a holistic learning approach, where students are equipped to apply their knowledge and skillset to "real time" scenario in the field of Computer Science Engineering.

## Learning Outcomes

- Design software or digital hardware system, component or process to meet targets within realistic constraints, such as economic, environmental, social, political, ethical, health & safety, manufacturability, and sustainability.
- Gain knowledge of probability and statistics, including applications for Computer Science and Engineering.
- Gain knowledge of Mathematics through differential and integral calculus, basic science,

Computer Science, and engineering sciences, necessary to analyse and design complex systems containing hardware and software components, as appropriate to Computer Engineering.

- Gain knowledge of advanced Mathematics, including linear algebra, numerical computing methods for Engineering, and discrete Mathematics.
- Gain knowledge of algorithms and data structures
- Apply design and development principles in the construction of software systems of varying complexity.
- Understand concept of programming languages.
- Learn computer organisation and architecture.
- Form theoretical foundations.
- Learn problem analysis and solution design.
- Apply Mathematical foundations, algorithmic principles, and Computer Science theory in modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.

## Academic Framework

Our curriculum lays intensive focus on:

- Computer Programming & Problem Solving
- Object Oriented Paradigm & Programming
- Digital Logic
- Data Structures & Algorithms
- Computer Architecture & Organisation
- Algorithm Design & Analysis
- Microprocessor & Interfacing
- Operating Systems
- Computer Networks
- Programming Language Translators
- Graphics & Multimedia
- Database Systems
- Software Engineering
- Internet & Web Programming
- Image & Vision Computing
- Software Project Management
- Mobile Computing
- Operations Research
- Information Security
- Cloud Computing
- Wireless Networks
- Concurrent & Distributed Systems
- Data Warehousing & Data Mining

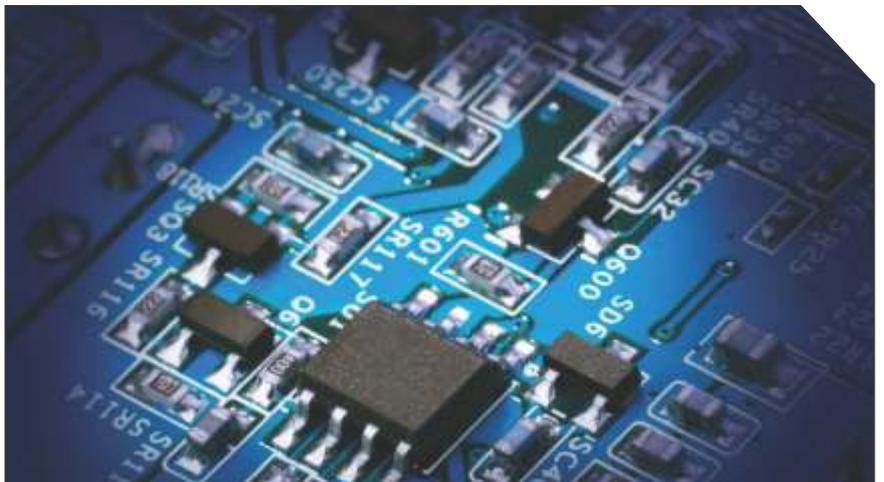
## Cutting Edge Labs

Chitkara University boasts of state-of-the-art infrastructure, including domain specific laboratories associated with their technical divisions.

Industry leaders like IBM, Cisco, Google, Microsoft & nVidia have established their laboratories in collaboration with the University at the campus.

Our major laboratories include:

- Theoretical Computer Science and Language Processing
- Open Source Technologies
- Data Technology
- Grid-Cloud Computing
- Software Systems
- Computational Intelligence
- High Performance Computing
- Mobile Computing
- Intel Multi-core Laboratories
- Image Processing



## Scope of Employment

Blue chip companies including, Google, Microsoft, Amazon, Infosys, Wipro, HCL Technologies, etc. regularly visit the Chitkara University campuses for recruitment of fresh graduates, offering them excellent remuneration packages. Some roles include:

- Developers and Specialists in high-end services and IT-product companies
- Development Engineers, Technical Leaders and Managers
- Consultants, Solution Developers and Entrepreneurs
- Computing Specialists in Research Labs and Tech Providers
- System/ Network Performance Analysts



# SPECIALISATION IN CYBER SECURITY

in academic collaboration with Quick Heal Academy

## Introduction

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Cyber Security is a branch of Digital Forensic Science pertaining to legal evidence found in the cyber space and digital storage media. In the digital age, the need for cyber experts has grown exponentially as the country is heading towards an internet explosion mostly fuelled by e-commerce, e-banking, e-governance and the social media.

Cyber Security technologies, processes and practices are designed to protect networks, computers, programs and data from damage or unauthorised access.

Computer Forensic Science involves the application of investigation and analysis techniques to gather and preserve evidence from the target computing device in a way that is suitable for presentation in a court of law.

The goal of Computer Forensics is to perform a structured investigation while maintaining a documented chain of evidence to find out exactly what happened on a computing device and who was responsible for it.

## What You'll Learn

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Cyber Forensics offers you the opportunity to gain a comprehensive and critical understanding of the theory and techniques of contemporary cyber security, and how to apply these in response to “real-world” business problems. The specialist qualification in one of the most essential and in-demand areas of IT, combining advanced aspects of security, its practical application, and the implications of security within a business. This program will prepare you for an exciting and rewarding career in cyber security, application and software security, and cyber law enforcement, among others.

You will also have the chance to:

- Acquire cutting-edge skills to drive effective cybercrime prevention and protection solutions, as well as conduct investigations into suspected cyberattacks.
- Gain strong skills allowing you to assess security risks and implement the most effective and cutting-edge solutions.
- Tackle the challenges of assessing and managing security risks in the modern workplace.
- Deploy your skills and knowledge in “real-world” scenarios.

- Design plans and strategies for security, dependability, risk and assurance that can be presented to higher management and are built on a solid understanding of technical and business systems and processes.
- Learn the laws and regulations around security risk management, as well as the concepts, methods, approaches and processes used to tackle security risk management.
- Develop a Professional Portfolio of Evidence demonstrating your solution-oriented mindset and practical skills in cyber security.



## Quick Heal Academy

Quick Heal Academy is a division of Quick Heal Technologies Limited, with its headquarters in Pune, Maharashtra, India. Quick Heal Technologies Limited, is one of the leading providers of security software products and solutions in India. The company's portfolio includes solutions under the widely recognised brand names 'Quick Heal' and 'SEQRITE' used across various operating systems and devices. Since its incorporation, more than 24.5 million licenses of its products

have been installed. Further, Quick Heal has over 8 million active licenses spread across more than 80 countries (as on 30th June 2017).



## Careers

With digitalisation moving in the fast lane, it is estimated that a whopping 3 million cyber security professionals will be required in the country to support its fast-growing internet economy. In 2015, Frost & Sullivan had forecast 1.5 million worker shortage by 2020. In the light of recent events and shifting industry dynamics, that forecast has been revised to 1.8 million by 2022, according to the 2017 Global Information Security Workforce Study. While the gap continues to grow, the survey finds that hiring is on the rise and there is a continuous upward trajectory in the sector.

Our Cyber Security engineers shall find excellent placements in research-oriented industries and top ranking global companies, with their careers ranging from:

- Cyber Security Specialist
- Risk Analyst
- Cyber Threats Analyst
- Security Software Developer
- Security Analyst
- Cyber Forensics Solutions Architect/Tech Consultant
- Cyber Forensics Malware Analyst / Examiner/ Engineer
- Security Architect
- Cyber Operations Analyst
- System Administrator
- Security Network Engineer
- Security Consultant
- Cyber Forensics Planning and expansion Specialist

# SPECIALISATION IN DATA ANALYTICS

## Introduction

The advent of the Internet has expanded the digital technology landscape, manifold. Every action online leaves a digital footprint, thus completely transforming the business world at a rapid speed. There is a massive explosion of data on a daily basis which helps organisations monitor behaviour of their customers, and thus extract valuable insights.

The specialisation in Data Analytics equips students with the skills to draw out intelligent analysis of data, which is a crucial component in numerous business applications and supporting business decisions.

The program is designed to cater to the ever-changing needs and demands of the industry. Data Analysis experts are among the most sought-after professionals in IT sector, with demand for skilled technocrats in that field outpacing other IT jobs by a wide margin.

## What You'll Learn

- Recognise issues in everyday business; apply Data Science for better understanding of data-driven management decisions to help get an edge over competition.
- Provide insights into leading analytic practices, design and lead iterative learning and development cycles.
- Produce new and creative analytic solutions, which can become a part of any business core deliverables.
- Get insights on how to improve business results by building data-fuelled products.



## Careers

According to NASSCOM, the Data Analytics market will reach \$16 billion by the year 2025, growing eightfold from its market worth in 2016. India alone will require over 200,000 data scientists, as per various industry insights.

Types of companies/ organisations looking for data analysts:

- Big IT companies who have an Analytics Practice - Infosys, TCS, Cognizant, Wipro, Oracle
- Analytics KPOs - Genpact, WNS
- In-house Analytics Units of large corporates - Citibank, Dell, HP, Spencers, Target
- Core Analytics firms - Brainmatics, Fractal Analytics, Mu Sigma

# SPECIALISATION IN CLOUD COMPUTING & VIRTUALISATION TECHNOLOGY

## Introduction

The next wave of computing is in the “Cloud”. Many businesses want to get out of the complexity of managing data centres and instead focus on their core competencies. This means that more and more businesses will adopt Cloud Computing as a means to handle their IT requirements, which gives them the freedom from day-to-day management of IT infrastructure.

Cloud Computing and Virtualisation specialisation prepares students to understand the emerging technologies of Cloud Computing and Virtualisation, their principles, modeling, analysis, design, deployment, and industry-oriented applications. All major solution architectures and enabling technologies are covered under this program. Students are prepared for technical careers in developing applications and providing services that run on a distributed network using virtualised resources and enables customers to access computing resources as needed.

## What You'll Learn

Cloud Computing is one of the fastest growing technologies that are essential for facilitating Information Technology industry needs for the future.

Virtualisation is the core technology based on which the Cloud-computing paradigm works. The curriculum lays focus on:

- Introduction to Cloud Computing and its techniques, issues, and services that lead to design and development of a simple Cloud service.
- Cloud Computing fundamentals - Cloud Services, its benefits and challenges, usage scenarios and applications.
- Types of Cloud services - Software / Platform / Infrastructure / Database / Monitoring / Communication as a service.
- Collaborating on calendars, schedules and task management – Collaborating on Event Management, Contact Management, Project Management – Word Processing, Databases. Understand collaboration via Web-Based Communication Tools and evaluating Web Mail Services.
- Need for Virtualisation and its types. Interpretation and binary translation.
- Security, standards and applications in Clouds, including Cloud security challenges, software as a Service Security and its common standards.

## Careers

All graduating Engineers with specialisation in Cloud Computing & Virtualisation, find excellent placements in research-oriented industries and top ranking global companies. Companies that require specific Cloud Computing skills or development skills are typically already committed to a specific cloud provider, such as Amazon Web Services (AWS), Microsoft Azure or Google Cloud Platform.

All graduating Engineers with the specialisation can find excellent placements in research-oriented industries and top ranking global companies as:

- Cloud Solution Architects
- Cloud System Administrator
- Cloud Security Specialist
- Cloud Application Development/ Maintenance/ Testing
- Migration and Modernisation Specialists
- Cloud Project Management



# SPECIALISATION IN FULL STACK DEVELOPMENT

## Introduction

As a Full Stack Developer, you are the go-to expert that companies rely on to build, support and maintain their web applications.

At Chitkara University, you will hone your understanding of how the web works, develop complex relational databases used to store applications data, secure and configure your own Linux-based servers, and build complete web applications using Python, HTML, CSS, JavaScript and SQL. Students will work on hands-on exercises, culminating in development of their final portfolio, which will clearly demonstrate key skills mastery to future employers.

With the fast-paced, ever changing nature of technology, at Chitkara University we recognise that developers can no longer afford to ignore any aspect of development, but now must learn the entire process of development from design to the actual deployment. Thus, a comprehensive specialisation on the active and new role for Full Stack Developers.

However, resources to become a Full Stack Developer are limited and only offer sections or just random technologies that you must learn and combine on your own.

## What You'll Learn

At Chitkara University, we introduced this well-curated specialisation to get all technologies in perfect sync to help developers transition from a simple developer to a Full Stack Developer.

- Starting from front-end development, the learner will slowly progress to expertise in other aspects of development including back-end, database, debugging, version control and various other essential technologies that are helpful for a developer.
- Full Stack specialisation breaks down the fundamentals of each technology into five separate segments - Frontend, Backend, Database, other Essential Technologies and Debugging/Version Control. Each section includes multiple technologies to help you gain more experience as a developer.
- In addition to theory-based learning, the course also focuses on practical aspects in great detail, aiding you with a hands-on experience.

## Careers

Full Stack Developers design complete apps and websites. They work on all facets of development from front-end to back-end, database, debugging and testing. Full Stack developers are more sought after because of their expertise in multiple technologies. They can handle all aspects of development, and it can result in a more seamlessly created product.

Students can choose from various technologies and frameworks to work with:

- Front-end – HTML, HTML5, CSS3, Twitter Bootstrap, JavaScript, jQuery
- Back-end – Node.js, Meteor.js, Angular 2, PHP, Ruby on Rails
- Database – MySQL, PostgreSQL, MongoDB, CouchDB, Apache Cassandra
- Essential Technologies – Memcached, Redis, Apache Lucene, Apache Solr
- Debugging/Version Control – GIT, Subversion, Task Runners (Grunt, Gulp), Debuggers (Xdebug, Firedebug)

# SPECIALISATION IN DevOps (DEVELOPMENT OPERATIONS)

## Introduction

DevOps (development and operations) is an enterprise software development phrase used to describe the agile relationship between development and IT operations. The goal of this specialisation is to change and improve the relationship by advocating better communication and collaboration between these two business units. In the enterprise, there is a need to break down silos, where business units operate as individual entities within the enterprise where management, processes, and information are guarded.

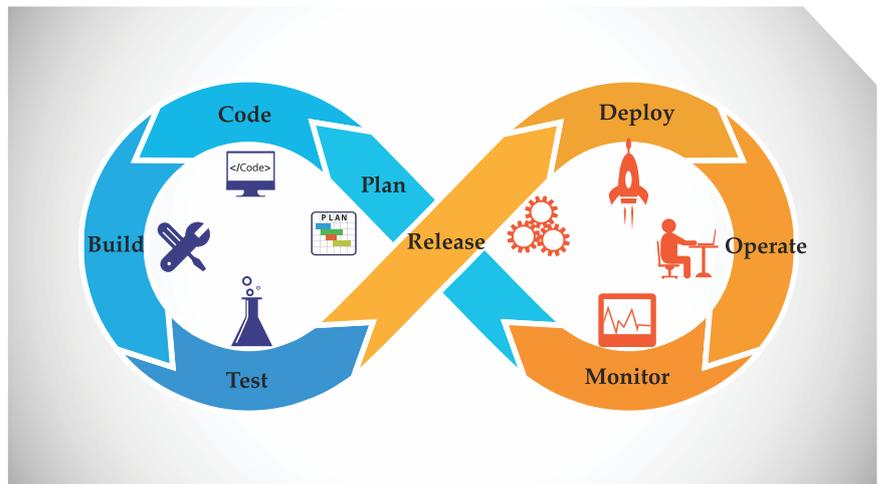
On the software development side—and for those working in IT operations—there needs to be better communication and collaboration to best serve the IT business needs of the organisation. The specialisation in DevOps will help achieve this target.

## What You'll Learn

DevOps is not based on stringent methodologies and processes—rather, it is based on professional principles that help business units collaborate inside the enterprise and break down traditional silos. You'll learn:

- Guiding principles of DevOps including culture, measurement, automation, and sharing.

- New approach to the more traditional application and lifecycle management (ALM) processes.



## Careers

DevOps is spreading beyond web companies and enterprises to a more mainstream enterprise audience that includes almost all major verticals. Organisations in the financial services, insurance, telecommunications, retail, manufacturing, transportation, healthcare, and the public sector have all begun implementing DevOps processes.

The move by more enterprises to adopt DevOps technology and methodology means continued, growing demand for DevOps practitioners and leaders, hence driving up healthy competition among employers, for higher salaries, from the same pool of talent. IT professionals in DevOps environments tend to get higher salaries partly because they also tend to have more responsibilities that span across development and IT operations.

After specialisation in DevOps, students can explore their career as:

- DevOps Architect
- Software Tester
- Release Manager
- Automation Engineer
- Security Engineer
- Integration Specialist

# SPECIALISATION IN MOBILE COMPUTING

## Introduction

Mobile phones have emerged as a truly pervasive and affordable Information and Communication Technology (ICT) platform in the last decade. Mobile applications have enabled us to have a world of information at our fingertips, and while it is a constantly evolving field, mobile development is here to stay.

Mobile and Wireless technology has become a fire wave of the future to benefit every aspect of our life including business, personal, education, medical, entertainment as well as global communication. From start-ups to large corporations, all kinds of companies are hiring developers to create engaging mobile apps. At Chitkara University, students will learn the process of building a mobile app from idea to product for various operating systems. Students will also be exposed to valuable industry inputs and insights into the process of creating cutting-edge mobile technology and develop skills to independently analyse, design, develop, deploy, and troubleshoot mobile applications and services.

## What You'll Learn

Students will complement their computer science education with an in-depth skillset, including building and programming effective mobile apps, learning the constraints and usability

functions of mobile devices, and exploring the current methods to create successful client/ server mobile solutions. Students will cover both theory and practice required to design and build applications for mobile-based services. The program will focus on developing hands-on skills pertaining to the latest and most popular platforms, e.g. IOS, Android, Windows Mobile, etc. They will be trained not only to use existing mobile platforms but also to build new ones. Projects will also be an integral part of the course. Students will:

- Gain foundational understanding of the current field of mobile computing.
- Get hands-on experience with current mobile platforms, which will provide students a strong insight into what it means to develop mobile application software.
- Evaluate the role that mobile systems play in the ever-changing technology field.
- Compare and contrast various technologies involved in mobile communication, including encryptions and networking.
- Understand mobile concepts to design and develop new and innovative applications for current and future mobile devices.

## Careers

With the growing pace of communication and globalisation, sources of data communication have been growing in all the sectors. Nowadays, one of the fast-growing spot in the stream of communication is the Wireless and Mobile Technology. As per TRAI (Telecom Regulatory Authority of India) figures, India became the World's Number 1 Mobile Market in 2013 with more than a billion mobile users. The figures and statistics of the Indian Telecommunication Industry with around 100 mobile phone operators look very lucrative and obviously tremendous job opportunities are available for Engineers and Scientists in this stream.

The career options in the wireless and mobile technologies include:

- Mobile Phone System Engineer
- Mobile Applications Developer
- Mobile Applications Testing Specialist
- IPAD Developer
- Game Developer
- Mobile & Software Platform Architect

# SPECIALISATION IN GAME DESIGN & AUGMENTED REALITY

## Introduction

We have all played and enjoyed games, but how do people actually design them? How do you describe a game? What are the basic elements? How do designers create an experience for the player? What about prototyping and iterating? This specialisation will help students explore the above questions and more.

Students will be introduced to game design and game design concepts, emphasising the basic tools of game design: paper and digital prototyping, design iteration, and user testing. They will also learn about the challenging, multi-disciplinary subject area of augmented reality (AR), where they will learn the skills required to create VR/AR simulations, games, visualisations and apps.

## What You'll Learn

Students will study the creation of digital content and the practical application of VR/AR technologies. You'll learn:

- Research and develop your own VR/AR concepts – creating 2D and 3D digital artwork, as well as computer animation and sound for VR/AR.
- Study the evolving theories and principals of design-led VR/AR. This includes designing for immersive environments, location-based

mobile apps and wearable technologies.

- Research and explore theories of user-centred design and user experience.

During the course of specialisation, students will learn that while VR/ AR are separate entities, they often turn up in the same discussions and are referred collectively as “XR”, short for “extended reality”. Thus, keeping in mind emerging industry trends, Chitkara University also teaches its students the nuances of the XR market to further keep-up with the market trends.



## Careers

The combined XR market is soaring. According to Statista, market size was around \$6.1 billion in 2016 but is expected to reach \$215 billion by 2021. Although companies have spent several years developing and refining this technology, demand for skilled XR professionals is experiencing a major uptick as more technologies make it out of R&D and enter the marketplace. There are many more roles in the XR business in need of people.

- Developers typically collaborate closely with software designers and 3D artists, as well as design Architects and Engineers who plan and create the hardware on which XR software runs.
- System validation Engineers test systems and help resolve technical issues, and circle back with developers to ensure applications get modified accordingly.
- Project managers coordinate and oversee entire development teams, interface with other business units, and work with clients.



# SPECIALISATION IN UI/UX DESIGN

in collaboration with **ImaginXP**

## Introduction

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UX Design refers to the term “User Experience Design”, while UI Design stands for “User Interface Design”. Both elements are crucial to a product and work closely together. But despite their professional relationship, the roles themselves are quite different, referring to very different parts of the process and the design discipline. Where UX Design is a more analytical and technical field, UI Design is closer to what we refer to as graphic design, though the responsibilities are somewhat more complex.

At Chitkara University, we offer Computer Science Engineering with specialisation in UI/UX Design program, in collaboration with Industry experts – ImaginXP. This specialisation focuses on teaching students how to design digital products that provide relevant user experiences - understanding the needs of the users, creating a product roadmap based on these user needs and then implementing the principles of UX design to get an easy to use, simple product.

Further, user experience encompasses all aspects of the end-user’s interaction with the company, its services, and its products. This implies that regardless of its medium, UX

Design encompasses any and all interactions between a potential or active customer and a company. As a scientific process it could be applied to anything, street lamps, cars, Ikea shelving and so on.

## What You'll Learn

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Chitkara University has the best in-house faculty, accompanied with guest faculty from Industry with expertise in UI/UX domain. This specialisation has been devised and designed by UX Industry, considering the needs of the job market, and offers excellent placement. Our study module also includes rare Industry experience through projects, assignments and internships. Students will be offered:

- Understanding the fundamentals and principles of UI/UX Design.
- Knowledge of tools and process used in UI/UX Design, complemented with a mix of classroom assignments, projects, field work, industry projects, internships and shadow learning.
- Requisite skillset required in “real-life” design problems through visual design tools and introduction to 6D.

- Quizzes, classroom assignments, field work etc. with “real-life” scenarios. Students will be encouraged to come up with efficient solutions.
- Lectures and practical training from Industry experts, including ImaginXP professionals, for relevant Industry knowledge. Hands-on learning with the process of research, testing, development, content, and prototyping to test for quality results.



## ImaginXP

ImaginXP is a pioneer in the field of UX Design and design thinking education, bringing together industry professionals and academicians to create industry relevant programs. With a total of 95+ faculty and collaboration for faculty exchange from leading universities and institutes in UX design, ImaginXP is bringing quality design thinking and UX design education to India. Their vision is to make India a global design and innovation hub bringing world-class education to Indian students.



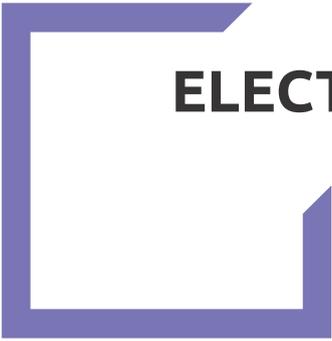
## Careers

The day-to-day business operations of companies across the globe have changed with advancement of technology and rapid digitalisation. 'Design' of digital product influences business decisions and that's the primary reason of need of UI/UX Designers in industry.

Studies indicate that India is the fastest growing app market in the world. The app usage growth of 131% in India is much higher than the global average and contributes to 19% of the total time an average Indian spends on his or her phone. This, coupled with the heavy outsourcing of web design to India from across the globe, means the career prospects for those with the right education in UI/UX look promising indeed.

Computer Science Engineering students specialising in UI/UX Design, are offered excellent placement, setting them up for success right at the start of their career. Graduates can explore the following roles:

- User Experience - UX Designer, Interaction Designer
- Web / Mobile App Design - App Designer, Web Designer, Social Media Designer, New Media Artist, Web Content Manager
- Visual Design - Type Designer, Graphic Designer, Layout Artist, Photo / Image Editor



# ELECTRONICS AND COMPUTER ENGINEERING

4-Year Bachelor of Engineering

## Program Objectives

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Electronics and Computer Engineering is the integration of Electrical Engineering and Computer Science to develop computer systems. Both these disciplines are closely linked and specifically interwoven to enhance our experience of the world and shape the convenience of our future in terms of solving problems, and developing products & systems. Thus, increasing the accuracy, speed and quality of information sources and technology.

Electronics and Computer Engineering encompasses not just the software aspects of computing but also the hardware. Knowing how the hardware works as well as the software, enables the design of systems that incorporate both counterparts and presents an understanding of the whole process from writing software programs that work on a particular operating system to the communication of this with the hardware.

Combining these two disciplines gives you an excellent grounding in both subject areas and prepares you for a wide range of careers, in both or either fields. This cross-discipline study gives you the advantage of becoming a multi-skilled professional Engineer with a thorough understanding of the concepts and techniques from other

closely related areas that are likely to influence and affect your career, such as object-oriented programming or artificial intelligence.

## Learning Outcomes

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In combining the two disciplines- Electronics and Computers- you will gain an excellent grounding in both subjects plus the chance to explore the exciting interface between the two.

- Interdisciplinary teaching within the University gives you access to cross-discipline modules taught by subject specialists.
- Our faculty are conducting world-leading research in Machine Learning, Memory Technology and Biomedical Electronics, enabling you to keep up with the latest advances throughout your Degree.
- You will obtain hands-on practical experience of designing and constructing electronic systems using computer simulation and practical laboratory work.
- This cutting-edge program adapts to the latest developments in Electronics Technology.

## Academic Framework

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Our Electronics and Computer Engineering program will provide you with the knowledge of electronics and its application, computer systems and the latest software to prepare you for a career in Information Technology and Computing Industries. This Degree is designed to cross the boundaries between hardware electronics, software and computer systems.

Following a common core in electronics and computing, you will take modules in computer programming, operating systems, computer architectures & graphics, networking and the structure and operation of the internet, enabling you to develop a thorough understanding of modern computer systems.

## Cutting Edge Labs

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The program covers topics such as digital signal processing, data and internet networking, mobile devices, multimedia systems, image processing, speech analysis, graphics, computer vision, and artificial intelligence, with hands-on learning in our labs.

Individual project work utilises state-of-the-art computing and audio-visual processing facilities, giving you access to the latest mobile computing devices.



## Careers

An Electronic Engineer can find a job in the consumer electronics manufacturing organisation, telecommunication and IT industry, healthcare equipment manufacturing organisation, mobile communication (2G,3G,4G), internet technologies, and power electronics industry.

As a student at Chitkara University, you can choose your own path. ECE course at the University, offers in-depth study in a wide range of disciplines that will open doors to almost any career you can imagine. You can create your own mix of qualifications and choose a career in the following fields:

- Biomedical Engineering
- Energy Systems
- Mechatronics & Systems Control
- Software & Hardware Engineering
- Digital & Analog Electronics
- Electromagnetics & RF Microwave
- Photonics
- Communications

# ELECTRONICS & COMMUNICATION ENGINEERING

4-Year Bachelor of Engineering

## SPECIALISATIONS

After completion of the 4th semester in B.E. (Electronics & Communication Engineering), the students will have the opportunity to pursue specialisation in any one of the following fields:

- **Embedded Systems and IOT**
- **VLSI Design**

## Program Objectives

Electronics & Communication Engineering deals with electronic devices, circuits, communication equipment like transmitter, receiver, integrated circuits (IC). It also deals with basic electronics, analog and digital transmission & reception of data, voice and video (AM, FM, DTH), microprocessors, satellite communication, microwave engineering, antennae and wave progression.

The fields, Engineering and Communications, combined together prove to be a fascinating and challenging choice, with well-qualified graduates being in high demand in global industries. At Chitkara University, the course begins by providing students with an understanding of the basic principles of Electronic Engineering, whilst developing their skills in maths and computing. We aim to deepen knowledge and skills that will equip you in your professional work involving analysis, systems implementation, operation, production, and maintenance of the various applications in the field of Electronics and Communications Engineering.

## Learning Outcomes

Group design/ project work is incorporated into all modules. Final year students are mandated to be a part of a team project, within the University or outside, to facilitate hands-on learning and

industry interaction. Future Engineers:

- Design and maintain satellites, which bring TV, telephone and Internet service into remote and rural regions.
- Create advanced communication facilities to bring people together from all over the world.
- Develop programs for various control and communication systems.

## Academic Framework

In the 1st & 2nd year, students are given a thorough introduction to Electronics, covering the key areas of circuits and operational amplifiers. The curriculum includes basic circuit analysis skills, operational amplifiers from a theoretical and practical basis, and associated mathematical concepts and tools.

In the 3rd year students are introduced to the propagation of high-speed signals around circuits & systems, and the principles of noise within them. The year also includes in-depth study of the concepts of Signal Integrity & Electromagnetic Compatibility, and the effects of not achieving EMC on system operation. Fundamental concepts that lead to these problems and their mitigation are also revealed.

In the IVth year future engineers are involved in the entire life cycle of a product - from concept through design and computer modeling to creating the hardware device. Students get hands-on experience on projects by working in teams – taking a technical problem, capturing the requirements, creating a specification for a solution, simulating it using industry standard software tools, before final implementation in hardware.



### Cutting Edge Labs

The Engineering department at Chitkara University, is well-established with state-of-the-art technology to impart knowledge for future industrial and educational needs. The department is equipped with DSP, Microprocessor, Communication, Optical, VLSI and Embedded Systems.

Our labs offer students the opportunity to work on a wide range of advanced software packages, with modern equipment supported by special purpose software packages like ETAP, MATLAB, CAPSA, LABVIEW, ORCAD, MULTISIM, KEIL, PSIM and MAGNET.

### Scope of Employment

There are many opportunities for Electronics and Communication Engineers as they are employed in variety of sectors such as Telecom Industries, Civil Aviation, Development Centers in various States, Defense, NPL, A.I.R, Posts and Telegraph Department, Railways, Bharat Electronics Limited, D.R.D.O, Telecommunication, Software Engineering/IT, Power sector, Hardware Manufacturing, Home Appliance and VLSI design, Television Industry and Research & Development. Some industry roles include:

- Service Engineer
- Technical Director
- Senior Sales Manager
- Customer Support Engineer
- Research & Development Software Engineer
- Software Analyst
- Field Test Engineer
- Network Planning Engineer
- Electronics and Communications Consultant

**Our students have obtained prestigious placements at leading companies such as Infosys, nVidia, Texas Instruments, Cadence, ARM, etc.**

# SPECIALISATION IN EMBEDDED SYSTEMS & INTERNET OF THINGS (IoT)

## Introduction

The explosive growth of the “Internet of Things” is changing our world. At Chitkara University, students can pursue specialisation in Internet of Things (IoT), which is among the newest innovations in the field of information technology, and change the way we receive information. This technology connects devices to each other, and to the people who use it in their daily life.

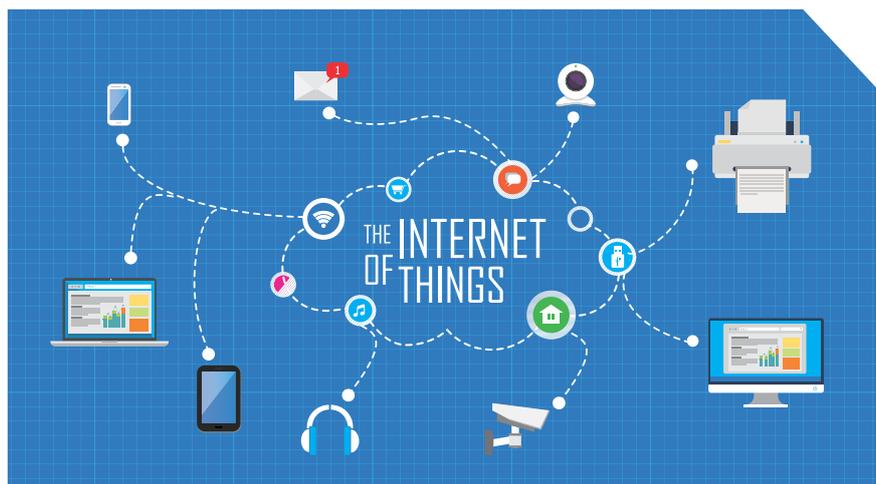
Embedded systems are gaining importance in all aspects of Engineering. It is expected that in the near future no technical device will exist without software-based embedded information technology, based on standardised micro-controller cores. This implies that the design of embedded real-time operating systems will play a dominant role in this field.

## What You'll Learn

With this specialisation you will learn the importance of IoT in the society, the current components of typical IoT devices and trends for the future. Student will:

- IoT design considerations, constraints and interfacing between the physical world and your device will also be covered.
- Make design trade-offs between hardware and software.

- Cover key components of networking to ensure that students understand how to connect their device to the Internet.
- Study how various trends have enabled the Internet of Things, and how it changes the way design is performed.
- Participate in regular open house interactions to discuss some of the ramifications that IoT is having on society today.



## Careers

As digital transformation continues to accelerate, IoT is at the center of this change - supporting organisations' digital journeys and offering professionals exciting career opportunities. Research and advisory company, Gartner, Inc., predicted that 8.4 billion connected things will be in use worldwide in 2017, up 31 percent from 2016, and will reach 20.4 billion by 2020. In India alone, more than 1000 tech start-ups are engaged in IoT-related projects, offering plenty of job opportunities. Here are some of the roles:

- IoT Engineer
- IoT App Developer
- IoT Solution Architect
- Citizen IoT Scientist
- Machine Learning Engineer
- IoT System Administrator

# SPECIALISATION IN VLSI DESIGNS

## Introduction

Very Large Scale Integrated (VLSI) Design is the process of designing computer chips, more specifically, integrated circuits (IC) using computer-aided design (CAD) tools on a workstation or a personal computer.

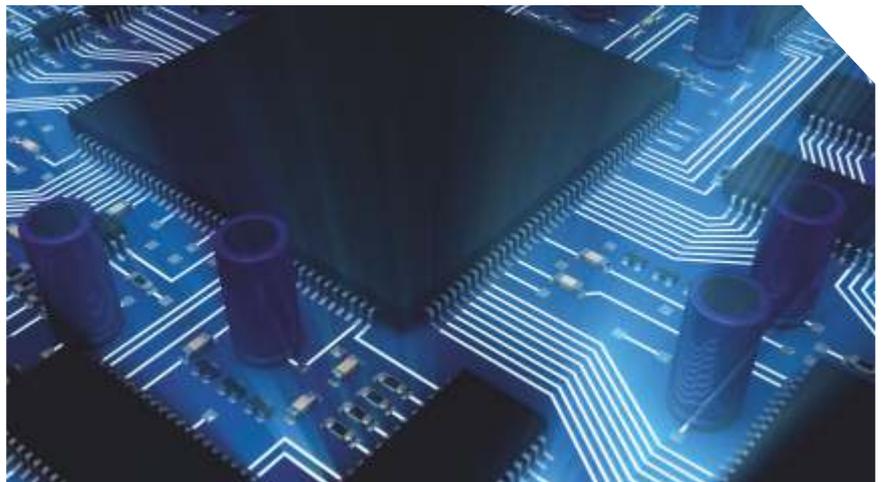
At Chitkara University, the objective of this program is to provide students with comprehensive knowledge of VLSI circuits and systems which is core to the electronics chip manufacturing industry. The program emphasizes the key aspects of hardware design and development for VLSI applications. Prime focus is laid on the areas like VLSI system design, ASIC design, FPGA based systems design, RF circuit design, and SOC based design and verification.

## What You'll Learn

The VLSI discipline is for design and verification of electronics systems and circuits. Its applications are found in areas like signal processing, image processing, networks and communication applications.

The curriculum focuses on employing hierarchical design methods and understanding the design issues at the various levels of hierarchy. Students are exposed to various design software in this program, and learn to design, simulate,

implement & test complex digital systems using FPGAs (Field Programmable Gate Arrays). The main objectives of the course are to analyse the electrical and design characteristics of transistors, gates and study the issues & methodologies involved in the integration of these devices into complex high-performance systems.



## Careers

With recent and rapid upsurge in the areas like hardware, software co-design, architectures for machine intelligence, network on chip etc., the program is designed to cater to the needs in producing Engineers trained, in both, hardware and software, bridging the gap between the academia and industry. Apart from a bright scope to pursue higher education and research, students can pursue **career opportunities in diverse fields such as Process Industry, Manufacturing Industry Consumer Electronics, Communication Networks and Automation Industries.**

Students can find excellent placements in leading core companies like IBM, Texas Instruments, NXP, Wipro, GE, Motorola, Honeywell, HCL Technologies, Tata Elxsi, RBEI, TATA, DELPHI etc.

# CIVIL ENGINEERING

## 4-Year Bachelor of Engineering

### SPECIALISATIONS

After completion of the 4th semester in B.E. (Civil Engineering), students will have the opportunity to pursue specialisation in any one of the following fields:

- Public Health Engineering
- Construction Engineering Management
- Structural Engineering

### Introduction

Civil Engineers conceive, design, build, supervise, operate, construct and maintain infrastructure projects and systems in the public and private sector, including roads, buildings, airports, tunnels, dams, bridges, and systems for water supply and sewage treatment.

Engineers work with many other professionals in teams to make our world a better place. Their work space may include different places, like offices and laboratories, far-flung or not so common sites or places others never get to go, such as underground and at sea! These opportunities make Civil Engineering one of the most exciting careers choices around.

- Earthquake Engineers make sure structures can withstand earthquakes.
- Environmental Engineers protect the environment and protect us from extreme weather.
- Geotechnical Engineers focus on the ground, which affects everything built on it (buildings), with it (dams and levees) and in it (tunnels and pipelines).
- Project Management Engineers make sure entire projects are delivered on time and on budget.

A Degree in Civil Engineering covers a plethora of scientific

topics, including, Mechanics, Hydraulics, Materials Science and Statistical Analysis. At the Chitkara University, the study of these foundation subjects will be complemented with the development of design skills, with computer-aided designs in particular. The final year will involve field trips and the conception of several personal or team projects, which will further play an important role to provide on-the-job training and real-life application of knowledge.

### Learning Outcomes

With Engineering, you can follow your interests both in what you do and where you do it- be it on a construction site, building, testing and monitoring developments or in a sport working as an Engineer to create world-class sporting venues. You can also make a difference in people's everyday lives, and work in a team to rebuild a community following a natural disaster – or even prevent the disaster from happening in the first place! To help you achieve your dream, following are some learning outcomes that you can expect:

- Make good decisions based on best practices, technical knowledge, and experience.
- Balance multiple and frequently conflicting objectives, such as determining the feasibility of plans with regard to financial costs and safety concerns.

- Develop leadership skills to take ultimate responsibility for the projects that you manage or research.
- Use the principles of Calculus, Trigonometry, and other advanced topics in mathematics for analysis, design, and troubleshooting.
- Monitor and evaluate the work at a jobsite by acquiring organisational skills.
- Develop excellent problem-solving skills - identify and evaluate complex problems – to manage planning, design, construction, and operation of multifaceted projects or research. Further, learn to use your skill and training to develop cost-effective, safe, and efficient solutions.
- Brush up your communication skills to present reports and plans to audiences with varied range of backgrounds and technical knowledge.

### Academic Framework

The basic study framework at Chitkara University, includes, coursework in Mathematics, Statistics, Engineering Mechanics and Systems, and Dynamics. The curriculum is a mix of traditional classroom learning, work in laboratories, and fieldwork. Programs also include cooperative programs, also known as co-ops, in which students gain work experience while pursuing a Degree.

Additionally, our curriculum lays intensive focus on:

- Strength of Materials
- Construction Technology
- Soil Mechanics
- Concrete Technologies
- Structural Analysis
- Building Drawing
- Reinforced Concrete Structures
- Transportation Engineering
- Hydraulic Structures and Machinery
- Environmental Engineering
- Design of Steel Structures
- Water Resource Engineering
- Construction Management

### Cutting Edge Labs

Students have access to many facilities in the form of nine well-equipped, state-of-the-art laboratories. These include:

- Structure and Construction Engineering Lab
- Computer Lab
- Soil Mechanics Lab



- Hydraulics and Fluid Machinery Lab
- Strength of Materials Lab
- Concrete and Highway Lab
- Survey Lab
- Environmental Engineering Lab
- Remote Sensing and GIS Lab

### Scope of Employment

A career in Civil Engineering is satisfying, challenging and offers promising prospects for upward progression. It is expected that the demand for Civil Engineers all over the world will only grow in the coming years.

Engineering companies all over the world are in need of Civil Engineers to develop new technologies, build better buildings, create better cities, get people to where they want to go in the best way possible, and counter the devastating effects of climate change. In other words, to improve the future of the planet. This means that the Civil Engineers of tomorrow (you!) are in demand. With a good education and a positive attitude, you will be able to secure an exciting, well-paying job that offers you opportunities to work at the cutting edge of your field, all over the globe.

# SPECIALISATION IN PUBLIC HEALTH ENGINEERING

## Introduction

The Public Health Engineering sector is responsible for the collection of water, purification, transmission and distribution of water. A Public Health Engineer has to perform his job by calculating design flow, design population, design area and population density. And with increasing problems related to water, air and soil pollution; environmental emergencies; industrial solid and liquid waste management; industrial and occupational safety; and toxic chemical hazards, Public Health Engineers have a greater role to play in today's scenario as well as in future.

While Public Health Engineering is the contemporary term used for "Sanitary Engineering". The term traditionally did not include much of waste management and environmental remediation work covered by environmental engineering.

Today, a Public Health Engineer's role encompasses collective responsibilities right from ensuring that a water level is monitored and regulated, rivers are engineered to work with expanding populations, water and wastewater treatment systems are designed to meet growing demands or assessing and minimising water usage in domestic and industry applications.

## What You'll Learn

If you want to make a difference in combating this pressing global problem, as innovators of water-friendly products and services to improve quality of life, this specialisation in Civil Engineering will put you on the right track. Some of the key components you'll learn include:

- Applying knowledge and technical expertise in building, analysing, testing, operating and maintaining civil, green water (fresh), grey water (waste) and associated green technologies, including the study of relevant industry standards and code of practices.
- Learn the nuances of maintenance, repair and production of plumbing, sanitation and water resource equipment and its systems.
- Conceptualise, visualise and design of MEP services pertaining to plumbing and sanitation that include water supply & treatment, waste water disposal & recycling, and solid waste disposal.
- Procure, inspect and test civil and plumbing engineering materials.
- Fault diagnosis, repairing industrial/ domestic fresh water lines (cold and hot), making joints and carrying out pipe laying and plumbing work.

## Careers

A career in Civil Engineering with specialisation in Public Health offers promising prospects with the lure of earning an above average income. Some career expanses that students can explore after their specialisation include:

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

# SPECIALISATION IN CONSTRUCTION ENGINEERING MANAGEMENT

## Introduction

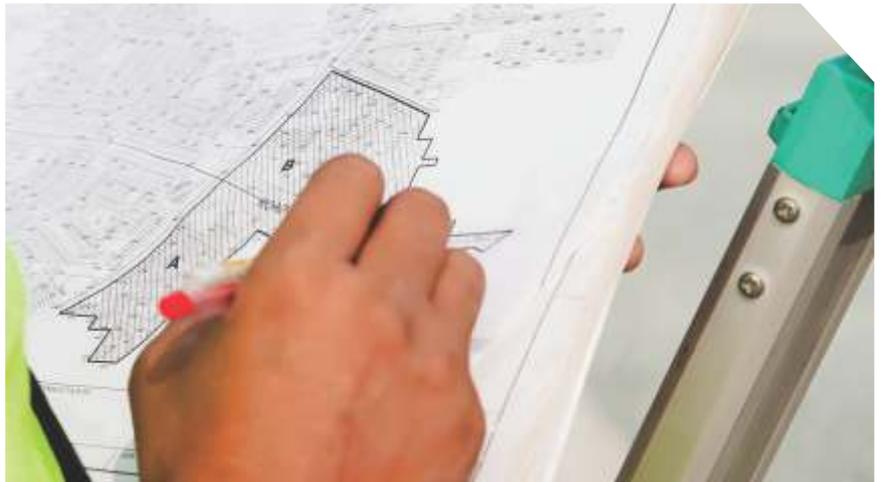
Construction Engineering is a professional discipline that deals with the designing, planning, construction, and management of infrastructures such as roads, tunnels, bridges, airports, railroads, facilities, buildings, dams, utilities and other projects.

## What You'll Learn

Specialisation in Construction Engineering Management will provide students the knowledge of Civil Engineering with extensive focus on modern construction materials, techniques and effective construction management practices. Through this program, Civil Engineers become capable of constructing special structures and manage complete projects within a given schedule and budget. The course includes:

- Introduction to the basics of Science, Mathematics, Engineering Graphics and Computing techniques. Laboratory classes for practical understanding are also conducted.
- Fundamental principles to study the behaviour of solids, fluids and soils. Transportation Engineering and Environmental Engineering.
- Focus on analysis & design of steel & concrete structures and foundation Engineering.

- Students can opt for special electives in: Modern Structural Materials and Systems Design, Shoring, Scaffolding and Form Work, Construction Personnel Management, Project Safety Management, Quality Control & Assurance in Construction, Quantitative Techniques in Management, Contract Laws and Regulations.
- A design project and a main project in the areas of Construction Engineering and Management.



## Careers

Chitkara University students are groomed under high standards of program delivery and rigorous curriculum. This will naturally make them capable enough to match any employer's expectations. Civil Engineers who specialise in Construction Engineering Management, can find jobs in government departments, private and public-sector industries. Opportunities are also available in research and teaching institutions. Abundant jobs opportunities are available to graduates as:

- Planning Engineer
- Quality Control Engineer
- Site Engineer
- Project Manager

# SPECIALISATION IN STRUCTURAL ENGINEERING

## Introduction

Structural Engineering includes the design of buildings & bridges, and considering loads such as wind, earthquakes and people. These design structures could include materials such as concrete, steel, timber, masonry and fiber-reinforced polymers. The specialisation is basically concerned with the conception, analysis, design and construction of the above components or assemblies to resist loads arising from internal and external forces.

At Chitkara University, the specialisation includes the study of solid mechanics, which is the study of the distribution of stresses that a given load produces when applied to a solid element, and the calculation of the resulting strains, given the characteristics of the materials that make up that element.

## What You'll Learn

This specialisation is designed to train you in advanced concepts of Structural Engineering by in-depth coursework, hands-on modeling projects and dissertation work. Students will undergo intensive modules to study various aspects of Structural Engineering and learn how to apply these constructs to a major research project. You will learn:

- Application of Solid Mechanics that enables the Structural Engineer to assemble elements, such as beams and columns, into a structure that will resist both static and dynamic loads, such as gravity, wind, snow and earthquakes.
- In addition to steel and concrete, a know-how of new materials that are being developed and used in Structural Engineering, including reinforced plastics and polymers.
- Rehabilitation of existing structures weakened by corrosion.
- Designing the structures of machinery, vehicles, aircraft and spacecraft.



## Careers

Employment opportunities include work with consulting Structural Engineers, construction companies, building development companies, Engineering departments of private corporations, aircraft and aerospace related companies, public utilities, and government agencies. Major employers of Structural Engineers include:

- Engineering Consultancies
- Railway Operators
- Public Utility Companies
- Oil Companies
- Civil Engineering Contractors



# BACHELOR OF COMPUTER APPLICATIONS

3-Year BCA

## Program Objectives

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With the rapid growth of IT industry in India, the demand for computer professionals is increasing day by day. This increasing growth has opened a plethora of opportunities for computer graduates. Bachelor in Computer Application (BCA) is one of the most popular undergraduate courses among the students who want to make their career in the IT (Information Technology) field.

Fast growing information technology and communication systems have become critical components of almost every company's strategic plan. Companies who want to take advantage of the new information technologies and communication systems require expert professionals who can apply Computer Science principles to solve problems produced by the interface between business and technology. Our BCA program, exposes students to various areas of Computer Applications including the latest developments in the industry, at an undergraduate level.

## Learning Outcomes

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The program imparts comprehensive knowledge with equal emphasis on theory and practice in the field of information technology. A BCA graduate would be able to demonstrate advanced skills in the effective analysis,

design and realisation of business systems utilising contemporary information technology.

The broad objective of the programme is to provide sound academic base from which an advanced career in Computer Applications can be developed. Conceptual grounding in computer usage as well as its practical business application will be provided making candidates suitable for IT sector entry-level jobs.

## Academic Framework

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The BCA curriculum at Chitkara University, has been curated keeping in view the requirements of the IT industry. The curriculum of the undergraduate course, has been put together with extensive inputs from experts from academia and industry. Components such as core Computer Science courses, programming languages, application-oriented courses and soft skills courses make the curriculum complete. The final semester of the program is devoted to a project which can be carried out at the software industry or in the University itself.

As a part of the program, students are also taught to carry out analysis and synthesis involved in Computer Systems, Information Systems and Computer Applications.

## Cutting Edge Labs

At Chitkara University, training pedagogy is enhanced through various on-campus learning galleries, state-of-the-art laboratories and experiential learning features of the training facilities.



## Scope of Employment

The demand of IT professionals is increasing not only in India but also abroad. After the completion of the course, Students can find jobs in reputed IT companies like IBM, Oracle, Infosys, and Google. Students can work as a System Engineer, Junior Programmer, Web Developer or as a System Administrator. The field provides ample opportunities to make your career not only in private sector but also in the public sector. Government organisations like NIC, Indian Army, Indian Air Force and India Navy also recruit large number of computer professionals for their IT department.

After the completion of the course a student's work profile may include: Systems Engineer, Software Developer, Systems Administrator, Project Manager, Chief Information Officer, Programmers, Systems Analysts, Scientists, Computer Support Service Specialists, Database Administrators, Presentation Specialists, Commercial and Industrial Designers, Independent Consultants, Information Systems Manager, Software Publishers.

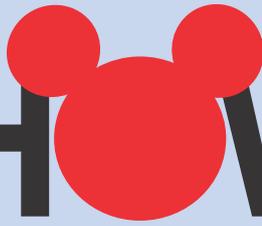
## 5-YEAR INTEGRATED BCA-MCA

Students enrolling in this program can pursue Bachelor's as well as Master of Computer Application without taking a break. Through this program students not only get a world class, "industry-ready" curriculum but also end up saving a year. After the completion of 3 year BCA coupled with intensive classes, students get to spend the last 2 years as an internship in IT companies.



**HOSPITALITY  
PROGRAMS  
@ CHITKARA  
UNIVERSITY**

HOW



RECREATION & LEISURE,  
ENTERTAINMENT, ATTRACTIONS &  
SPECIAL EVENTS MANAGEMENT  
THEME PARKS, CLUBS, DESTINATION  
SERVICES & RESORT OPERATIONS

T



MEETING & EVENT SALES,  
PLANNING & MANAGEMENT

CHOOSE



TRAVEL & TOURISM  
INDUSTRY MANAGEMENT

AIRLINE  
&  
CRUISE

YOUR



FOOD & BEVERAGE SERVICE & CULINARY  
MANAGEMENT  
RESTAURANTS, CATERING AND  
INSTITUTIONAL OPERATIONS

HOSPITALITY



MANAGEMENT



LODGING  
MANAGEMENT  
LUXURY,  
CONVENT  
ALL-SUITE &  
RESORT HOTEL



CAREER

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# HOSPITALITY PROGRAMS @ CHITKARA UNIVERSITY

Picture This. You are managing a five-star hotel or resort. Opening the hottest restaurant in town. Running a casino or a theme park. Or creating the marketing for an airline, national tourism campaign or even your favourite IPL team.

Sounds Exciting? It Is. That's what hospitality management careers are like. And this is just a tiny sampling of the vast variety of dynamic opportunities that await you in the global hospitality industry. Hospitality continues to be one of the world's fastest growing industries. If you'd like a career that is professionally stimulating and personally fulfilling, and that can take you anywhere in the world, take a look at the hospitality sector and consider the unique, innovative hospitality management network that can put you on the fast track to success.

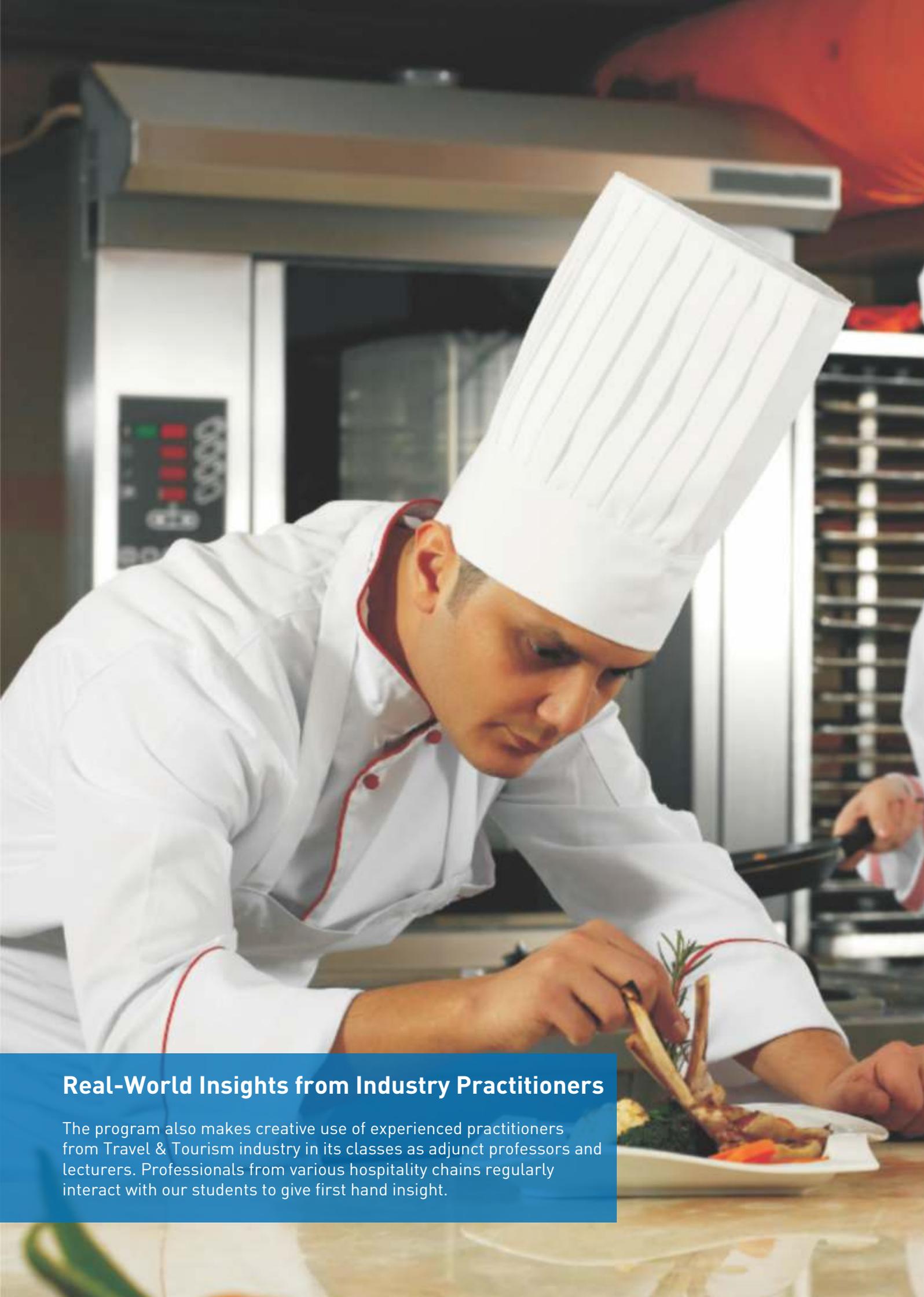
Hospitality graduates from Chitkara University graduate with a broad business knowledge and an exceptional network of hospitality industry contacts. It is a world-class training centre where dedication and close ties to the hospitality and tourism industry are hallmarks of teaching and learning. Students get unparalleled instruction from the best mentors in the field and gain an excellent head start in the dynamic and exciting world of hospitality, catering & tourism. It is developed and managed by individuals who are top international hotel professionals and they bring to the classroom expertise and business acumen that provides students with comprehensive theoretical knowledge and practical hands-on experience necessary to prepare for a rewarding career in dynamic and exciting industries of hospitality, tourism and catering.

Our Hospitality Programs are based upon a solid business curriculum with a focus on people and service-oriented operations. Extensive internships provide an array of practical field experience and set our Hospitality majors apart from any other. Join us in building your passion, imagination and knowledge into an incredibly exciting career.

## FOR THE ACADEMIC YEAR 2019, THE FOLLOWING PROGRAMS ARE OFFERED

- 3-Year B. Sc in Hospitality Administration

**11%**  
**OF WORLDWIDE  
EMPLOYMENT  
IS IN TRAVEL &  
TOURISM**



## Real-World Insights from Industry Practitioners

The program also makes creative use of experienced practitioners from Travel & Tourism industry in its classes as adjunct professors and lecturers. Professionals from various hospitality chains regularly interact with our students to give first hand insight.



# CAMPUS RECRUITMENT

Our hospitality program has a path breaking recruitment record for its graduates since 2007, with major hotel chains coming to our campus for hiring our graduates

 <b>THE LEELA</b> PALACES ~ HOTELS ~ RESORTS <i>The Essence of India</i>	 <i>Shree Hotels &amp; Resorts</i>	 <b>Marriott</b>	 <b>Carnival</b>	 <b>HYATT®</b>
 <b>Le MERIDIEN</b>	 THE RITZ-CARLTON®	 <b>TAJ</b> Hotels Resorts and Palaces	 <i>Regent</i> SEVEN SEAS CRUISES®	 <b>Radisson</b>
 DUSIT DEVARANA HOTELS & RESORTS	 ACCOR Open New Frontiers in Hospitality	 <b>Hilton</b>	 INTERCONTINENTAL HOTELS & RESORTS	 <b>CARLSON</b>
 NOVOTEL HOTELS	 pullman HOTELS AND RESORTS	 <i>Fairmont</i> HOTELS & RESORTS	 THE <b>LaLIT</b>	 THE IMPERIAL <i>in New Delhi</i>
 ITC-WELCOMGROUP Hotels, palaces and resorts	 JAYPEE HOTELS	 THE GRAND	 JW MARRIOTT HOTELS & RESORTS	 <i>Ananda</i>
 <b>WESTIN</b> HOTELS & RESORTS®	 <b>Park Plaza</b>	 <b>RAMADA</b>	 lemon tree HOTELS	 <b>TRIDENT</b>



**A CAREER  
WHICH WORKS  
HERE AND  
ACROSS THE WORLD**

# LEARN FROM HOSPITALITY EXPERTS



Our faculty members share leading hospitality theory and management techniques. They also draw from their work experience in the field, to give you concrete ways to put that theory into practice.



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# 3-YEAR BACHELOR OF SCIENCE (B. Sc) IN HOSPITALITY ADMINISTRATION

\*(This program is offered at Chitkara University, Punjab and Chitkara University, Himachal Pradesh)

## PROGRAM OBJECTIVES

The 3-Year program equips students with all the required skills, knowledge and attitude to efficiently discharge responsibilities in the Hospitality sector and also involves in-depth laboratory work for students to acquire knowledge and skill standards in all areas such as the core department of a hotel related to Food Production, Food and Beverage Management and Accommodation Management, Hospitality Marketing, and Finance.

- A bridge between industry's requirement and present education system.
- Updated curriculum delivered in modular format with VAK style methodology
- Best in class industry faculty and infrastructure.
- Global Exposure.
- On-the-Job Training/ Industrial exposure for 44 weeks, divided into four/five weeks in the four key areas of Food Production, Food & Beverage Service, Accommodation Operations and Front Office followed by specialisations.
- Industrial exposure with top hotel brands in India & Overseas.
- Familiarisation trips, guest lectures, workshop to supplements the learning curve.
- Specialisation modules to enhance communication, grooming & lifeskills.
- Overall performance jointly evaluated by the University and Industry.
- Better career opportunities for the students than conventional graduates and post graduates.

**YOUR  
FUTURE  
STARTS HERE**



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## PROGRAM LEARNING OUTCOMES

During the first year of the 3-Year B. Sc Program, the student will develop an overview of Hotel administration, its environment and management with essential skills and tools necessary for running a hotel successfully. This provides the foundations that prepare the students to take on more challenging advanced modules in the second and the third year of the degree program.

The advanced modules focus on a closer examination of the operations of the hotel industry, particularly on the use and management of key resources, such as people, finance and IT, from a strategic perspective. With hands on training in the labs for food production and service, the front office and housekeeping department too have their element of practical during the two year program on campus.

- Understand the scope and historical traditions of the hospitality industry, and describe the full range of career opportunities available.
- Demonstrate knowledge and application of professional guest service skills and attitudes.
- Use computers as a tool to address management challenges in the areas of marketing, guest service, cost control, and human resource management.
- Demonstrate a familiarity with the day-to-day operational procedures of a typical hotel or restaurant property.
- Demonstrate basic familiarity with the proper use and care of common kitchen & restaurants equipment.
- Apply cost control concepts and develop appropriate systems and tools for the day-to-day management and operations of lodging or food service business.
- Convert financial data and operational reports into management action plans.
- Demonstrate knowledge of proper sanitation & safety procedures for food service and lodging applications.
- Apply advertising, promotional and direct sales techniques to the marketing of tourism products and special events.
- Demonstrate knowledge & skill expertise in operations relative to the prerequisites in Hospitality Management.
- Demonstrate effective written and interpersonal communication skills and exude high standards personal and work hygiene, safety and grooming.
- Acquire knowledge of global and current perspectives and diversity issues related to hospitality management.
- Understand moral, ethical and environmental issues in managing hotel.

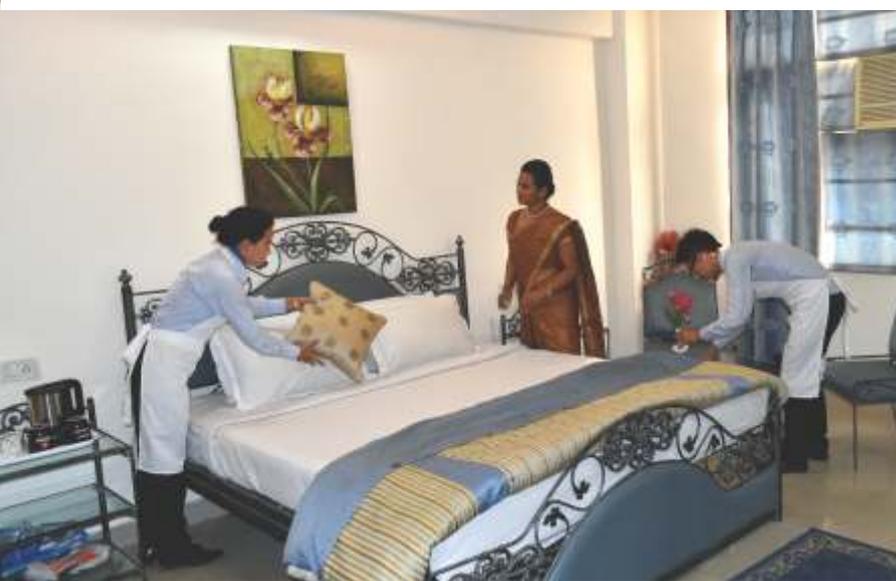
# STATE-OF-THE ART HOSPITALITY LABORATORIES



Our hospitality school boasts of world class infrastructure which helps in providing the all important link between theory and practice.

- Basic Training Kitchen
- Quantity Training Kitchen
- Advance Training Kitchen
- Bakery & Confectionary Lab
- Training Bar
- Training Restaurant
- Housekeeping Lab
- Front Office Lab
- Computer Center







**NURSING  
PROGRAM  
@CHITKARA  
UNIVERSITY**



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# HEALTHCARE INDUSTRY IN INDIA

India's rapid growth has brought about a "health transition" in terms of shifting demographics, socioeconomic transformations and changes in disease patterns. The major factors driving the growth in the sector include increasing population, growing lifestyle related health issues, cheaper costs for treatment, thrust in medical tourism, improving health insurance penetration, increasing disposable income, government initiatives and focus on Public Private Partnership (PPP) model.

The Government of India has decided to increase health expenditure to 2.5 per cent of gross domestic product (GDP) from the existing 1.4 per cent.

## KEY FEATURES

- According to a report by Price Waterhouse Coopers, an estimated 189 million people in the country will be more than 60 years of age by 2025, needing higher healthcare spends.
- A combined study by an industry body and Ernst & Young suggests that India will need as many as 1.75 million additional beds by the end of 2025. Further, an investment of US\$ 86 billion is required to achieve 1 doctor, 2 beds and 2.3 nurses per 1000 population by 2025.
- Medical tourism in India has also received a boost with arrival of patients from countries with advanced medical systems. This underlines the fact that India has good infrastructure and talent.

# FORTIS HOSPITALS



Fortis Hospital, Mohali



Escorts Heart Institute & Research Centre Ltd, Okhala



Fortis Hospital, Noida



Fortis Ft. Lt. Rajan Dhall Hospital, Vasant Kunj



Fortis La Femme, New Delhi



Fortis Escorts Hospital, Faridabad



Fortis Escorts Hospital, Jaipur



Fortis Malar Hospital, Chennai



Hiranandani Fortis Hospital, Vashi, Mumbai



Escorts Heart Centre, Raipur



Fortis Escorts Hospital, Amritsar



Fortis Jessa Ram Hospital, New Delhi

## OUR COLLABORATION WITH FORTIS HEALTHCARE

Chitkara University and Fortis Healthcare Limited, two prominent players in their respective fields, having realized the need to build an interface between Academia and Industry, have joined hands to produce quality healthcare professionals in the allied healthcare fields. The training methodology will provide integrated inputs which will help to develop high degree of conceptual skills, analytical skills and quality technical knowledge base among aspirants and prepare them for hospitals and related healthcare domains.

## Fortis HealthCare Limited

Fortis Healthcare Limited is a leading integrated healthcare delivery service provider in India. The healthcare verticals of the company primarily comprise hospitals, diagnostics and day care specialty facilities. Currently, the company operates its healthcare delivery services in India, Dubai, Mauritius and Sri Lanka with 45 healthcare facilities (including projects under development), approximately 10,000 potential beds and 314 diagnostic centres.

In a global study of the 30 most technologically advanced hospitals in the world, its flagship, the Fortis Memorial Research Institute' (FMRI), was ranked No.2, by 'topmastersinhealthcare.com, and placed ahead of many other outstanding medical institutions in the world.

Fortis Healthcare has been at the forefront of providing quality healthcare services and has raised the bar of quality standards in country. Due to its excellent quality care and safety for patients, Fortis Hospital Mohali has received the highly prestigious JCI accreditation (Joint Commission International) and NABH accreditation (National Accreditation Board for Hospitals and healthcare providers), the highest national recognition for quality patient care and safety.



# 4-Year B. Sc in Nursing (Basic)

## in collaboration with Fortis Healthcare

### OVERVIEW

The global population is rising but the number of health care workers is decreasing relatively. With more and more nurses migrating abroad, India is facing an acute shortage of faculty and clinical practitioners. This necessitates the initialization of more and more educational institutions to meet local, national and global demand for health care providers. Keeping in view the World Health Organization's (WHO) theme of working together for health, Chitkara University initiated nursing program to train and develop quality nursing staff to provide health care services at the grassroots and to meet the global demand.

### ACCREDITATION

**Our 4-Year B. Sc (Nursing) is fully recognized by Indian Nursing Council (INC) and Punjab Nursing registration Council (PNRC).**

### Our Pedagogy

Through its pioneering efforts, our nursing program aims to create leaders in the nursing professionals by providing unique, innovative program that are responsive to the market needs, keeping in mind the rapid advance in the health care sector in India as well as abroad. The curriculum emphasizes on a holistic approach to nursing care, in order to ensure an all round growth of the nursing students. Student nurses will be trained to meet the international standards of professionalism and maintain the highest standard of clinical practice.

### Collaboration with Fortis Healthcare

Our collaboration with Fortis (Mohali) will be to provide the necessary "hands on" clinical experience; necessary for the students pursuing this hospital based academic programs. Chitkara College of nursing thus aims to create a benchmark in nursing education in India. The overall aim of nursing program is to prepare a graduate Nurse to work as frontline worker in the clinical and community field and educational arena. Nursing under Chitkara University is an excellent opening for candidates who aspire to be trained in India as per international standards. The university has added many new learning areas like Communication skills, Management, Medico legal issues, Basic Life Support and Advanced Cardiac Life Support to the curriculum. Efforts have gone in to provide various facilities to develop an all round healthy individual who will carry the 'Health' of the needy on his / her strong shoulders ahead. The department undertakes training of undergraduate nursing students. Students receive training in basic nursing procedures which will help them to give basic care to patients. Students are given training in developing basic skills in the laboratory, in simulated conditions, before they are exposed to actual hospital situations. The faculty of the department is highly qualified and competent in providing excellent theoretical and practical training to students. The average teacher: student ratio in the department is 1:7.



### **Chitkara College of Nursing has excellent laboratory Infrastructure:**

**Fundamentals of Nursing Laboratory** having six beds with six manikins, one CPR Dummy, several audio visual aids and equipment for providing the students hands on training to develop skills in nursing procedures.

**Community Health Nursing Laboratory** having two large tables as working area and equipment needed for providing services in the community areas. In addition, the laboratory has specially designed community bags to carry the necessary equipment for home care like thermometer, articles for urine testing, growth monitoring, dressing, physical examination etc

**Obstetric and Gynecological Nursing Laboratory** having all the equipments, delivery table with normal delivery manikins and delivery sets in order to provide the students enough competencies for developing into skilled and competent midwives.

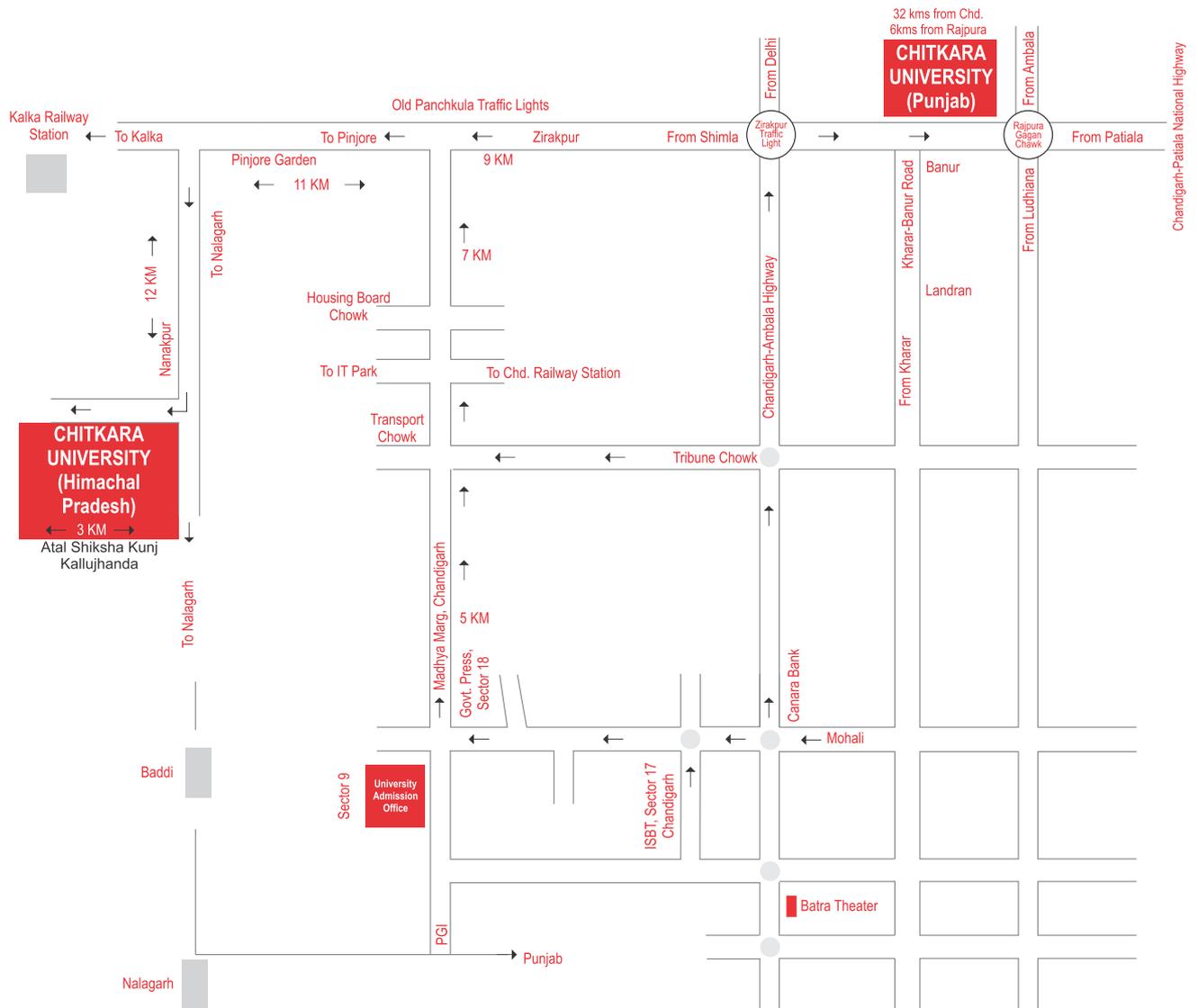
**Pre-clinical laboratory** is having all the equipments , consumable and non- consumable items for providing the students with knowledge regarding basic subjects such as human anatomy and physiology, biochemistry and microbiology so that they should be able to correlate this knowledge with practical understanding of disease conditions.

**Computer Laboratory** is fully equipped to develop the computer literacy in the undergraduate students as Information Technology (IT) has had a positive impact on health care delivery system worldwide, particularly in the areas of disease control, diagnosis, patient management and teaching.

### **SPECIAL FEATURES**

The strengths that will set the Chitkara College of Nursing, as a cut above the rest will be:

- Rich clinical experience in all the specializations.
- Additional Modules will be made available to the students over and above prescribed syllabus.
- Communication Skills and Personality Development.
- Principles and Practices of Management and Medico-legal issues offered to the graduate students during the four year program.
- Workshops on Basic Life Support (BLS) and Advanced Cardiac Life Support, Advanced Trauma care and Disaster Management Programs etc.
- Assistance for Placement in reputed Institutions of India and abroad.



**Chandigarh is conveniently linked to the rest of the country by air, road and rail network.**

**How to Reach Chandigarh by Air**

Chandigarh has an airport just 11kms away from the City Centre. Major airlines connect the city with other major cities like Mumbai & Delhi.

**How to Reach Chandigarh by Road**

The city boasts of an excellent road-network. It is also conveniently located within motor-able distance from a number of major cities of North India. National Highways 21 and 22 run through the city. Near perfect road condition and breathtaking view on either side offer a pleasant drive. It is approx. 250 kms North of Delhi & it takes almost 5 hrs to cover the journey.

**How to Reach Chandigarh by Rail**

The rail network serves the city conveniently. Chandigarh Railway Station is about 8kms from the City Centre in Sector 17. Important trains like the Shatabdi Express and the Himalayan Queen provide two train connections every day between Chandigarh and Delhi.

[www.chitkarauniversity.edu.in](http://www.chitkarauniversity.edu.in)

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

Admissions Helpline:

Chandigarh : +91 95011 05714 | 95011 05715



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