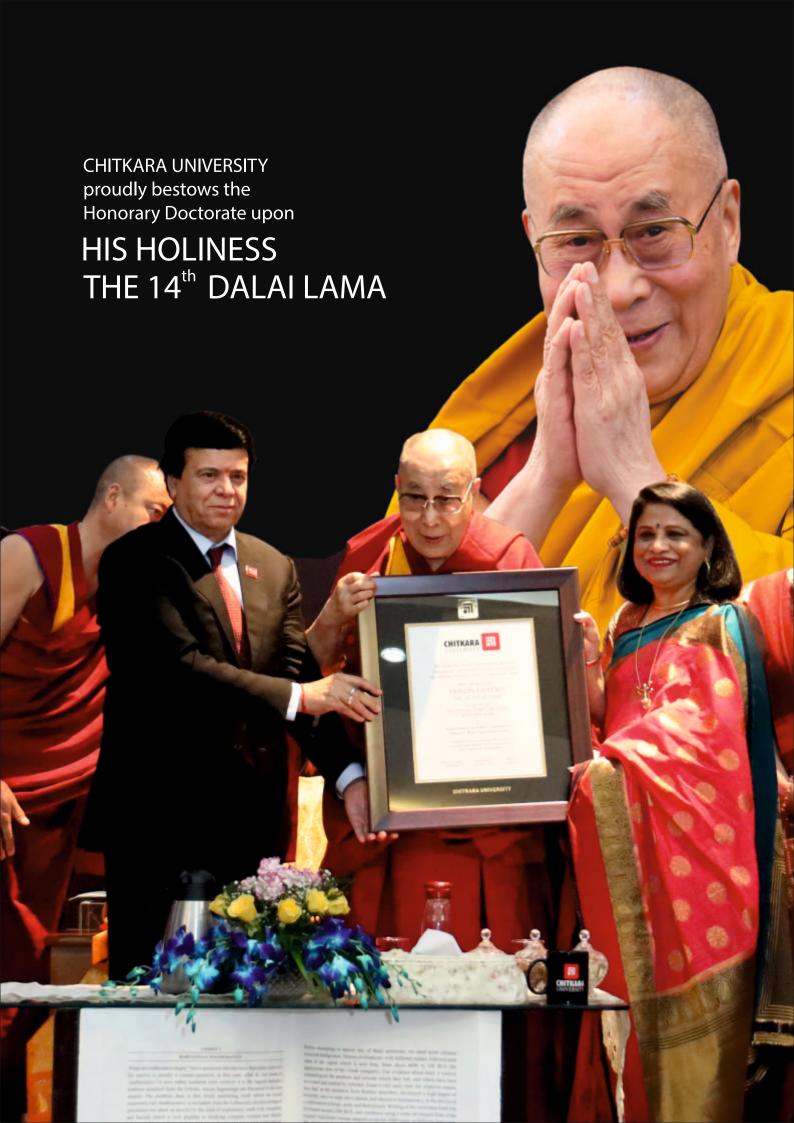


PhD PROGRAMS

Experience our Doctoral Program Specially Designed for Working Executives Academicians & Researchers







### PhD PROGRAMS

APPLIED SCIENCES | ARCHITECTURE
BUSINESS MANAGEMENT | DESIGN | EDUCATION
ENGINEERING | HEALTHCARE | PHARMACY | LAW
MEDIA STUDIES | NURSING | PSYCHOLOGY | TECHNOLOGY

At Chitkara University, we offer Doctoral programs which are meticulously designed to empower working professionals in academia, industry, or research and offer flexibility in scheduling and coursework, enabling a seamless balance between work commitments and academic pursuits.

Collaborate with experienced faculty and mentors, forge connections with peers, unlocking networking opportunities and open doors to new career horizons, in academia, research, consultancy, or leadership roles within your industry. Join our Doctoral Program to blend academic rigour with practical expertise, leveraging the resources of a distinguished research university and the guidance of top academic minds.

Scan this QR Code to get more information about our PhD Programs







# RECOGNISED FOR EXCELLENCE



Chitkara University has been awarded an A+ rating by the National Assessment and Accreditation Council (NAAC), placing us in the Top 5% of Higher Education Institutions in India.



Our programs are recognised among the Nation's Best in the NIRF Rankings, securing a prestigious position within the Top 100 in the University category.



We take pride in being listed among the World's Leading Universities in the QS World University Rankings.



The University consistently features among the Top 15 institutions in India and Top 500 Globally, highlighting its strong commitment to advancing the Sustainable Development Goals.



Chitkara University is **Ranked 1st in the Country** for **Research Quality** and stands among the **Top 800 Globally.** 



We are acknowledged as one of India's Top Institutions (Under The Process Pillar), and also ranked among the Top 200 Globally.



Year after year, Chitkara University has earned recognition among the **Top 10 Universities** in India for filing the maximum number of patents.

### Consistently ranked high by:























# EXPLORE YOUR POTENTIAL WITH CHITKARAU.

CHITKARA EDUCATION BRINGS WITH IT A REPUTATION FOR EXCELLENCE AND INNOVATION THAT HAS BEEN EARNED THROUGH YEARS OF SERVING THE CAREER-NEEDS OF THE STUDENT COMMUNITY.







### STRONG ACADEMIC HERITAGE

Chitkara University has been established and managed by passionate academicians with the sole mission of making each and every student "industry-ready".

### **BEST LOCATION**

With a high quality of living and vibrant student mix, Chandigarh, also known as City Beautiful, has rightfully earned its place as one of the safest and most livable cities in the country.

### **TOP 20 RANKING**

Chitkara University has been consistently ranked among the top 20 Private Universities of the country.

### **MODERN FACILITIES**

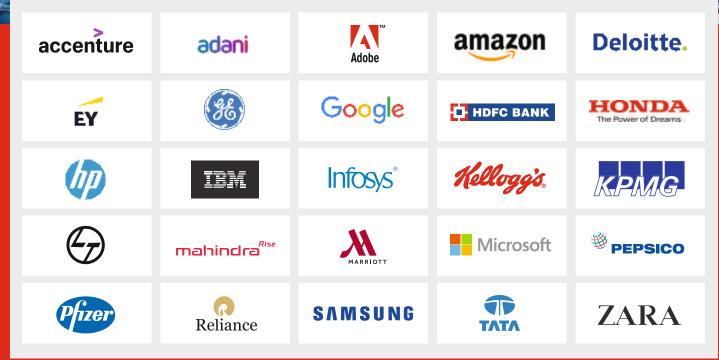
Chitkara University has made huge investments in developing student facilities and giving our students access to world-class labs, design studios, libraries, sporting and social facilities.

### **LEADING INNOVATION**

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



Since inception, Chitkara University has had a path breaking recruitment record for graduates from various academic programs. Some of our prominent recruiters on campus are:





Chitkara University is one of the few Universities in the country which has partnered with Apple and Infosys to launch the unique iOS Student Developer Program.

# ACCESS TO STATE-OF-THE-ART RESEARCH LABS

To ensure that our students have access to latest tools and technology for their research, we have collaborated with industry majors across all sectors so that our innovation labs are in sync with the latest industry trends.

### iOS Development Centre Powered By Apple and Infosys























































































### Arizona State University

COMPUTER SCIENCE& TECHNOLOGY
BUSINESS DATA ANALYTICS
ARTIFICIAL INTELLIGENCE IN BUSINESS

America's #1 University for Innovation, Top 10 among Universities for Patents and #1 Public University chosen by international students.



### **BUSINESS ANALYTICS**

Ranked among Canada's Top 10 colleges for research located in the the country's industry-hub, known for best placement record.



**COMPUTER ENGINEERING** 

# 9 in Canada and among the Top 300 globally recognised institutions for Computer Science & Engineering













### SOFTWARE ENGINEERING ARTIFICIAL INTELLIGENCE

Australia's leading University ranked in the Top 1% globally #2 in Victoria for graduate employment, and #5 worldwide for education.





### **BUSINESS ADMINISTRATION**

Canada's premier institution Ranked #1 undergraduate University in Ontario, #2 in reputation, and #2 in innovation.





ONLINE BUSINESS, ENTREPRENEURSHIP & LEADERSHIP PROGRAMS

USA's oldest University, Ranked #1 in Best Global Universities, and most prestigious institution in the world.



# ACCELERATE YOUR CAREER WITH A DOCTORATE DEGREE

### Specially Designed for Working Executives, Academicians & Researchers

In today's competitive landscape, mastering tactical organisational challenges requires more than just a master's degree. A doctoral degree from Chitkara University, characterised by its emphasis on research, not only deepens understanding but also opens doors to innovative solutions. Our PhD program is designed for experienced professionals, academicians, entrepreneurs, and researchers committed to driving change in their respective fields through in-depth research.

Our PhD program offers a vibrant academic milieu, enriched by state-of-the-art research across various disciplines. It combines focused instruction and ambitious research projects, enabling students to carve out leading-edge research careers and become authorities in their fields. Achieving a doctoral degree propels your career forward, allowing you to ascend to higher positions, embark on groundbreaking research or consulting initiatives or delve into academia.

### **PROGRAM MISSION**

We aim to furnish our students with superior research and analytical competencies, enabling them to significantly impact their workplaces or academic domains. Our doctorates are poised for success in international, research focused academic careers or research roles in global corporations and institutions.

#### WHY PURSUE A PhD

Earning a doctoral degree empowers you to:

- ▶ Advance in seniority within your profession
- Initiate innovative research projects or consulting practices
- ▶ Pursue an academic career
- ▶ Add value to your enterprise

### **PROGRAM OBJECTIVES**

Our Doctoral Program enables students to:

- ► Apply theoretical and analytical competencies in their respective functional areas.
- Demonstrate analytical and research skills necessary to create knowledge and apply it to emerging issues in their fields.
- ➤ Exhibit expertise in a specific subject area through the design, execution, and completion of a doctoral thesis contributing to the knowledge and practice of the field.

#### **BENEFITS OF A DIVERSE DOCTORAL COHORT**

Engaging with a diverse cohort of seasoned professionals under the guidance of distinguished faculty enables you to:

- ▶ Acquire specialised knowledge
- ▶ Develop robust analytical skills
- ▶ Broaden disciplinary perspectives
- ▶ Cultivate new areas of expertise
- ▶ Expand your professional network
- Explore innovative concepts
- ▶ Earn a respected credential

Our Doctoral Program is tailored for accomplished professionals, academicians, and researchers seeking advanced knowledge and skills without interrupting their careers.

# EARN THE IDEAL PhD FOR WORKING PROFESSIONALS



**ONE** of the greatest opportunities to enhance your professional expertise with academic rigour.

The hybrid PhD program, available in both full-time and part-time modes, aims at outstanding individuals holding a Master's degree, who wish to enhance their professional practice by combining academic rigour with practical relevance.

The goal is to contribute to the knowledge in their chosen area of study through focused research within current and future work settings.



**EXCELLENT** training by world-class faculty to develop theoretical and methodological skills for conducting cutting-edge research on professional challenges.

By incorporating the advantages of both co-located contemporary instruction and asynchronous distributed learning, this program delivers effective and efficient Doctoral Education.

Seminars extend learning beyond the classroom, while core courses are delivered at the University Campus.



**CHITKARA UNIVERSITY** has consistently been ranked among the top institutions, a testament to our eminent faculty and resilient academic lineage.

Students from across the country are drawn towards our University owing to our emphasis on industry readiness from day one.

A vibrant multicultural environment helps you enjoy every moment of your Doctoral life at the highly regarded Chitkara University.



### WHAT DO WE OFFER?

### **DIVERSE ACADEMIC OPPORTUNITIES**

At Chitkara University, we offer an expansive range of disciplines, enabling applicants to tailor their research endeavours to areas that not only fuel their academic curiosity but also provide tangible benefits to their professional spheres. Dive into a learning journey where your research directly contributes to the advancement of your career.

### **UNPARALLELED ACADEMIC RIGOUR**

Our curriculum is meticulously designed to arm you with cutting-edge methodologies and theoretical insights, setting the stage for you to emerge as an intellectual leader in your field. Through rigorous training, we prepare you to navigate complex challenges and carve out new avenues of knowledge.

### **CULTIVATING MENTORSHIP AND COLLABORATION**

At Chitkara University, mentorship and collaboration are paramount. Our esteemed faculty, boasting diverse expertise, stand at the forefront. As a doctoral student, you'll enjoy a solid partnership with your academic supervisors. They're not just mentors; they're guides who will ignite your curiosity and encourage you to delve into uncharted territories in your research.

### **ENGAGEMENT IN HIGH-IMPACT RESEARCH**

Chitkara University boasts a stellar record of research excellence, with our faculty and doctoral students consistently contributing to prestigious academic journals and presenting at leading international conferences. Our commitment to research extends beyond academia; we aim to influence professional practices and policies through impactful, and transformative ideas.

### SUPPORT FOR WIDER DISSEMINATION

We are dedicated to ensuring that our students' research reaches the broadest possible audience, fostering change and innovation in industry practices and beyond. At Chitkara University, you will find a supportive environment committed to your success, providing you with the platform to share your insights and make a significant impact in your field.

### CHITKARA UNI Dr. ADITYA RAHUL 15 years + experience of managing HR team for leading IT/ITES companies such as Allstate, Ocwen Financial, Kelly Services and EXL. Chitkara PhD (Business Management) was a great experience that helped me apply my business expertise to investigate complex business problems in a structured, research-oriented manner. My research topic was "Evaluating Top Outsourcing Destinations for Global In-house Centers in India - A Model Based Approach", which was very well appreciated and led to the publication of a top-quality thesis and related articles. The mentors here are experts in their respective fields and very engaging. I feel proud to be an alumnus of Chitkara University.

# BENEFIT FROM THE UNIQUE MULTI-DISCIPLINARY DOCTORAL EXPERIENCE

### Integrating Research and Reality

### WHAT SETS CHITKARA UNIVERSITY'S PHD PROGRAM APART

At Chitkara University, the PhD program is designed to transcend traditional academic boundaries. It encourages candidates to explore cross-disciplinary research, equipping them to address multifaceted challenges with innovative solutions. By integrating diverse fields of study, the program nurtures a holistic perspective essential for impactful research.

### A DISTINCTIVE DOCTORAL EXPERIENCE

Chitkara University's PhD program is crafted to balance academic depth with real-world relevance. Tailored for professionals from various disciplines, it emphasises practical application through core research courses that focus on contemporary issues, emerging trends, and critical problem-solving skills.

#### MERGING THEORY AND PRACTICE

The program blends established and emerging theories to identify, structure, and solve complex challenges. Through collaboration with seasoned professionals and accomplished faculty, your research achieves practical application and tangible real-world impact

### **BLENDING CLASSROOM AND ONLINE LEARNING**

The hybrid learning model combines vibrant in-person classes with flexible online sessions. This approach fosters dynamic groups of candidates who collaborate closely, broadening perspectives through diverse industry experiences and stimulating intellectual curiosity.

### A TRADITION OF EXCELLENCE

Chitkara University is known for its scholastic achievements, robust infrastructure, and global partnerships. With a commitment to research, innovation, and ethics, and guided by world-class faculty, the program ensures a comprehensive and adaptable academic engagement.

### VIBRANT ACADEMIC COMMUNITY

Immerse yourself in Chitkara University's multi-cultural campus life, enhancing every aspect of your doctoral journey. The university values diversity and collaboration, fostering a dynamic and inspiring learning environment to address real-world challenges through innovative research.



### PROFESSIONALS FROM THE FOLLOWING COMPANIES HAVE JOINED OUR PROGRAM SO FAR











amdocs







cādence<sup>™</sup>









Deloitte.













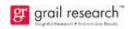










































Morgan Stanley



























































### SOME OF OUR DISTINGUISHED ALUMNI FROM THE DOCTORAL PROGRAMS





**DR. RAJEEV NEELIVETHIL**Managing Director
(MENA & APAC) Espa Group,
Dubai, United Arab Emirates.





**DR. NATWAR KADEL** Head-HR Strategy Human Resources Hyundai Motor Ltd., Gurugram, India.





DR. ADARSH MISHRA
Director and CHRO,
Panasonic Life Solutions,
Gurugram, India.





**DR. FREDERICK SIDNEY CORREA**Senior Associate Vice President
(Human Resources),
Darashaw, Mumbai, India.





DR. MEENAKSHI BANERJEE Vice President People & Development -BUSINESSNEXT, Mumbai India.





DR. VENKATRAM VASANTAVADA Managing Director and CEO Seed Works International Pvt. Ltd. (A True North/GEF Portfolio Company) Hyderabad, India.





**DR. HARDARSHDEEP SINGH MADAN**Director Business
Development ETS, Gurugram,
India.





**DR. MAHESHA PANDIT**Chief Technology Officer,
Canarys Automations Limited,
Bengaluru, India.





DR. LAXMI KUMARI

Dr Bheem Rao Ambedkar Institute Rotary Cancer Institute, All India Institute of Medical Sciences, New Delhi, India.





DR. VANDNA SHARMA

Post Doctoral Fellow and Visiting Scientist Institute of Jozef Stefan (IJS), Slovenia, Europe.





DR. P.S.A. CHAKRAVARTHY

Health Insurance Specialist, Al-Futtaim-Orient Insurance Company, Dubai, United Arab Emirates.





DR. MEENAKSHI S

Infosys Limited, Mysuru, India.





DR. SELVAKUMAR GANESAN

Senior Manager, Analog & Mixed Signal Design, Capgemini, Bengaluru, India.





### DR. HITESH CHOPRA

Head of Quality, Hitech Formulations Private Limited, Chandigarh, India.





### DR. NANDINI MODI

Pandit Deendayal Energy University, Gandhinagar, India.





### DR. GAURAV SHARMA

Global Supplier Quality Officer Fargron, Netherlands, Europe.

# CAPITALISE ON THE COMPREHENSIVE CURRICULUM

### Imparting Rigorous Research Skills

### **STRUCTURE**

The Doctor of Philosophy curriculum begins with application submission (Deliverable 1), form acceptance (Deliverable 2), and selection (Deliverable 3). Coursework (Deliverable 4) encompasses five core courses followed by the approval of the Research Proposal (Deliverable 5), leading to regular progress reviews (Deliverable 6), a pre-thesis seminar (Deliverable 7), fulfilling publishing tutorials (Deliverable 8), and culminating in thesis submission, defence, and degree awarding (Deliverable 9).

### PROGRESS REVIEW SEMINARS (PRS)

These seminars track the scholar's progress as per the timelines mentioned in the approved Research Proposal. These seminars are to be held once every six months after the approval of the Research Proposal. A minimum of three such PRS are held by the University with intensive evaluation by the Student Research Advisory Committee (SRAC).

### **PRE-THESIS SEMINAR**

After successful completing the required PRS, the next step is the pre-thesis seminar. A pre-thesis seminar expects research scholars to present a comprehensive overview of their research topic, detailing objectives and significance. They must summarise the literature review, positioning their work within existing knowledge. The methodology, including data collection and analysis, must be clearly described. Scholars should share their findings and discuss implications. This stage includes engaging with the audience for feedback, aiming to refine their research before the final thesis submission.

### **PUBLISHING TUTORIAL**

The scholars are expected to write at least two research articles based on their doctoral research work and publish it in international/national refereed journals approved by the University before completion of their study. Additionally, the scholars are also required to present their research work in at least two academic conferences in India or abroad, with the approval of the SRAC.

### THESIS SUBMISSION AND DEFENCE

Each research scholar will submit the thesis for examiners' evaluation as per the University guidelines. In case, the thesis is found to meet university criteria and has been accepted by the examiners, research scholars will be informed about the schedule for defence. Upon successful thesis defence, the PhD degree will be awarded.

### **CURRICULUM SUMMARY**

- ▶ Deliverable 1 | Submission of Application Form
- ▶ Deliverable 2 | Form Acceptance by Chitkara University
- ▶ Deliverable 3 | Selection for Doctoral Program
- ▶ Deliverable 4 | Course Work
  - Deliverable 4(a) | Research Methodology
  - Deliverable 4(b) | Advanced Research Methodology
  - Deliverable 4(c) | Doctoral Foundation Seminar/MOOCs
  - Deliverable 4(d) | Doctoral Concentration Seminar (DCS)
  - Deliverable 4(e) | Research and Publication Ethics
- ▶ Deliverable 5 | Research Proposal
- ▶ Deliverable 6 | Progress Review Seminars
- ▶ Deliverable 7 | Pre-Thesis Seminar
- ▶ Deliverable 8 | Publishing Tutorials
- ▶ Deliverable 9 | Thesis Submission and Defence

# ASSESSMENT OF COMPREHENSIVE CURRICULUM

### PEDAGOGICAL ASPECTS

Each credit will be equal to 15 hours. At least 15 days prior to the commencement of a particular course, the faculty member concerned or the course coordinator will circulate the below information among the students:

- The course outline contains the syllabus along with textbooks, reference books, and other study materials.
- A day-to-day schedule detailing the pace, coverage, prior reading assignments, case studies, home assignments, etc.
- The various components of evaluation, such as presentations (announced or unannounced), group exercises, home assignments, tests/examinations, class participation, end-term grading with relative weightage, etc.
- Other matters found desirable and relevant.

### ASSESSMENT AND EVALUATION

Subject Title	Subject Code	Internal Assessment	External Assessment	Minimum Pass Percentage
Research Methodology	PRM - 4101	Attendance Class Assignment Performance (50 Marks)	Written Examination (50 Marks)	55% or more - Pass Less than 55% - Fail
Advanced Research Methodology	PRM - 4102	Attendance Class Assignment Performance (50 Marks)	Written Examination (50 Marks)	55% or more - Pass Less than 55% - Fail
Doctoral Foundation Seminar	PRM - 4103	Attendance/ Report/Presentation MOOC write-up (100 Marks)		55% or more - Pass Less than 55% - Fail
Doctoral Concentration Seminar	PRM - 4104	Report and Presentation (100 Marks)		55% or more - Pass Less than 55% - Fail
Research and Publication Ethics	PRM - 4105	Attendance Tutorial, Assignment, Quizzes and Group Discussions (50 Marks)	Written Examination (50 Marks)	55% or more - Pass Less than 55% - Fail

# FRAMEWORK FOR PhD PROGRAM

### **DELIVERABLE - 1**

Submission of Application Form

### **DELIVERABLE - 2**

Acceptance by Chitkara University
Upon acceptance of the form, the admission process
will proceed as follows:

- Written test
- Personal Interview

The syllabus for the written test will be communicated to you via email.

### **DELIVERABLE - 3**

Selection for Doctoral Program

Upon successfully making it to the merit list for the PhD program at Chitkara University, as determined by your performance in the written examination and interview, the next steps involve registering for the program and initiating your coursework.

This progression is essential for formal enrollment and the beginning of your academic journey in the PhD program.

### **DELIVERABLE - 4**

Course Work Requirement (One Semester)
Every research scholar should complete five courses before working on a doctoral thesis. Every deliverable will be held twice a year. Course work dates for the year will be announced ahead of schedule so that you can plan your break from office.

### **DETAILS OF COURSES**

### DELIVERABLE 4 (A)

Research Methodology Upon completion of this deliverable, the research scholar is expected to:

- Understand the nature and fundamentals of research.
- Gain knowledge about the basics of research designs (quantitative and mixed method), including problem formation, hypothesis/question formulation, research design, sampling techniques, data collection, and analysis.
- ► Conduct comprehensive literature reviews, differentiating between various sources, and utilising them to establish a conceptual framework.
- ► Learn to write academic manuscripts with a thorough understanding of APA formatting.

### • DELIVERABLE 4 (B)

Advanced Research Methodology Upon completion of this deliverable, the research scholar is expected to:

- Understand fundamentals of data analysis.
- Understand various statistical techniques, including univariate, bi-variate and multivariate analysis.
- ▶ Understand the research design, including the formulation of hypothesis, selection of appropriate statistical tests, that can robustly test the hypothesis.
- Understand and apply advanced statistical tools for data analysis.
- ► Conduct comprehensive data analysis to support theoretical and empirical research findings.

### • DELIVERABLE 4 (C)

Doctoral Foundation Seminar/MOOCs
A MOOC (Massive Open Online Course) is
designed to offer PhD scholars accessible,
flexible, and diverse learning opportunities,
allowing them to enhance their research,
methodological, and theoretical knowledge
in their specific fields of study.
Upon completion of this deliverable, the
research scholar is expected to:

- Master theories and methodologies relevant to their field.
- ► Enhance research, analytical, and critical thinking skills.
- Acquire proficiency in research methods and data analysis.
- Improve academic writing and presentation capabilities.
- Expand their professional network and collaboration opportunities.

### DELIVERABLE 4 (D)

Doctoral Concentration Seminar (DCS)
This deliverable will cover the following:

- Recent trends and contemporary issues in the research scholar's specialisation
   The DCS document should cover
- Introduction to the Topic
- Operational Definition of Predominant Constructs
- Need for the Study
- Problem Statement
- Identified Research Gaps
- Theoretical/Conceptual Framework
- Research Questions & Objectives
- References (as per the university guidelines)



### DELIVERABLE 4 (E)

Research and Publication Ethics
This deliverable will cover the following:

- ► Know how to recognise and address research misconduct and unethical behavior.
- ▶ Understand the ethics of authorship, the peer review process, and avoiding predatory journals.
- ▶ Understand the ethical considerations and responsibilities when using AI in research.
- ► Learn about the Committee on Publication Ethics (COPE) guidelines for ethical publishing.
- ▶ Understand the seriousness of plagiarism and strategies for its avoidance.
- ► Familiarise with the University Grants Commission (UGC) quidelines on academic research integrity.

### **DELIVERABLE - 5**

Research Proposal

This will commence immediately after a research scholar successfully completes the course work (i.e. Deliverable 4). The following process shall be followed under the guidance of a PhD supervisor:

- Preparation and presentation of the Research Proposal to Student Research Advisory Committee (SRAC) as per the guidelines of the department.
- Submission of Research Proposal, its approval and commencement of research.

### **DELIVERABLE - 6**

Progress Review Seminars (Half Yearly)
The candidates are required to give a minimum of three such seminars before moving to the next deliverable. With the prior approval of his/her supervisor(s), the candidate will approach the SRAC for a suitable schedule. The objective of these seminars is to track the progress of the research. One such seminar shall be held every six months after the approval of the Research Proposal.

### **DELIVERABLE - 7**

Pre-Thesis Seminar In this deliverable, the Research Scholar is expected to:

- Present a clear overview of the research topic, objectives, and significance.
- Summarise the literature review to frame their research within the existing body of knowledge.
- Describe their research methodology, including data collection and analysis methods.
- Share the findings & implications of their study.
- Engage with the audience for questions, feedback, and discussions to further refine their research work and submit the final thesis in the allotted time-frame.

### **DELIVERABLE - 8**

**Publishing Tutorials** 

Each Research Scholar is expected to publish research articles based on their doctoral research work in approved journals. The research scholar also needs to present her/his work in at least two approved academic conferences in India/abroad.

### **DELIVERABLE - 9**

### DELIVERABLE 9 (A)

Final Thesis Submission
Each Research Scholar will submit four copies
of thesis for examiners evaluation as per the
guidelines communicated by the department.

### DELIVERABLE 9 (B)

Defense of Thesis

In case the thesis is found to meet university criteria and has been accepted by the examiners, research scholars will be informed about the schedule for defense.

### • DELIVERABLE 9 (C)

Award of Degree and Convocation at the Campus After successful thesis completion degree will be awarded.



# ENGAGE WITH EXCELLENCE

Pursuing a PhD at Chitkara University connects you with industry stalwarts, CEOs, and CXOs from top organisations worldwide.

Join a legacy of distinguished alumni and leading professionals who have shaped industries globally. Our program offers unparalleled opportunities to engage with accomplished leaders, ensuring you gain insights, mentorship, and a powerful network to excel in your career.

























### PhD Program in ENGINEERING & TECHNOLOGY

Computer Science | Electronics | Electrical | Mechanical | Mechatronics Automotive | Civil | Material Sciences

Chitkara University's PhD in Engineering & Technology program offers a rigorous platform for aspiring scholars with a strong foundation in engineering and a passion for academic research. With a focus on fostering innovation and leadership, this program equips individuals to address contemporary challenges and lead in competitive environments across various engineering disciplines.

Students in our doctoral program collaborate with expert faculty mentors to engage in cutting-edge research in fields such as computer engineering, electronics and communications engineering, mechanical engineering, and more. Our faculty members, renowned for their expertise and industry experience, provide personalised guidance and mentorship, facilitating a conducive learning environment. Moreover, our commitment to innovation and excellence is reflected in our international reputation for filing maximum patents and our endorsement by leading accreditation bodies.

Through inter-disciplinary collaboration, state-of-the-art infrastructure, and industry partnerships, our program prepares scholars to make significant contributions to research and innovation, shaping the future of engineering and technology.

# SOME OF THE KEY RESEARCH AREAS IN ENGINEERING ARE

### COMPUTER SCIENCE & ENGINEERING

- Network Security
- Internet of Things
- Embedded systems
- Social Computing and Machine Learning
- Open MP and CUDA Programming
- Wireless Sensor Networks
- Network Application Programming
- Cloud Computing
- Data Analytics
- Digital Forensics
- Artificial Intelligence
- Design Analysis of Algorithm
- Big Data

### ELECTRONICS & COMMUNICATION ELECTRICAL ENGINEERING

- Augmented and Virtual Reality
- Modeling and Simulation of Electronic Devices
- Wireless Communication (MIMO Systems and Cognitive Radio)
- Industrial Microwave/RF in food
- Nano-Photonics and Integrated Optics
- Radio-over-Fiber Links
- VLSI Design

- Hybrid Tracking
- Design of a Radio Frequency Low Noise Amplifier
- Digital Signal Processing for Wireless Channel Estimation
- Vision System Implementation
- Optical Communication Systems
- Error Control Coding

### MECHANICAL MECHATRONICS AUTOMOBILE MATERIAL SCIENCES ENGINEERING

- Non-Conventional Machining
- Material Transfer
- Ergonomics
- Industrial Engineering
- Electrochemical Storage of Hydrogen
- Renewable and Sustainable Energy Systems
- Surface Roughness & Micro-hardness
- Manufacturing
- Tribology
- Thermal Engineering
- Hydrogen Fuel Cell Technologies
- Materials for Energy Storage
- Thermal Engineering and Fluid Mechanics

#### **CIVIL ENGINEERING**

- Retrofitting of structures
- Road Pavements
- Environmental Engineering
- Transport Environment Interaction
- Green Buildings and Sustainable Construction Practices
- Industrial and Bio-Agri-wastes as Alternate Construction Materials
- Highway Engineering
- Bituminous materials
- Industrial Pollution Control
- High Performance concrete
- Construction Technology & Management with Highways and Structures
- Geotechnical Engineering



### PhD Program in APPLIED SCIENCES

### Chemistry | Physics | Mathematics

At Chitkara University, our PhD program in Applied Sciences is meticulously crafted to offer scholars a comprehensive blend of theoretical knowledge and hands-on experience across the domains of physics, chemistry, and mathematics. With a steadfast commitment to nurturing academic and research excellence, our program stands as a distinguished platform for aspiring scientists seeking to make significant contributions to both academia and industry.

Our doctoral program in Applied Sciences is structured to align with the latest advancements in the field and adhere to UGC norms, ensuring that scholars engage in original and impactful research endeavours. Backed by state-of-the-art laboratories and computational facilities, students benefit from immersive learning experiences and unparalleled research exposure. Concentrations in theoretical and experimental physics, chemistry, and mathematics offer students a diverse range of research interests to explore, including areas such as nuclear physics, condensed matter physics, materials science, and water technologies.

The Department of Applied Sciences boasts a distinguished faculty comprising highly qualified experts committed to delivering exceptional research in both pure and applied sciences. Their broad spectrum of research interests encompasses various domains such as radiation physics, nano materials, and more, providing students with ample opportunities for inter-disciplinary collaboration and mentorship. PhD Program in Applied Sciences at Chitkara University is designed to provide scholars with a rigorous inter-disciplinary STEM education, empowering them to tackle complex scientific challenges and drive innovation. With a strong emphasis on original research contributions, our PhD program equips scholars with the requisite skills and expertise to thrive in academic and research positions across academia, industry, and government sectors.

In our doctoral program, students explore various concentrations including but not limited to:

### **CHEMISTRY**

These areas of research are indicative but not limited to the following:
Inorganic Chemistry | Wastewater Treatment | Nano-Particle Based Environmental Clean-up
Technologies | Bio-Solid Waste Management | Analytical Chemistry (Chromatography)
Water Contamination and its Removal | Bioremediation | Environmental Toxicants/Contaminant
Remediation Composting & Alternative Energy Resources

### **PHYSICS**

These areas of research in the domain are indicative but not limited to the following: Soft Material Physics (Liquid Crystal) | Physical Acoustics | X-Rays Spectroscopy Nano-Materials: Synthesis and Characterisation | Nuclear Physics | LC Nano Technology Ultrasonics | Solid State Physics | Medical Physics

### **MATHEMATICS**

These areas of research in the domain are indicative but not limited to the following: Reliability | Operation Research | Applied Mathematics | Fuzzy Logics | Maintainability Statistical Techniques (Sampling, Various Tests) | Optimisation | Transportation Problems



## PhD Program in BUSINESS MANAGEMENT

Human Resource | Marketing | Finance | Corporate Strategy and Policy Supply Chain | Business Sustainability | Information Science and Technology

Chitkara University's PhD in Business Management equips successful professionals with theoretical knowledge and research skills to advance their careers or pursue academia. Designed for executives and entrepreneurs, the program enables in-depth analysis and effective solutions to complex managerial issues in dynamic business environments.

Distinguished from traditional PhD programs, our doctoral offering caters specifically to working executives, fostering rigorous problem-solving abilities and research-oriented approaches. Graduates emerge adept at exploring, understanding, and addressing contemporary business challenges. With concentrations in various domains like Human Resource Management, Marketing, Finance, and more, the program prepares scholars for diverse roles in academia, government, multinational organisations, and research institutions.

In our doctoral program, students explore various concentrations across diverse domains including but not limited to:

### **HUMAN RESOURCE MANAGEMENT**

Strategic Human Resource Management | Employee Relations | Employment Law | Learning and Development | Responsible and Sustainable Human Resource Management | International Human Resource Management | Rewards and Performance Management | Organisational Change and its Implications on Human Resource Management | Organisational Behaviour | Labour Disputes and Resolutions | Talent Management and Leadership | Future Trends in Human Resource Management Human Capital Management | Organisational Culture | Diversity and Inclusion | HR Analytics

#### **MARKETING**

Consumer Buying Behaviour | Sales Management | New Product Planning and Development | Strategic Marketing Planning | International Marketing | Service Marketing | Product and Brand Management Customer Relationship Management | Marketing Research | Retailing | Business to Business Marketing Interactive and Direct Marketing | Digital Marketing Advertising and Sales Promotion

### **FINANCE**

Public Finance | Corporate Finance | Entrepreneurial Finance | Fund Management Corporate Governance | Portfolio Optimisation | Asset Pricing | Risk Management and Analysis Behavioural Finance | Climate Finance | Financial Markets | Distribution Forecasting with Financial Applications | Financial Economics | Asset Management | Banking Regulation of Financial Markets and Institutions

### **CORPORATE STRATEGY AND POLICY**

Organisational Policies | Social Responsibility into Corporate Strategy | Knowledge Creation and Management | Strategic Human Resources Management | Business Ethics | Business Environment Cooperative Strategy Partnerships Strategic Resource Allocations | Leadership, Creativity, and Social Responsibility | E-Business Strategy

### **SUPPLY CHAIN MANAGEMENT**

Demand Forecasting | Supply Chain Innovation | E-supply chains | Lean and Agile Supply Chain Logistics Management Production and Distribution Planning | Industry 4.0 | Reverse and Closed Loop Supply Chains | Supply Chain Risk Management Performance Measurement | Value Chain Analysis Sustainability

### **BUSINESS SUSTAINABILITY**

Environmental Management Systems | Sustainability in Tourism | Impact of Safety, Security and Disaster Management on Sustainability | Social Aspects of Sustainability | Green Purchasing and Eco-Design Ethical Aspects of Sustainable Development | Recycling and Waste Management | Sustainability in Healthcare | Industrial Development and Sustainability | Unsustainable Production and Consumption Patterns | Sustainable Resource Utilisation | Measuring and Monitoring Sustainability Impact of Globalisation of Business on Local, National and Regional Sustainability and Stability

### **INFORMATION SCIENCE AND TECHNOLOGY**

Information Flow and Communication | Information Seeking Behaviours | Information and Knowledge Policy Formulation Information Technology | Social Media Business | Information System Developments and Evaluation Business Intelligence Information Processing and Management | Economic Impact of Information and Knowledge | Content and Knowledge Management | Big Data in Business | Legal and Political Issues relating to Information | Technology Acceptance Models

The area of specialisations is not exclusive to above, and other topics promoting inter-disciplinary and multi-disciplinary research are also welcomed.



Chitkara University's confers an Honorary Doctorate upon Sunil Sethi, President, Fashion Design Council of India (FDCI) and a legend in the Indian Fashion industry.

# PhD Program in **DESIGN**

Art and Aesthetics | Modern Art | Contemporary Art | Design Innovation | Spiritual And Ritualistic Art Forms | Fashion Design | Textile Studies | Fashion Studies | Multi-disciplinary Design

Chitkara University's Doctoral Program in Design is distinguished by its interdisciplinary approach, offering scholars a comprehensive exploration of various design disciplines, including fashion, textiles, and art. Under the guidance of experienced supervisors and within a supportive research community, scholars engage in self-directed study to analyse theoretical and practical aspects of design. The program's unique selling point lies in its emphasis on comparative perspectives, nurturing a deeper understanding of contemporary requirements and facilitating scientific guidance through ample infrastructure and support.

With concentrations spanning Fashion Design, Textile Studies, Multidisciplinary Design, Art and Aesthetics, Modern Art, Folk and Tribal Visual Arts, Contemporary Art, and Design Innovation, the program caters to diverse interests within the design realm. Graduates of this program emerge equipped with advanced theoretical and analytical competencies, ready to apply their expertise to emerging research problems. Furthermore, they possess the skills necessary to address complex contemporary art and design issues, positioning them as valuable contributors to both academia and industry.

Beyond academia, the career scope for program graduates is extensive. They are well-prepared to excel as design practitioners, entrepreneurs, academicians, and cultural workers, leveraging their expertise to analyse contemporary situations and implement effective solutions. By bridging the gap between theory and practice, Chitkara University's Doctoral Program in Design not only enriches the individual scholar's professional journey but also advances the broader knowledge and practice of the design field as a whole.

# PhD Program in ARCHITECTURE

Architecture | Urban and/or Regional Planning | Civil Engineering | Structural Engineering Construction Technology | History and Heritage Management | Architecture Education Conservation Heritage Management Architectural Heritage Conservation

Doctoral Program in Architecture, Urban Design & Development (AUDD) at Chitkara University stands as a distinguished academic endeavour, reflecting the university's unwavering commitment to scholarly excellence in the realm of built environment studies. With a legacy of academic rigour and innovation, the AUDD program provides a robust platform for aspiring scholars to immerse themselves.



### PhD Program in

## PHARMACEUTICAL SCIENCES

Pharmaceutics | Pharmacology Toxicology | Pharmacognosy and Natural Products
Pharmacy Practice | Pharmaceutical Regulatory Affairs

PhD Program in Pharmaceutical Sciences at Chitkara University is designed to provide advanced training to research scholars in the fundamental aspects of drug development and delivery. This program emphasises the optimisation of drug efficacy and safety through in-depth study of drug absorption, disposition, and delivery mechanisms. Operating within a collaborative and inter-disciplinary atmosphere, our doctoral candidates are equipped with the skills and knowledge necessary to design and develop novel therapeutic agents that contribute to advancements in healthcare.

One of the program's highlights is the opportunity for Research Scholars to engage in cutting-edge research in collaboration with experienced faculty mentors. With access to state-of-the-art facilities and resources, students receive comprehensive mentorship that prepares them for successful careers in academia, the public sector, and the pharmaceutical industry. Our faculty members are renowned experts in their fields, committed to guiding students towards academic and professional excellence. Through a combination of coursework, research projects, and seminars, scholars gain expertise in their chosen concentration and develop critical thinking and problem-solving abilities.

PhD in Pharmaceutical Sciences from Chitkara University opens up diverse career opportunities in academia, research institutions, government agencies, and the pharmaceutical industry. Graduates of the program are equipped to pursue careers as researchers, educators, regulatory affairs specialists, and industry leaders. With the growing demand for pharmaceutical expertise in drug development, regulatory compliance, and healthcare management, graduates are well-positioned to make significant contributions to the advancement of healthcare and pharmaceutical sciences.

In our Doctoral Program, students explore various concentrations including but not limited to:

#### **PHARMACEUTICS**

Controlled Release Systems I Oral Drug Delivery Systems I Nanotechnology in Drug Delivery Biodegradable Polymers I Transdermal Drug Delivery Systems I Biopharmaceutics

#### PHARMACOLOGY AND TOXICOLOGY

Neuropharmacology I Cardiovascular Pharmacology I Cancer Pharmacology I Toxicology Immunopharmacology I Pharmacogenomics I Network and Systemic Pharmacology

#### PHARMACOGNOSY AND NATURAL PRODUCTS

Natural Bioactive Discovery and Development I Medicinal Plant Research I Phytotherapy and Herbal Medicine I Standardisation and Separation of Natural Bioactives I Novel Herbal Formulation

### PHARMACEUTICAL CHEMISTRY

Drug Design and Discovery I Synthetic Chemistry I Medicinal Chemistry I Bioorganic Chemistry Pharmaceutical Analysis I Quantitative Structure Activity Relationship Studies

#### PHARMACY PRACTICE

Health Services Research I Health Outcomes Research I Pharmacoeconomics I Patient Safety Patient-Centered Care I Pharmacotherapy I Medication Therapy Management

### PHARMACEUTICAL REGULATORY AFFAIRS

Compliance and Regulations I Drug Approval Process I Medical Devices Approval Process Regulatory Policy Development I Regulatory Risk Management I Post-Market Surveillance

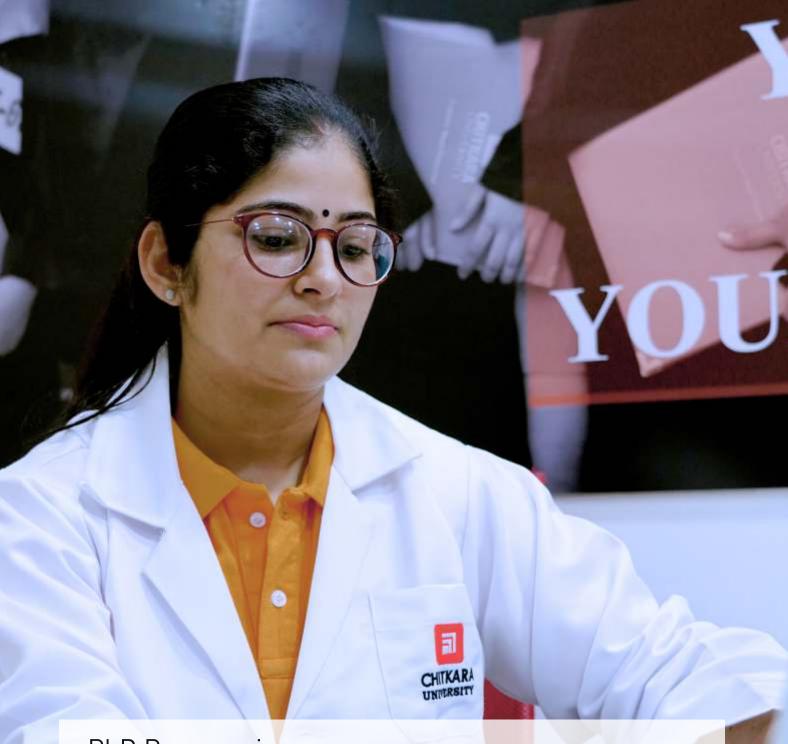


# PhD Program in HEALTHCARE

Biological Sciences | Medical Laboratory Sciences | Nutrition and Dietetics | Optometry | Physiotherapy Public Health | Radiology and Imaging Sciences

PhD in Health Sciences offers advanced doctoral-level research training that builds on multi-disciplinary perspectives to understanding origins and determinants of health and disease across populations. This PhD is primarily intended for students likely to pursue careers in academia in these or in departments related to health, or in research-related positions outside of academia.

In addition to nurturing the development of the next generation of health researchers and scientists, our inter-disciplinary program helps healthcare professionals become advanced practitioners, researchers, managers and educators.



# PhD Program in NURSING

Medical Surgical Nursing | Mental Health Nursing | Maternal-child Nursing Community Health Nursing | Paediatric Nursing | Nursing Management | Nursing Education

PhD in Nursing aims to strengthen governance systems so that nurses can assume leadership position, improve regulation of practice and strengthen the quality of nursing education. The entire thrust is on professional development of nurses that could lead to evidence-based practice for clinical effectiveness. Doctoral education prepares nurse scholars who will contribute both to the development, application and dissemination of evidence-based practice in nursing for enhancing quality of nursing education, research, and practice and thus contributes in the development of nation's health.



## PhD Program in

## LAW & LEGAL STUDIES

Constitutional Law | Criminal Law | Civil Law | Family Law | Land and Property Law | Forensic Science Intellectual Property Rights (IPR) | Business Law | International Law | Labour Law

Unlike traditional PhD programs, Chitkara's doctoral program in Law is uniquely designed to address contemporary legal complexities, preparing scholars to analyse dynamic situations and implement effective solutions. With concentrations ranging from Constitutional Law and Criminal Law to Intellectual Property Rights (IPR) and International Law, the program caters to diverse interests within the legal field. Graduates emerge equipped to pursue various career avenues, including academia, government, multinational organisations, and research institutions. The program emphasises an outcome-oriented approach, enabling scholars to characterise and solve socio-legal problems, derive policy implications, and communicate effectively with policymakers and practitioners.

# PhD Program in MEDIA STUDIES

Radio and TV Journalism | Advertising and Public Relations | Film Studies | Digital Media Print Journalism | Photography | Cinematography | Corporate Communication

Chitkara University's doctoral program in Media Studies aims to cultivate a deep understanding of core issues within the media landscape and to contribute meaningful research findings beneficial to both academia and industry. With a faculty dedicated to delivering high-quality research in journalism, mass communication, new media, advertising, corporate communication, and media laws, the program aligns with recent advances in the media industry and prepares scholars for roles in higher education, media consulting, professional practice, and policy-making. The program, housed within Chitkara School of Mass Communication, offers a comprehensive curriculum focusing on contemporary cultural and critical theory, with an interdisciplinary approach encompassing social, economic, political, historical, legal, and international perspectives.





# **EDUCATION**

Educational Technology | Environmental Education | Educational Psychology | Collaborative Learning Blended Learning | Educational Research and Statistics | E- Learning | Pedagogy | Hybrid Teaching Curriculum Development | Assessment | Career Counselling | Research in School Education | Educational Philosophy and Sociology | Special Education

Chitkara University's PhD in Education program empowers scholars to become esteemed experts in educational theory, research methodologies, and innovative pedagogical practices. With distinguished faculty, top-tier research facilities, and a multidisciplinary focus, scholars are prepared to address complex educational challenges and pursue diverse careers in academia, research institutions, and senior-level education leadership roles.



## PhD Program in

## PSYCHOLOGY & COUNSELLING

Clinical Psychology | Health Psychology | Counselling Psychology | Organisational Psychology Gender Studies | Media Psychology | Forensic Psychology | Social Psychology Cognitive Psychology

Chitkara University's PhD program in Psychology & Counselling, housed within the esteemed Chitkara School of Psychology & Counselling, offers rigorous training in advanced research methods and practical applications of psychological principles. Supported by exceptional faculty and state-of-the-art research facilities, the program emphasises scholarly excellence and outcome-oriented research. Graduates are prepared to solve complex human and social issues, pursue diverse career opportunities, and become thought leaders in academia, healthcare, and beyond.

## ADMISSION CRITERIA

### Admission Eligibility

The candidates who have completed any of the following qualification(s) are eligible to seek admission to the PhD program as per Chitkara University regulations and UGC Minimum Standards and Procedure for Award of PhD Degree Regulations, 2022 issued dated 07.11.2022 [(New Delhi, 7th November, 2022; No. F. 1-3/2021(QIP)].

A 1-year/2-semester master's degree program in relevant discipline after a 4-year/8-semester bachelor's degree program.

or

A 2-year/4-semester master's degree program in relevant discipline after a 3-year bachelor's degree program.

or

Qualifications declared equivalent to the master's degree in relevant discipline by the corresponding statutory regulatory body, with at least 55% marks in aggregate or its equivalent grade in a point scale wherever grading system is followed.

or

An equivalent qualification from a foreign educational institution accredited by an assessment and accreditation agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of the educational institution.

or

A 4-year/8-semester bachelor's degree program in relevant discipline with a minimum of 75% marks in aggregate or its equivalent grade on a point scale wherever the grading system is followed, subject to the following conditions:

(a) The candidate should have a full-time teaching or research/industry experience of at least 4 years. (b) The candidate should be currently working in AICTE/UGC approved College/University/Government agency/industry.

or

National Eligibility Test (NET) qualified candidates as per the eligibility criteria notified by the UGC notice vide No. F. 4-1(UGC-NET Review Committee)/2024(NET)/140648 dated 27.03.2024.

**Note:** Relaxation for reserved categories as per UGC norms.



## PhD Programs in

APPLIED SCIENCES | ARCHITECTURE
BUSINESS MANAGEMENT | DESIGN | EDUCATION
ENGINEERING | HEALTHCARE | PHARMACY
LAW | MEDIA STUDIES | NURSING
PSYCHOLOGY | TECHNOLOGY



### **UNIVERSITY CAMPUS**

Chandigarh-Patiala National Highway Punjab-140 401 | India

### **INFORMATION CENTRE**

Unit No. A 201-202, Elante Mall Office Complex Industrial Area Phase I, Chandigarh, 160002

www.chitkara.edu.in phde@chitkara.edu.in

### Admissions Helpline:

95011 05633

For more information about our progns give a miss call on 1800 267 1999

**WhatsApp:** 98590 00000

