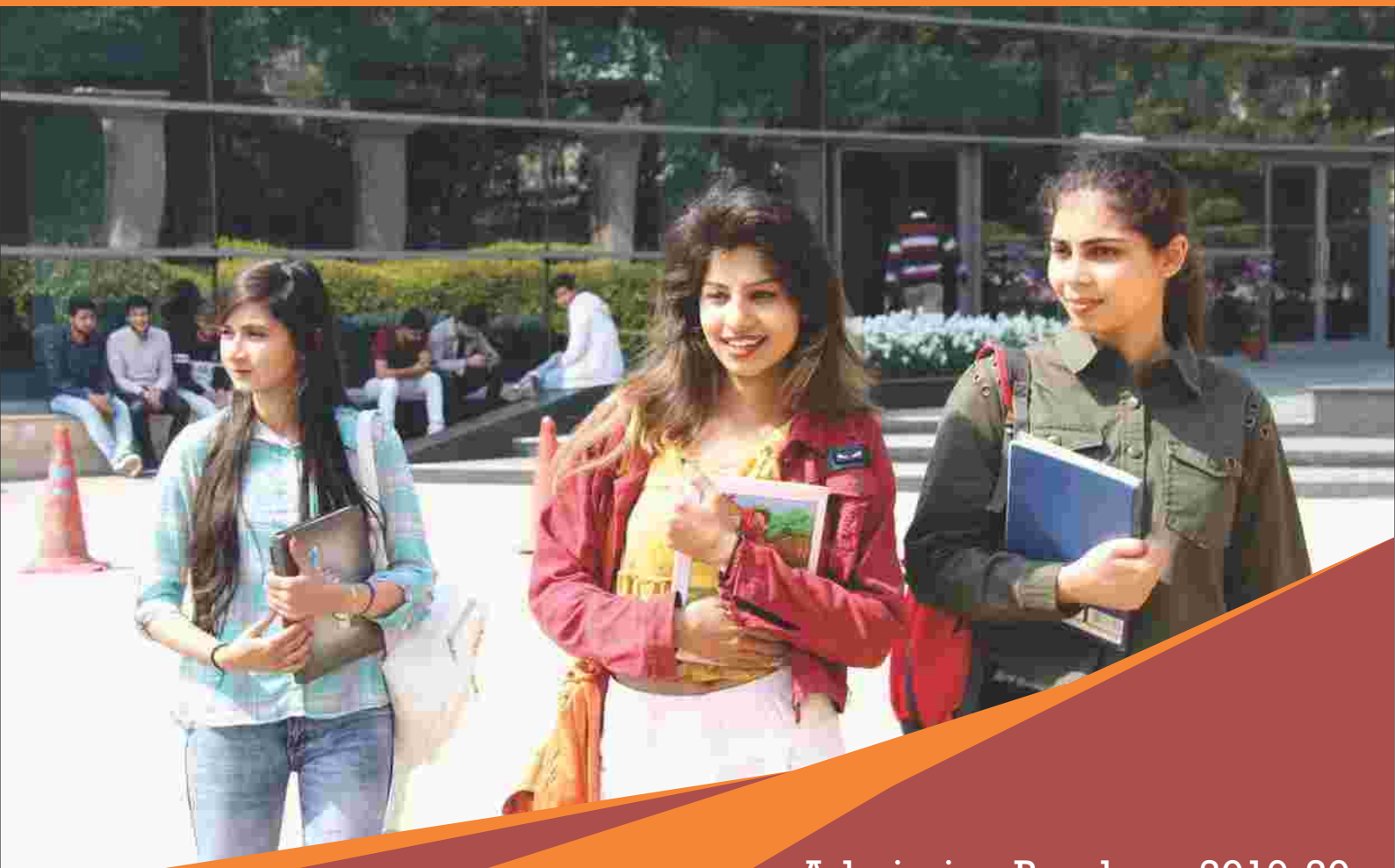
The NorthCap University

School of Engineering & Technology

NCU
THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED

(Formerly ITM University, Gurugram)



Admission Brochure 2019-20

All programmes at UG & PG Level

www.ncuindia.edu

NCU
THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

23 YEARS OF EXCELLENCE IN EDUCATION

The NorthCap University

No.1 Private University in Engineering Category in Haryana & Delhi in 2019

Source NIRF Ranking, 2019

nirf
NATIONAL INSTITUTIONAL RANKING FRAMEWORK

Ranked No. 117 in Engineering Category (All India)
Ranked 151-200 in all India University Rank Band 2019

DISCLAIMER

While every effort has been made to ensure that the information in this brochure is accurate at the time of publication (April 2019), all matters that it covers may be subject to change without notice. The information is meant for illustrative purposes only, and cannot be quoted as authority, for which the rules, regulations and notifications concerned shall be referred to. In particular, information about the structure of studies of the different branches of Engineering, Management and Law taught at the University is subject to continuous upgradation. The University does not intend, by the publication of this brochure, to create any contractual or other legal relations with students, their advisors or any other stakeholders and the University reserves the exclusive right to change or withdraw any statement in this brochure without notice.

We have no other branch or campus in India.

NCU trademark has been registered vide Registration no. 3001127 dated 08 Sep 2016.

Contents

PART - I

(About the University & School of Engineering and Technology)

Our Founder Members 01
Vision, Mission and Core Values 01
Message from the Governor 02
Messages 03
Why Study at NCU? 08
Our Academic Advisory Board Members 09
Our Knowledge Partners 11
Partnerships & International Linkages 11
About the University 14
Rankings 2018 20

SCHOOLS & PROGRAMMES 21
School of Engineering and Technology 22
- Department of EECE 25
- Department of Mechanical Engineering 32
- Department of CSE 36
- Department of Civil & Environmental Engineering 44
- Department of Applied Sciences 49

School of Professional Attachment 53
Centre for Languages Learning 57
Research @ the University 59
Beyond the Classroom 60
Students' Activities 60
Scholarships 61
Social Outreach 61
NCU Alumni 61

Part - II

(Admissions Policy and Selection Procedure - Indian Nationals)

Applicability 63
Programmes offered by the University and their Intake, Minimum Eligibility and Selection Criteria 64
Distribution of Seats 68
Definitions 69
Minimum Eligibility Criteria 69
General Conditions 70
Admission Committee 70
Admission Notice 70
How To Apply 70
Self Attested Documents 71
Acknowledgement of Application Form 72
Important Dates 73
Admission cum Merit List 74
Securing your Admission 74
Sliding Process (for B-Tech only) 74
Filling of dropout seats 75
Fees 75
Merit cum Means Fee Concessions 76
Verification and Non Retention of Testimonials 76
Grievance Redressal 77
Orientation Programme 77
Commencement of Academic Session 77
Refund / Cancellation Policy 78
Laptops 79
Limited Liability 79
Mid Course Withdrawals 79
Jurisdiction 79
Helpline 80

Academics

Faculty 81-87
Curriculla/Syllabi 88-126

ANNEXURES & FORMS

Application Form for **B-Tech** Programme 127
Application Form For **M-Tech** Programme 135
Application Form for **B.Sc (H)(Maths)** Programme 141
Application Form for **B.Sc (H)(Physics)** Programme 147
Application Form for **M.Sc (Maths)** Programme 153
Forms 1 to 5 (Applicable to all programmes) 159-169

Part - III

(Admissions - Child/Wards of (NRI/ International Students)

Eligibility 173
Programmes offered by the University and their Intake, Minimum Eligibility and Selection Criteria 175
Important Dates 177
Document to verified/submitted with the Application Form 178
Refund and Cancellation 179
Mid Course Withdrawals 179
Helpline 179

ANNEXURES & FORMS FOR NRI

Form N1 to N4 180-188

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the world
NAAC ACCREDITED

Quality Benchmarks

In keeping with the changing demands in education, NCU offers a redesigned curriculum that prepares you for the future workplace. The learning methodology integrates multi-disciplinary and contemporary global pedagogy across Law, Management, Sciences & Engineering and Technology along with skills and competencies such as critical thinking, problem solving and working in cross-functional teams - essential constituents for modern day success. At NCU, we ensure your professional development through engaging modules in personal development, communication and leadership.

Established under Haryana Private University Act No. 25 of 2009 (Third amendment)

Recognised by the University Grants Commission, Govt. of India, under Section 2(f) of the UGC Act 1956, and empowered to grant degrees under Section 22 of the Act.

Recognised by the Bar Council of India, Govt. of India

Ranked 2nd All India in the University Category in the Swachhta Ranking 2018 by MHRD, Govt of India

University is accredited by the National Assessment and Accreditation Council (NAAC) for period 2016-2021

The University is ranked 117 in the All India NIRF Engineering Category. In th University category it has maintained its position in rank band of 151-200.

The NorthCap University Testing Centre estabilished as per ISO/IEC:17025-2005, is NABL Accredited for the Mechanical Testing of Building & Construction Materials.

Accredited by Accreditation Services for International Colleges (ASIC), United Kingdom, in the category of 'Premier' Universities, with 'Commendable' Grades, for 2016-2020

Member of Association of Indian Universities

Member of the Association of Commonwealth Universities

Ranked No. 1 amongst Top Engineering Colleges in Haryana and Ranked No.3 amongst Top Engineering Colleges of Eminence in India in the CSR-GHRDC Ranking Survey 2018 published in the July 2018 issue

Institutional Member of American Society for Quality (India)

Member of International Students Exchange Programme

iNurture, our knowledge partner is an educational solution company in the business of designing and delivering of innovative industrial relevant jobs in the field of Animation and VFX, Information Technology, Mobile Application and Analytics

Recognised as the BEST @govcampus

School of Law, NCU Ranked No. 9 amongst Top Law Schools of Eminence, All India and No.1 in Haryana by GHRDC Law Schools Survey June 2018

School of Management NCU Rank No. 61 amongst all India Top 100 in Business School Ranking for 2016-17 by MBA Universe

Ranked No. 1 Private Engineering Institutes state Ranking Haryana and No 48 in all India Top 100 Private Universities League

Ranked No. 1 in Delhi and Haryana and 55 all over India

NCU Ranked No. 1 amongst Top Law School in Haryana and ranked No. 9 among Law School of Eminence in all India

Hansa Research Survey May 2018 NCU Ranked among Top Private and Deemed Technical Universities All India

NCU THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Founder Members

N K Dewan

Kavita Mishra

Shiv Saran Mehra

V Daulet Singh

Neera Makhija

Avdhesh Mishra

Z Daulet Singh

Vision, Mission and Core Values

Vision

To be known globally for learning innovations, academic excellence and socially relevant research outcomes; strive to become the preferred destination for students, faculty, employers and collaborators & pride of alumni and the community.

Mission

- Focus on quality of learning and innovation in all programmes with rigour and relevance.
- Develop competent professionals - innovative, analytical and independent; committed to excel in all their endeavours.
- Develop linkages globally with government, industry, academia and alumni for knowledge generation, dissemination and application.
- Encourage multi-disciplinarity in programmes and projects to explore new frontiers of knowledge.
- Continuously improve physical, academic and information infrastructure in pursuit of academic excellence.
- Create a nurturing environment for lifelong learning.
- Focus on entrepreneurship and socially relevant projects.

Core Values

- Integrity in all endeavours.
- Humility, compassion and concern for all.
- Passion for quality and excellence.
- Quest for innovation.
- Leadership and Team Spirit.
- Autonomy with Accountability.
- Perseverance.

Message from the Governor

Hon'ble Mr Satyadeo Narain Arya
Governor of Haryana
Visitor, The NorthCap University

राज्यपाल हरियाणा
GOVERNOR HARYANA

हरियाणा राज भवन,
चण्डीगढ़ - 160019
HARYANA RAJ BHAVAN,
CHANDIGARH - 160019

सन्देश

मुझे यह जानकर अत्यंत हर्ष हो रहा है कि नार्थकैप विश्वविद्यालय गुडगांव गुणवत्ता की शिक्षा उपलब्ध करवाने में एक अग्रणी विश्वविद्यालय है। यह विश्वविद्यालय इंजीनियरिंग, विज्ञान, प्रबंधन और कानून में स्नातक और स्नातकोत्तर स्तर पर शोध को बढ़ावा दे रहा है। नार्थकैप विश्वविद्यालय प्रयोगशालाओं के साथ–साथ उद्योग इंटर्नशिप के माध्यम से छात्रों को व्यावहारिक अनुभव भी करवाता है। विश्वविद्यालय द्वारा शिक्षा के क्षेत्र में किए जा रहे प्रयास सराहनीय है। नार्थकैप विश्वविद्यालय परिसर में पूरी तरह रैगिंग मुक्त वातावरण है। यह विश्वविद्यालय उत्कृष्ट प्लेसमेंट की व्यवस्था भी करवा रहा है। विश्वविद्यालय आधुनिक पाठ्यक्रम, वैश्विक आधारभूत संरचना और गुणवत्ता संकाय के साथ एकेडमिक विकास के प्रतिबंध है।

मै नार्थकैप विश्वविद्यालय के शिक्षकगण और छात्राओं को शुभकामनाएं प्रदान करते हुए विश्वविद्यालय के उज्जवल भविष्य की कामना करता हूं।

(सत्यदेव नारायण आर्य)

NCU THE NORTHCAP UNIVERSITY ®
Changing the Dreams to Reach the Horizon in the Real World
TRAC ACCREDITED
(A Formerly TM University, Gurugram)

Message from the Chancellor

V Daulet Singh
Chancellor, The NorthCap University

It gives me immense pleasure to welcome you to The NorthCap University, one of the most progressive and innovative places of higher learning in Delhi-NCR. Being a multidisciplinary university engaged in cutting edge research it provides life-changing opportunities to aspiring professionals in the core sectors of science and technology, management and law and prepares you for the future workplace.

In an era where new knowledge lies at the intersection of different disciplines, NCU's focus is on collaborative, multidisciplinary and integrated learning. Trans-disciplinary learning and research strategies make work more interesting, useful to society and in accordance with best global practices. In a nurturing environment we inspire innovation, encourage entrepreneurship and create a youth capital capable of transforming society. The University has global alliances with highly reputed academic institutions and industrial organizations for collaborative academic and research work as we believe in preparing leaders who can contribute to national and global economies.

Strong emphasis is laid on empowering students with intellectual skills and professional abilities that will enable them to seamlessly integrate and grow in a corporate environment. Besides academics the University provides excellent physical infrastructure and support to pursue sports, hobbies and co-curricular activities for their holistic growth and development. The University grooms students with skills for lifelong learning and continuous development, inculcates values so that they are good human beings, responsible citizens who, through their impactful work, will leave 'footprints on the sands of time'.

As a prospective student, parent or guardian I wish to assure you that if our students have the will, our team of distinguished and dedicated faculty will help them take the giant leap from the classroom to the real world and realize their dreams.

Warm regards

Message from the Pro-Chancellor

Prof. Prem Vrat
PhD, IIT Delhi, MTech, IIT Kharagpur
FNAE, FNASc, FWAPS, FISTE, FIIIE
Pro-Chancellor, Professor of Eminence and Chief Mentor

Welcome to The NorthCap University (NCU), a major private university of North India with a perfect blend of quality education, research, faculty, industry collaboration and practical exposure. To encourage a vibrant intellectual culture, the University has on board domain-expert faculty as well as experienced stalwarts from the corporate world as we consider that a great teacher alone can transform students through inspiration and involvement. We continuously enhance our academic capabilities and instructional skills which will enable us to maintain our expertise and currency in our respective disciplines.

We focus on quality in all its dimensions and offer innovative programmes of study and research to ensure that every student is well equipped for the opportunities in the emerging future. The entire course structure is regularly reviewed and updated keeping in view the latest developments in specific subject areas. Our challenge is to help generate ideas that will benefit society NCU is an institution that nurtures talent and we provide our students a platform for global interaction amongst educationists and intellectuals. A balanced development inculcating right attitude and desire for learning to learn, together with sound basic technological knowledge of the domain, is our primary objective. We try to build a strong character in our students and groom them into professionals who can adapt themselves in meeting global challenges in the highly competitive world of tomorrow. We empower students to 'work smart' for a lifetime of personal and professional fulfillment.

Student-led clubs, social, cultural and sports activities enliven the campus and prepare you to be mentally and physically fit, so necessary in high demanding job profiles. We nurture you to be a good human being and excel in different realms of life and prove your calibre. We inculcate in you a desire to succeed that is far greater than the fear of failure.

Well qualified and dedicated faculty, industry-ready curriculum, technologically advanced teaching modules, fructifying placement results, locational advantage for strengthening academia-industry linkages and excellent infrastructure make NCU a frontrunner in North India. The University is pioneering new ways of using online technologies to enrich the educational experience and expand opportunities for learners.

Let me assure you that whatever course of study you choose, you can be certain that it will be a life changing experience for you. In your quest for quality education and learning I invite you to be a part of The NorthCap University and experience the excitement of success.

NCU
NORTHCAP UNIVERSITY
Bridging the gap between academia and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Message from the Vice-Chancellor

Prof. H B Raghavendra
Vice-Chancellor & Professor

It is my privilege to welcome you to The NorthCap University (NCU), a premier University of Delhi-NCR and North India, dedicated to its vision of being known globally for academic excellence and socially relevant research outcomes. We not only keep pace with various advancements, but also strive to visualize future requirements and reorient our curricula accordingly. In a span of a few years, we have grown to be one of the foremost educational institutions in North India. The University was ranked in the National Institutional Ranking Framework (NIRF) released by MHRD in all the years 2016-2018. The NorthCap University was accredited in May 2016 by the National Assessment and Accreditation Council (NAAC) for a period of five years i.e. 2016-2021. Accreditation Services for International Colleges (ASIC), UK reaccredited the University in the category of 'Premier' Universities with 'Commendable' Grades, for 2016-2020. In Oct 2018 NCU was ranked 2nd amongst the Cleanest Higher Educational Institutions in the Country in the Category 'University (Non Residential)'. The University won this award for Maintaining, Promoting and Encouraging the culture of 'SWACHHTA' in Higher Educational Institutions in the Country. NCU is recognized by the University Grants Commission (UGC) and Bar Council of India (BCI) and several prestigious awards have been conferred on the University in successive national surveys.

The University offers a wide range of professional programmes in diverse areas of Engineering, Law, Management and Applied Sciences at Undergraduate, Postgraduate and PhD levels. Our multidisciplinary programmes are contemporary with flexibility and choices featured in their curriculum design at par with international standards. We constantly update programmes and course content to meet the challenge of grooming professionals with knowledge and skills for the perpetually changing needs of the industry. We have introduced project based modular learning in a few courses in the Depts of CSE, ECE and CEE. It helps students work with industry associates on industry projects and also apply knowledge learned in their professional life, enhancing their employability. In addition, students get flexibility to choose their course options across all Schools at the University. We offer blended learning by using e-learning with regular teaching with special focus on hands-on training. Context Learning has been introduced to help bridge the divide between classroom learning and the rapidly changing real world of newer technologies. The University takes care of not only meritorious students but is also providing Value Added Courses with training modules to weak/slow learners. This is helping in improving their skill sets and makes them feel good not only at the University but also enhances their employment opportunities. To showcase students' skills, abilities etc. to potential employers, we maintain 'E-portfolio' of students. It helps to identify their interests from the first year itself and encourages students to develop these areas for enhanced employability. The University recently started a Parent Information System which keeps parents informed about the progress of their wards. The University has established a Thought Lab with the aim of reducing negative energy and stress and to develop a positive attitude and improving the overall development of students and staff.

NCU has associations with many leading IITs and you can study various courses conducted by them, use IIT lab facilities through their Virtual Lab platform, take their online tests and earn certificates awarded by them. Our focus is on research so that you gain higher technical and scientific competence, to have an edge over others. The Research, Development and Industrial Liaison (RDIL) Cell, the well-equipped Central Research Facility, the Centre of Excellence, the Incubation Centre, apart from well-equipped labs and workshops will support your innovative ideas and help them materialize into reality. A Tinkering Lab is being nurtured as a central facility to encourage all students to work on projects of their interest and create artefacts that would bring them satisfaction and gain confidence.

NCU NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
Formerly ITM University, Gurugram

The NorthCap University Testing Center (NCUTC) is accredited by NABL for Mechanical Testing of building materials.

A significant part of the University's overall research is undertaken in collaboration with industry partners. NCU itself also supports research students and provides related funding for equipment etc. To enhance and support innovative projects, the University provides funds from the Vice-Chancellor's Innovation Fund, which supports up to Rs 15 lacs per department for projects led by the faculty and Rs 2 lacs per project for student projects. The Best Project Awards motivate undergraduate student research at NCU. Future plans involve major investment in new, cutting edge equipment and development of research laboratories. In 2018, ten research projects for a total amount of Rs 2.36 crore have been sanctioned by funding agencies and Rs 1.40 crore have been received till date. One DST (WOS-A) project of 36.96 Lakhs was technically approved on 20 Feb 2018. In addition to these, 12 research projects have been submitted to various funding agencies. Recently the University collaborated with the National Technical Research Organization, New Delhi, for collaborative working arrangement on specific research and development projects.

The University's focus is on building and strengthening association with industries and the Government for community development programmes and for providing opportunities to students in India and abroad. Student internships are arranged in a wide spectrum of industries to make students and faculty aware about the latest developments and futuristic needs of the industry. NCU has collaborations with reputed industries such as Daikin, MACE, Space Application Centre (ISRO), IBM, Mitsubishi Electric India Pvt Ltd, Delta Power Solutions India Pvt Ltd, Beijing Wavespectrum Science and Technonology Co China, CADD Centre, Power Grid Corp of India and many more.

NCU has exchange programmes with universities abroad namely ITB, Ireland; University of Chester, UK; University of Regina, Canada; Michigan Technological University, USA; University of Dayton, Ohio, USA; Shibaura Institute of Technology, Japan; MAGES Institute of Excellence, Singapore, among others. The Office of International Relationship facilitates students who want to study abroad and for student and faculty exchange.

Since we believe in the holistic development of our students, we offer our students various platforms to showcase their talent and creativity at both national and international levels. Our students get opportunities to take part in sports and other activities and have been applauded both nationally and internationally. We strive to empower our youth capital with skills, abilities and attitude that will enable them to win deals, drive decisions and go on to become leaders and influencers and determine the fate of companies.

The University has a proud record of evolving efficient, confident and highly knowledgeable technocrats, managers, entrepreneurs and legal minds with a global perspective that can contribute to nation building with a strong adherence to corporate ethics. After graduating from NCU, we support our students in placement in reputed organizations through our School of Professional Attachment. The University also has tie-ups with Professional Assessment Agencies for scientific third party assessment so as to ensure that the students get good placement offers. We have been able to achieve an enviable placement record of over 92 % of eligible students, nationally and internationally.

Students find learning at NCU an invigorating experience. My best wishes to all for a challenging and fruitful journey of academic excellence and creativity at The NorthCap University.

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between classroom and the real world
NAAC ACCREDITED
Formerly ITM University, Gurugram

Message from the Registrar

Col. Bikram Mohanty (Retd)
Registrar, The NorthCap University

The NorthCap University is an ambitious, dynamic and environment friendly university. We have moved a long way since we started our journey as a young institution twenty two years ago, which transformed into a university in 2009. The University prides itself in being a leading name in imparting education in various disciplines of engineering, sciences, law and management. The high quality of education, visionary leadership, dedicated faculty, industry academia collaboration along with excellent supporting facilities prepare students to accept challenges, seize opportunities and take the lead.

We educate students to become better individuals at every stage of life. We use the latest technology, e-learning, online learning tools etc. along with regular classroom learning with emphasis on practical work and hands-on training to scale up on student experience and learning value. NCU is committed to totally merit based decisions in every aspect of its operations. NCU has active student chapters of reputed professional societies like ASQ, OSA, SAE, IEI and many others so that members get an opportunity to grow, identify their individual talent and groom skills to their full potential.

The University maintains a high standard of discipline on its campus and hostel and offers a free and congenial atmosphere in a gender-equality environment with a complete ragging-free campus, conducive to learning of the highest order. We provide facilities for a plethora of activities, events, symposia etc. to encourage learning beyond the classroom and on graduating offer tremendous opportunities through stellar placements.

NCU's website provides the requisite information regarding every aspect of the University in a user friendly manner. The website and our active presence on social platforms like Twitter, Facebook, Linkedin, Global plus etc. has enhanced our connectivity at the global level.
We invite you to be a part of this forward looking university as the years ahead will be the most crucial part of your education that will shape the rest of your lives.

NCU
THE NORTHCAP UNIVERSITY ®
Learning to gain confidence to face the real world
NAAC ACCREDITED

Why Study at NCU?

A Premier City University

As we look to the future, one thing is certain – application of knowledge and skills will be a key resource you have to equip yourself with, to gain a passport to a successful life and career. With NCU, you get it all: innovative teaching with focus on research, curriculum that prepares you for the future workplace, strong links to global industry and world-class facilities. Our flexible study options, opportunities to study abroad and work placement programmes mean you don't just study a course at NCU – you get a great experience while getting ahead in your career. The NorthCap University encourages education that is distinctly interdisciplinary and international. We work across disciplines and beyond the University, connecting the brightest minds to find innovative solutions to the world's greatest challenges. We are proud to be consistently ranked amongst premier institutions of higher education in North India.

To give wings to your creative instincts, we offer you the right platform at The NorthCap University. Academic life is full of opportunities that offer mobility in the fast growing new-age verticals. Our multidisciplinary programmes are contemporary, covering a range of specialist topic areas with flexibility and choices featured in their curriculum design at par with international standards. We constantly update programmes and course content to meet the challenge of grooming professionals with knowledge and skills for the constantly changing requirements of the industry. We offer blended learning by using e-learning with regular classroom learning with emphasis on hands-on training. A real-world experience is a crucial component of our education and training. Our innovative curriculum supports sustainable development in science, technology, engineering, management and law. Independent and creative thinking is encouraged for people to interact, not just to share information but to create new knowledge. The Vice Chancellor's Innovation Fund can financially support you in exploring your ideas in live projects. To accelerate research, innovation, quality of teaching-learning and to facilitate student and faculty exchange, NCU has collaborated with leading universities of the world. We also encourage you to become the best by participating in the activities of leading professional societies and engaging modules in personal development, communication and leadership.

Students First

To enhance student learning, 'Students First' is the motto and driving force behind all activities at the University. We empower our students to achieve professional and personal success, ready to change the landscape of the future. Our objective is to transform our students into not only competent professionals, but also good human beings. We believe that for a brighter tomorrow the present should be nurtured and guided in the right direction with a healthy spirit. Students learn how to learn and are constantly motivated to meet the rigours of academics. They are closely supported and mentored by a strong and progressive team of teachers and peer tutors who help them use the course concepts to acquire skills of critical thinking and problem-solving - producing students who are more mature and self-regulating learners with sophisticated learning skills. The University has over 70% PhD faculty. We have six Padma Bhushan and Padma Shri awardees and six Bhatnagar awardees associated with the University.

Excellent Placements

With a dedicated School of Professional Attachment we have been able to achieve enviable placement results both nationally and internationally. The University has a tie up with professional assessment agencies for scientific third party employability evaluation that further enhance hiring opportunities. Placements each year are around 92% of eligible students.

Flexible, Choice Based Education

Choose the academic pathway that best suits your interests and strengths, learn from the best academia and industry stalwarts, research using the best facilities, get certified by IITs, earn foreign degrees and finally get placed in your dream organization! Each year the University receives about Rs 1.5 crore for sponsored/collaborated projects. That is why you should study at The NorthCap University, an ambience conducive to learning of the highest order.

Thought Lab

The University has established a 'Thought Lab' to reduce negative energy and stress, develop a positive attitude and improve the overall development of students. Channelizing thoughts effectively will improve your experience while studying at NCU.

Tinkering Lab

To encourage you to pursue your passion, a platform in the form of a 'Tinkering Lab' is now available to enable you to convert your ideas into tangible outcomes.

Great Infrastructure

To make your time at NCU enjoyable and enriching we provide centrally air-conditioned excellent academic infrastructure which includes hi-tech classrooms equipped with state-of-the-art multimedia teaching aids, Central Research Facility, Centre of Excellence, Incubation Centre, well equipped labs and workshops, state-of-the-art Auditorium, Library etc. where you can not only carry out practical training but also indulge in extensive research. We maintain close industry relationships so that classroom learning and teaching can be converted into practical training relevant to your future career. Collaborating and sharing resources, processes and systems with other universities and communities have accelerated research, innovation, quality of teaching and learning and the student experience.

The floodlit sports field is available to you to play cricket and football apart from other games such as Basketball, Tennis, Volleyball, Netball, Badminton and indoor games like Table Tennis, Chess and Carrom. We have a well-equipped student centre complete with a modern air-conditioned cafeteria.

In close proximity to Delhi, in the industrial hub of Gurugram, The NorthCap University has built on its admirable legacy of over two decades. You couldn't find a better place in which to begin to build a successful life and career.

Our Academic Advisory Board Members

Mr Analjit Singh
Padma Bhushan
Chairman, Vodafone,
Chairman, Max New York
Life Insurance

Dr Devi Singh
Member Governing Body
FLAME University, Pune
Former Director - IIM,
Lucknow

Mr Vikram S Mehta
Chairman,
Brookings India &
Former Chairman,
Shell Companies
in India

Mr Suresh C Rajpal
Chairman & CEO,
Visnova Solutions, Noida
Former President & CEO
Hewlett-Packard (India)

Prof. KL Chopra
Padma Shri
Former Director,
IIT Kharagpur,
SS Bhatnagar Awardee

Prof. MK Jain
Ex- Dy. Director
IIT Delhi & Professor of
Mathematics

Prof. TK Datta
Dogra Chair
& Emeritus Professor,
Dept. of Civil
Engineering, IIT, Delhi

Mr Indu Bhaskar
Scientist F & HOD,
Department of Scientific
& Industrial Research,
Team Leader
(TPDU Program), DSIR
New Delhi

Prof. Karmeshu
Honorary Distinguished
Research Professor,
The NorthCap University,
Prof & Dean,
School of Computer
& Systems Sciences,
JNU, New Delhi
SS Bhatnagar Awardee

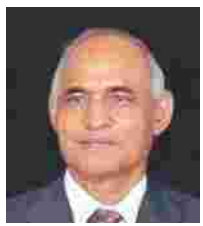
Mr Ajai Chowdhry
Padma Bhushan
Honorary Adjunct
Professor,
The NorthCap University,
Founder – HCL,
New Delhi

Prof. SK Joshi
Padma Bhushan
Former – DG, CSIR
& Hon. Distinguished
Scientist (CSIR)

Prof. Siraj S Hasan
Distinguished Professor
and former Director,
Indian Institute of
Astrophysics, Bangalore

Prof. AS Brar
Former Vice -Chancellor,
Guru Nanak Dev
University,
Amritsar, Punjab

Prof. Ranbir Singh
Vice -Chancellor
National Law University,
New Delhi
President, AIU



Dr PS Rana
Chairman & MD,
Pathera Developers
Former Chairman & MD,
HUDCO

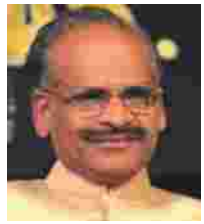
NAAC ACCREDITED

Prof. Kehar Singh
Distinguished Research Professor, NCU
Ex-Dean & Emeritus Fellow, IIT Delhi
SS Bhatnagar Awardee

Prof. RC Budhani
Professor, IIT Kanpur
Former Director
National Physical Laboratory, New Delhi

Mr Vishnu R Dusad
CEO & MD,
Nucleus Software Exports Ltd, Noida

Dr Krishan Lal
DST Ramanna Fellow & Former Director, NPL, New Delhi



Hon'ble Justice M Karpaga Vinayagam
Former Chairperson – Appellate Tribunal for Electricity

Dr Girdhar J Gyani
Director General, Association of Healthcare Providers (India)

Prof. SK Kak
Founder Vice-Chancellor
Mahamaya Technical University, Noida

Prof. Pradeep Kumar
Professor, IIT, Roorkee
Former Vice-Chancellor
Delhi Technological University, New Delhi

Mr Mangu Singh
Managing Director, DMRC, New Delhi

Prof. PB Sharma
Vice-Chancellor
Amity University, Gurugram

Prof. SG Deshmukh
Director
IIT, Delhi

Mr Bunty Peerbhoy
Director,
Maa Group Holdings

Mr Satish Kaura
Padma Shri
Chairman
Samtel Color Ltd

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Our Knowledge Partners

iNurture, a educational solution company in the business of designing and delivering of innovative industrial relevant jobs in the field in Animation and VFX, Information Technology, Mobile Application and Analytics is our Knowledge partner.

CISCO certification is sought after by IT professionals and greatly improves your prospects if you want to build a career in the industry. The CISCO Networking Academy at the University caters to the huge demand for ICT professionals.

The NorthCap University signed a Partnership Agreement with **MAGES Institute of Excellence, Singapore,** in Aug 2018. Under this agreement MAGES Institute of Excellence will provide guidance and training in new technological areas like Virtual Reality, Augmented Reality, Artificial Intelligence, Data Analytics and other emerging areas to students and faculty at NCU. They will also suggest courses in newer technologies which can be embed in the BTech programmes, especially related to CSE & ECE. This agreement is committed to raising standards in education and preparing the next generation of students for jobs of the future.

American Society of Quality (ASQ) India Ltd: A students' chapter has been established with The American Society of Quality (ASQ) India Ltd to provide a certificate programme for students. We are the first university in India to be selected by ASQ to form a thriving Students' Chapter.

Partnerships & International Linkages

Besides obtaining recognition by accreditation agencies and statutory bodies, the University has been collaborating to share knowledge and resources with other universities and academic communities throughout the world. This is part of an important strategy to accelerate and sustain success. Our endeavour in this direction has resulted in successfully forging progressive alliances with premier institutions round the globe.

ITB Ireland: The University has an effective Partnership Agreement in place with ITB Ireland and is collaborating significantly in the mobility of students and faculty. The first students exchange started in September 2011 for a semester abroad programme. Various collaborative schemes for UG and PG students continue to be rolled out.

University of Chester: A Partnership Agreement with the University of Chester, UK, was signed in 2012. The Chester Business School has over 1500 students with campuses at Chester and Warrington, and has a good reputation at undergraduate and postgraduate-level courses.

NCU students of MTech ECE and CSE are eligible to apply for a Master of Engineering degree in Electronics Systems Engineering and in Software Systems Engineering, respectively. Selected students proceed to **University of Regina, Canada** after 2 semesters and get a Canadian degree in Master of Engineering.

Michigan Technological University: A Partnership Agreement with the Universityof Michigan Technological University Houghton, Michigan, USA was signed in March 2016, to implement the 3+1+1 programme in Computer Science & Engineering.

University of Dayton, Ohio, USA signed a Partnership Agreement to undertake joint collaborative research and for student and faculty exchange. The Agreement was signed in May 2017.

The NorthCap University (NCU), Gurugram, signed a Partnership Agreement with **Providence University, Taiwan** on 23 October 2018. Both universities have agreed to undertake joint research activities and publications, participation in seminars and academic meetings, exchange of academic material, other information and special short-term academic programmes.

Shibaura Institute of Technology : A Partnership Agreement for signed with Shibaura Institute of Technology (SIT), Tokyo, on 7 Aug 2018 wherein both the universities have agreed to undertake joint collaborative research, exchange of students and faculty, exchange of information and publications etc. NCU being a partner university of SIT, students from NCU shall get full programme and tuition fee waiver.

National Technical Research Organization (NTRO): The University signed an MoU with National Technical Research Organization, New Delhi, on 12 Sept 2018. The MoU shall provide collaborative working arrangement on specific research and development projects. In addition, NCU interns may be considered by NTRO for involving young talent in relevant fields.

n+I: The n+i engineering network, which is a consortium of over 70 French Grandes Ecoles (elite engineering institutes), is the largest network in France and offers student exchange programmes under an MoU with NCU.

The Indian Meteorological Department (IMD) : The NorthCap University has signed a Letter of Agreement (LOA) with The Meteorological Department (IMD), Ministry of Earth Sciences, GOI, to facilitate sponsored students and Employees in research & developmental activities associated in the field of Meteorology. IMD will install an Advance weather station at the NCU campus for monitoring weather, atmospheric studies and research activities.

Accreditation Services for International Colleges (ASIC) UK: A respected international accreditation body for academic institutions worldwide, reaccredited The NorthCap University with a stutus of 'Premier University' for a period of four years from Nov 2016. The University was awarded a grade of 'Commendable' in sevan out of eight measurable areas of a university's operations.

ACCREDITED
2016-2020

ISEP: We are direct members of ISEP, under which the students can be sent for a semester or year abroad to over 54 ISEP universities in 30 countries at affordable costs to the students. The host universities transfer credits after students complete all requirements. Students who have cleared their first two semesters at The NorthCap University are entitled to apply.

An MoU was signed between NCU and **Maruti Center for Excellence (MACE)** in April 2018 to collaborate in the field of Training and Development of NCU students through practical and theoretical trainings and through projects during their internships. The collaboration extends to technical seminars and guest lectures also. The MoU will provide UG students of the Dept of Mechanical Engineering a platform to enhance their technical skills followed by employability.

Association of Indian Universities (AIU): The University is now a member of the Association of Indian Universities (AIU). This has enabled us to refer to AIU for educational guidance to help improve standards of instruction, examination, research, textbooks, scholarly publications, participation in youth festivals or sports activities, publishing bibliographies of doctoral theses, and other such programmes as may contribute to the growth and propagation of knowledge.

An MoU was signed between The NorthCap University and **Daikin Air-Conditioning India Pvt Ltd (DAIPL)** on 26 March 2018 to establish a 'Centre of Excellence' on HVAC Systems at the University that will impart practical skill training and industrial exposure to the students on the campus. The Centre of Excellence (CoE) is a one of its kind set up by the Japanese Company – Daikin India in any educational institution in Gurugram.

Delta Power Solutions India Pvt Ltd, to develop and execute education and research projects, promote development of syllabi and activities that support research and development through work-integrated learning programmes – Cooperative Education. The Partnership Agreement was signed in January 2017.

NAAC
THE NORTHCAP UNIVERSITY
Bridging the classroom and the real world
NAAC ACCREDITED
The NorthCap University, Gurugram

ISRO: MoU between ISRO, Dept of Space, Govt. of India, Ahmedabad, and The NorthCap University for IRNSS Navigation Receiver Field Trial and Data Collection that will enhance research and innovation at the University.

Providence University, Taiwan, to undertake joint research activities and publications, participation in seminars and academic meetings, exchange of academic materials.

Association of Commonwealth Universities: We are a proud member of the Association of Commonwealth Universities and are actively participating in all its affairs. The University won the prize in the Social Outreach category in a competition held in the UK. It also bagged an Honourable Mention prize for its 2012 Annual Report.

American Society of Quality (ASQ) India Ltd: A students' chapter has been established with The American Society of Quality (ASQ) India Ltd to provide a certificate programme for students. We are the first university in India to be selected by ASQ to form a thriving Students' Chapter.

The NorthCap University has become a part of the **BMW India's** 'Skill Next' programme aimed at imparting hands-on expertise and practical training to automobile engineering students across the country.

Chartered Institute of Arbitrators (India): Students from the School of Law would benefit a great deal by this tie-up with NCU. While doing their BBA-LLB (Hons) course, they would be in a position to add to their professional graph in one of the most sought-after futuristic areas-the field of arbitration.

Spoken Tutorials IIT Bombay: Spoken Tutorials IIT Bombay: An MoU has been signed between Spoken Tutorial Project, IIT Bombay and The NorthCap University. The agreement helps the University in conducting software training programmes in collaboration with IIT Bombay.

MoU with American Society of Civil Engineers (ASCE), Reston, Virginia, United States for conducting ASCE's recorded / on demand webinars (with a local expert present) as well as holding conferences and continuing education activities at the NorthCap University, Gurgaon.

NCU
NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED

About the University

NCU is a unitary university situated in Sector 23-A, Gurugram, Haryana and accredited by the National Assessment and Accreditation Council (NAAC) 2016-2021. It was founded in 1996 by Educate India Society as an Engineering Institute to provide higher education in Engineering and Management. The institute gained the status of a State Private university in the Academic Year 2009-10, under Act No. 25/2009 NIRF Survey, MHRD Govt. of India by the Legislature of State of Haryana and accorded UGC approval under Section 2(f) of the UGC Act 1956. In a span of a few years, we have grown to be one of the foremost educational institutions in North India. As a testimony to this fact, we have been ranked in rank band 101-150 in the Engineering Category and in 151-200 in the University Category under National Institutional Ranking Framework (NIRF) by the Ministry of MHRD, GOI, released in April 2018 by MHRD. The NorthCap University has been ranked Second amongst the Cleanest Higher Educational Institutions in the Country in the Category 'University (Non Residential)'. The University won this award for Maintaining, Promoting and Encouraging the culture of 'SWACHHTA' in Higher Educational Institutions in the Country.

The University imparts education in undergraduate and postgraduate programmes in engineering, management, sciences and law. It is recognized by various government and regulatory bodies for teaching and awarding degrees. The University is approved by the University Grants Commission (UGC) and recognized by the Bar Council of India (BCI). The University is a member of the Association of Indian Universities (AIU). Aside from being a Member of the American Society for Quality (I) Pvt Ltd, it is accredited by Accreditation Services for International Colleges (ASIC), UK.

Location

The University is located in Sector 23-A, Gurugram, Haryana, which is about 15 Kms from Indira Gandhi International Airport. It is well connected and easily approach- able. It is located in a clean and pollution-free environment at about 3 Km from National Highway 8. The University's campus is spread over 10 acres with a covered area of over 32,000 square metres which amply caters to all its academic and administrative needs. A '360º walkthrough' on our website, (www.ncuindia.edu) will give you a virtual tour of the beautiful laid out campus.

Physical Infrastructure

The University accommodates an excellent academic infrastructure of over 60 classrooms, 18 tutorial rooms, 71 labs, 25 workshops, ample faculty cabins, seminar hall, conference rooms, a 430 seat state-of-the-art auditorium and a double basement parking.

The University has a fully air-conditioned academic infrastructure with round-the-clock power back-up. The spacious classrooms are equipped with modern multi-media teaching aids. It also has a computer centre with nearly 1000 high-end computers and the whole campus is Wi-Fi enabled. It has a 150 MBPS dedicated leased line, digital and multimedia library and networked computer labs.

The open-air Amphitheatre next to the sports ground is used extensively for various university functions and club activities. The campus provides for a variety of clubs such as the music club, photo club, judo club and the Yukti Social Club. It has sports facilities for nearly all indoor and outdoor sports. The cricket-cum-football ground is arguably one of the finest grounds in the NCR, with floodlight facilities for night sports. An air-conditioned two-storeyed cafeteria, student centre and Incubation Centre covering an area of more than 15,000 sq ft provide a unique experience to faculty and students alike. It has been designed with modern interiors and energy efficient concepts. NCU also has a branch of the Syndicate Bank with an ATM operating from its premises for the convenience of its faculty and students. The University provides hostel facilities to over 125 students. The rooms are well-furnished, and the hostels also have a 24-hour power back-up system, treated water, Wi-Fi, intercom, indoor sports facilities, a central kitchen, entertainment and recreational facilities, and a bus to convey the students to and from the University. The New Academic Block provides state-of-the-art classrooms, besides area for student activities and faculty rooms.

Environment Friendly

NCU is an environmental friendly institution. A 150 KW rooftop solar PV system with a net metering facility has been installed to provide alternate source of power to the University in line with the State and National objectives of using solar energy. In order to ensure zero wastage of water, we have installed an effective rain water harvesting system as well as sewage and waste water treatment plants. NCU is committed to the green movement and campus-wide initiatives at reducing, reusing and recycling are helping it to achieve a green code of living. The University is surrounded by lush green gardens and this is the17th consecutive year when the University has been declared the winner of the HUDA garden competition in Gurugram.

Library and Information Resource Centre

The NorthCap University Library & Information Resource Centre (LIRC) is among one of the best Private University Libraries of Delhi-NCR. It has a collection of over 100,000 volumes (including Book Bank) in all areas of engineering, law, sciences and management and provides its users the latest and modern services like online library access to online journals and e-books, group e-mails to provide regular information and update on 'New Arrivals', notification through SMS/Email on every transaction etc. The Library has WEBOPAC facility which offers students the facility to reissue their books from anywhere.

LIRC has a dedicated Multimedia Library where computers have been installed for online access to international journals from various databases such as IEEE, American Society for Civil Engineers (ASCE), American Society for Mechanical Engineers (ASME), SAGE, EBSCO Business Source Elite, Manupatra, Westlaw and Tata Mc Graw Hill E-books. All these resources have IP based access and are accessible from anywhere, through

remote access facility. LIRC has joined INFLIBNET Shodhganga theses repository (an initiative of UGC). It provides full text access to the theses published in Indian universities, including those recently completed at NCU.

LIRC is a member of reputed libraries network DELNET (Developing Library Network) and the American Center Library, to augment access to outside resources. LIRC subscribes to over 174 reputed print journals and magazines from reputable publishers, institutions, societies, like the Indian Academy of Science Journals, IIMB Management Review, Decision, Vision, Harvard Business Review, BCI Journal etc and to multiple copies of 15 national dailies. LIRC uses the latest version of Libsys software, bar code based circulation system, provides reprography service, scanning and printing facility, and above all a Book Bank facility that will help you to concentrate on your studies as it will provide you five books in each semester, for permanent retention..

LIRC has a separate reading room with a capacity for 250 readers and is open from 8.00 am to 10.00 pm on all working days. It is very well lighted with comfortable furniture and assisted by a team of helpful and dedicated library staff. LIRC also organizes events such as the annual book fair, guest lectures, training programmes, workshops and conferences etc. for students and faculty, particularly in the areas of using E-Resources.

Internet, Computing Facilities and ERP

The University has a fully Wi-Fi enabled campus providing uninterrupted access to the Internet for all students. There are nearly a 1000 state-of-the-art systems connected through the NCU computer network, and students have direct access to this facility.

Committed to the automation of various academic, financial and administrative processes, the University has an advanced Enterprise Resource Planning (ERP) system based on cloud computing, through a tie-up with Digiuniv.

Virtual Labs

NCU is a nodal centre for Virtual Labs, an initiative of the Ministry of Human Resource Development under the National Mission on Education through Information and Communications Technology, wherein eight IITs are currently involved. The University utilizes the facilities available at the IIT labs through remote triggering.

Learning Management System

NCU offers an innovative learning system as a supplement to classroom teaching – an e-learning portal, the Learning Management System (LMS) which provides students with online access to the course content offered at the University and to important academic information including lecture notes, recommended reading, tutorial sheets and assignments. We want students to use this portal to prepare themselves before coming to the class, so as to have a better understanding of complex concepts.

Faculty

In our quest for academic excellence, we have taken immense pains to bring together a team of high calibre faculty, with a sense of dedication and social commitment, selected through a stringent screening process. The NorthCap University's faculty is ranked highly, as a large number of them come with a rich experience of having worked in some of India's most prestigious institutions such as the IITs and IIMs. They combine exemplary teaching skills with academic research and consulting practices and work hard to integrate classroom studies with the needs of the industry, making your educational experience relevant and timely. The criteria for appointment, retention, tenure and promotion are designed to attract educationists of the highest calibre, who continuously strive to enhance their knowledge and teaching effectiveness.

With over 160 faculty members on board, with a vast range of teaching experience in national and international institutions, we have a productive academic leadership, including emeritus professors and distinguished professionals from diverse fields. The qualifications for various faculty positions comply or exceed the prescribed standards of the UGC and the BCI. 59 % faculty members are PhDs. Many of them are qualified from premier academic institutions like the IITs. A number of senior members of the faculty will teach you in the first-year so as to give you a strong foundation while initiating you into various programmes.

Faculty Mentoring Scheme

Besides the large in-house fraternity, we have a rich panel of eminent professors and industry experts as visiting faculty. We also invite distinguished professionals and academics to mentor our faculty in a nurturing environment, to enrich and enhance their expertise under the

NCU NORTHCAP UNIVERSITY ®
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Faculty Mentoring scheme. In addition to regular classroom teaching, renowned experts in various fields are also invited from time to time to deliver Guest Lectures and conduct workshops so that you get the opportunity to interact with experts and get real-life exposure.

Whilst the principal responsibility of the faculty is teaching, members are also encouraged to serve as consultants to other organizations from time to time, so as to help keep abreast with the latest trends in the environment where our students will be absorbed after graduating. Their qualifications and experience, as well as the superior teacher-student ratio contribute to the quality of education at the University. Our faculty is sensitive to your academic and developmental needs and easily accessible and very concerned about your welfare and development.

Student Counselling

To make you comfortable and help you easily settle down in the University, a faculty mentor will help you in a nurturing, informal yet intense relationship just as in the Guru Shishya parampara. Mentors will guide and counsel you, whenever you require, throughout your stay at the University.

Learning @ NCU

We ceaselessly strive to pioneer the learning processes to bring them at par with international standards. Curricula are constantly updated to keep abreast with industry trends and to ignite your mind with innovative ideas that prepare you to meet global challenges in the future. You will be exposed to real-life applications and industry interactions for practical understanding and learning.

Being a multidisciplinary university, we have taken great pains to ensure that the courses are designed not only to help you understand the core courses but also their applications in other streams. In this manner, with better assimilation, you will acquire broad based knowledge. Inculcating the desire for excellence and accomplishment through integrity, honesty and achievement is of paramount importance. To achieve excellence in research we encourage originality of ideas and approaching a subject with an open mind. We want you to innovate and conduct research in a collaborative and supportive environment. Research is encouraged not only in all the Schools but in multidisciplinary groups as well.

Concept of theory and labs has been integrated into project based learning by laboratories effectively supporting difficult and interdisciplinary experiments to complex project based learning. Lastly, you will acquire basic skills of at least one foreign language (French, German & Spanish) being all major programmes of the University.

Programme Educational Objectives and Outcomes (PEO and POs)

In line with the Vision, Core Values and Quality Policy of NCU, Programme Educational Objectives and Outcomes (PEO and POs) have been framed for our UG and PG programmes and rigorously followed.

Online courses

As part of its approach to inculcate the habit of self-directed learning in students and as mandated by regulatory bodies such as UGC & AICTE, NCU has introduced MOOCs (Massive Open Online Courses) in all its programmes across all Schools including engineering, management and law. They help impart lifelong learning skills required for healthy career growth and it is planned to scale up MOOC learning, progressively. Various online platforms, as recommended by MHRD / other agencies, such as Swayam, NPTEL and e-pathshala etc. are available to students at NCU. Students are encouraged to use well established international platforms like edX, Coursera, LINUX Foundation, MIT, Harvard etc. and earn credits for these courses through certification exams conducted by them. Facilitation sessions, blended learning and evaluation model is used as necessary.

Online tests and assignments

As a part of the continuous evaluation system, regular tests and assignments form a very important component in addition to the mid and end term tests. There are at least two online tests per course per semester that are conducted through a dedicated test platform OTMS (Online Test Management System) which provides a simplified evaluation system adding to your academic efficiency and building an online culture at NCU. The tests can also be conducted through the LMS platform available with each course. Students are encouraged to submit some of their assignments online. Suitable plagiarism checks as necessary are applied.

Relative Grading and Moderation

The University follows the rationalized relative grading system across all disciplines for fair and balanced evaluation of students. The quality bar for distinction is 8.5 and above CGPA on a 10-point scale and all courses should have been passed in the first attempt. For all academic rules and regulations visit the Dean Office and refer to relevant documents. Secondly, being a centre for higher learning, students should be prepared to attend the University six days a week (any six days) for academic and/or co-curricular activities.

Attendance Rules

A student is expected to attend all lectures tutorials, practical classes and VA courses. However to account for illness, and contingencies of a serious and unavoidable nature, the attendance requirement for a student to make him/her eligible to attend the Major Test is 70%. This requirement will not be relaxed under any circumstances whatsoever.

A student not satisfying the minimum attendance requirement in a particular course will be detained in that course.

Interactive teaching-learning and self-learning

We follow a system of prior assignments and/or self-study. You have to self-prepare certain topics before class or tutorials, based on which you will be questioned or quizzed. For this we encourage you to use NPTEL (the National Programme on Technology Enhanced Learning) and UGC MOOCs as a resource for supplementary reading material. This system helps us to continuously improve our teaching-learning systems and processes.

NCU THE NORTHCAP UNIVERSITY® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly IIM University, Gurugram)

Special Lecture Series

Expert talks are delivered by invited experts from outside as well as our senior faculty members on various topics so that you benefit from the expertise of experienced speakers.

Thought Lab

The University has established a 'Thought Lab' to reduce negative energy and stress, develop a positive attitude and improve the overall development of students. Channelizing thoughts effectively will improve your experience while studying at NCU.

Value Added and skill enrichment Courses

To sharpen your competitive skills and enhance your employability and make you industry-ready, we have comprehensive value-added (VA) programmes, over and above the basic curriculum. VA courses help to bridge the gap between your domain knowledge and the requirements of companies – which also include soft skills such as communication, presentation, interpersonal skills, etc.

Tinkering Lab

To encourage you to pursue your passion, a platform in the form of a 'Tinkering Lab' is now available to enable you to convert your ideas into tangible outcomes. This will help you keep your passion/ interest alive while pursuing your course of study at the University.

Incubation Centre

The UniversThe Incubation Centre at The NorthCap University has been established to advance research and innovation primarily in the field of software products and apps and hand-hold students who create innovative projects with commercial viability.

Extracurricular Activities

For your holistic development and to make sure that you excel in extracurricular activities, besides academics we encourage you to participate in different intra- and inter-university sports, cultural and technical events in close coordination with faculty. Throughout the academic year, the campus hosts a wide variety of activities, including guest lectures, films, musical and cultural events and other special programmes. The University has several professional hobby clubs and societies which provide opportunities for both enjoyment and the discovery of new interests and skills. These include the Computer Society of India (CSI), Association for Computing Machinery (ACM), American society of civil engineers (ASCE), Society In Pursuit Of Advances In Civil Engineering (SPACE), Indian Road Safety Campaign (IRSC), Society of Automotive Engineers (SAE), The Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE), American Society for Quality (ASQ), International Society for Optics and Photonics (SPIE), Institute of Electrical and Electronics Engineers (IEEE), The Institution of Engineers (IEI), The Optical Society (OSA), Enactus, Moot Court Society, Literary Society, Music Society, Drama and Dance Society, Photography Club, Social Service Society, Sports Society and Self Development Groups. We encourage and provide support, guidance and facilities to our students to showcase their skills and talent.

Accommodation

You can get comfortable, secure, safe and healthy accommodation in NCU's hostels. There are separate hostels for boys and girls with limited capacity to accommodate students. We provide high-quality accommodation, on a shared basis, with clean and hygienic dining facilities is provided by the University. The rooms are well furnished, with a 24-hour power backup, treated water, Wi-Fi, intercom, indoor sports, entertainment and recreational facilities and a bus for your conveyance to and from the University. All hostels are provided with security guards round the clock. Accommodation is allotted on a first come first serve basis, as a limited number of seats are available.

If we are unable to accommodate you in the University's hostels, you can find alternative lodging nearby. About 30 paying guest facilities in close proximity to the campus are available for which you will need to exercise your own options. NCU plays only a limited role as a facilitator, providing a ready reckoner of PG accommodation availability in the vicinity of the campus, and has absolutely no other interest, role or responsibility to discharges other than facilitate your stay.

Transport

For the added convenience of its faculty and students, the University operates AC bus service between Delhi-NCR and the University and from the local metro stations on MG Road, Gurugram, as well as Dwarka Sector 21 Metro Station, New Delhi.

NCU Health Services

A health centre with two doctors on rotation is

THE NORTHCAP UNIVERSITY
Bridging the gap between classroom and the real world
(Formerly ITM University, Gurugram)

available on the campus. The team of qualified and dedicated doctors provide allopathic as well as homeopathic treatment. The Medical Centre provides superior emergency care, with examination beds, medical equipment and medicines to cater to any emergency, with first-aid services for injuries, accidents etc. and thereafter for moving the patient for further course of treatment. For routine medical cover, just meet the doctor on duty in the Medical Room and they will take care of you. The University has a well-equipped ambulance van that is available to reach sick students to hospitals or to handle evacuation from the hostels of the University.

Specially-abled Students

Resources for specially-abled students are part of NCU's commitment to help all such students achieve their academic potential. The University welcomes applications from students with special needs and assures them that it will provide access to all programmes for which they enrol. Special effort is made to provide opportunities for participation in extracurricular activities, and to encourage their personal development and independence. Compliance with the guidelines for students with disabilities is ensured by the University.

Student E – Portfolio

E-portfolio is a unique initiative of the University to identify students' interests in the first year itself and encourage you to develop these areas. You will continue to develop this portfolio during your stay at NCU and also record your achievements and rewards using multimedia which will be showcased in your portfolio to potential employers for enhanced employability.

Office of International Relationship

To facilitate students who want to study abroad and for student and faculty exchange an Office of International Relationship has been set up at the University. Students are supported for credit exchange, internships and project collaborations along with faculty through frameworks of MoUs.

Parent Information System

The University has a Parent Information System which keeps parents informed about the progress of their wards. A portal has been set up which provides information on the academic progress and other achievements/activities of students including extra and co-curricular activities and so on. Corrective actions if required can be taken in consultation with the faculty.

Equal Opportunities

At NCU, we are committed to equality of opportunity to all sections of society. We welcome applications from all irrespective of caste, creed, language, gender, nationality or religion, with a potential to succeed in higher education and provide full protection and rights of participation to Persons with Disabilities as per the PWD Act of 2016.

NCU is a ragging free campus and provides a safe environment particularly to girl students.

THE NORTHCAP UNIVERSITY ®

The NorthCap University continues to nurture its ambition to be known globally for learning innovations, academic excellence and socially relevant research outcomes. It is driven by an ambition to be in the top of the league by embracing global best practices and championing the highest ethical standards.

- The University is ranked 117 in the All India NIRF Engineering ranking which 970 Institutions of the country participated and is now the top Private Engineering University in Haryana & Delhi. In the University Category, it has maintained its ranking in the rank band of 151-200, released in April 2019 by MHRD.
- The NorthCap University, Gurugram, has been ranked Second amongst the Cleanest Higher Educational Institutions in the Country in the Category 'University (Non Residential)'. The University won this award for Maintaining, Promoting and Encouraging the culture of 'SWACHHTA' in Higher Educational Institutions in the Country.
- Ranked among Top 10 Private & Deemed Technical Universities All India and Best Engineering Institute in Haryana by The Week in their May 2018 issue.
- Ranked No. 1 Private Engineering Institute in the State of Haryana, No. 5 Private University in the State of Haryana and No. 48 in 'India's Top 100 Private Universities League' by Education World in May 2018 issue.
- The NorthCap University was Ranked No.1 amongst Top Engineering Colleges in Haryana and Ranked No.3 amongst Top Engineering Colleges of Eminence in India in the CSR-GHRDC Ranking Survey 2018 published in the July 2018 issue.
- School of Law NCU, was Ranked No. 9 amongst Top Law Schools of Eminence, All India and No. 1 in Haryana by GHRDC Law Schools Survey June 2018.
- The NorthCap University was ranked No.1 Engineering College in Delhi & Haryana and No. 55 All India in a survey of India's Top Professional Colleges by Outlook in their June 2018 issue.

NCU THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Schools & Programmes

At the NorthCap University, we consider that unique capabilities lie in all individuals and each day we work to ensure that capability to be accomplished. Our students work side by side with their peers and with renowned faculty and researchers. Selected students study abroad, participate in internships, conduct research, lead student organizations and volunteer in communities close to home and around the world.
In pursuance of this objective, the University offers high-quality courses at the undergraduate and postgraduate levels.
The following programmes were offered for the session 2019-20:

I. SCHOOL OF ENGINEERING & TECHNOLOGY

A. BTech (4 years)

Computer Science & Engineering (CSE)

Specialization options

1) Full Stack Development
2) Cyber Security
3) Internet of Things (IOT) & Cloud Computing
4) Data Science and Artificial Intelligence (AI)
5) Game Technology, Augmented Reality (AR) and Virtual Reality (VR)

Electronics & Communication Engineering

Specialization Options

1) Internet of Things (IOT)
2) Embedded Systems and VLSI Design'

Mechanical Engineering

Specialization Options

1) Thermal Engineering
2) Mechanical Engineering Design
3) Industrial and Production Engineering
4) Automobile Engineering

Civil Engineering

Specialization options

1) Smart Infrastructure Development
2) Construction & Project Management

B. MTech

Degree in Computer Science & Engineering with specialization in:

- Cyber Security
- Data Science

Degree in Electronics & Communication Engineering with specialization in:

- Communication Engineering
- VLSI Design

Degree in Mechanical Engineering with specialization in:

- Mechanical Engineering
- Thermal Engineering
- Mechanical Engineering Design

Degree in Civil Engineering with specialization in:

- Structural Engineering
- Construction Engineering & Management
- Environmental Engineering

C. BSc (Hons) Mathematics

D. BSc (Hons) Physics

E. MSc Mathematics

II. SCHOOL OF MANAGEMENT

- BBA
- BA (Hons) Psychology
- BA (Hons) Economics
- BCom (Hons)
- MBA

III. SCHOOL OF LAW

- BBA-LLB (Hons)
- **LLM**

  Specialization Options 1. Corporate Law
  2. Human Rights 3. Intellectual Property Rights (IPR)

IV. PhD in Engineering, Management, Law, Sciences & English

V. LATERAL ENTRY TO B.TECH SECOND YEAR

School of Engineering and Technology

The School of Engineering and Technology (SOET) aims to be at the forefront by producing highly skilled technocrats with industry oriented, practical, relevant education and skills that they can immediately implement in the workplace, around the world. SOET with its five academic departments of Applied Sciences, Civil & Environmental Engineering, Computer Science & Engineering, Electronics & Communication Engineering and Mechanical Engineering forms the largest component of the University's academic arena.

Every programme blends critical thinking and analysis with innovation, application and leadership qualities. We promote active learning in the classroom and you will learn by carrying out experiments and live projects. We encourage self-learning through IT enabled courses wherein self-study topics are added to each course and reference websites for further study are included, as necessary. We lay strong emphasis on academic flexibility and focus on internships and major projects. Each student, after second and third year compulsorily goes through the rigours of summer internships as we believe that practical /hands-on learning is an intrinsic part of theory. After graduating from SOET you will be ready to take on the wide ranging changes taking place in technology, nationally and internationally.

Outcome based learning

Following global best practices the School follows the Outcome Based Education system that will prepare you for the future and for the constant change which is inevitable in our society. We define educational objectives and outcomes at both the course and programme levels which we update periodically with the help of inputs from faculty and feedbacks from all stake holders. Good teaching methodology, fair and reliable assessment and continuous feedbacks form a significant part of our system. The major enablers for improving our teaching learning processes and the curriculum are our students' placements, their programme specific educational outcomes, higher educational pursuits and entrepreneurship success rate.

Industry-Academia collaboration

To move education to the next orbit, focus is on bridging the gap between industry and academia. To this end collaborations have been made with leading global industries.

Maruti Center for Excellence (MACE) collaborates in the field of Training and Development of NCU students through practical and theoretical trainings and through projects during their internships. It extends to technical seminars and guest lectures also and provides UG students of the Dept of Mechanical Engineering a platform to enhance their technical skills followed by employability.

Daikin Air-Conditioning India Pvt Ltd (DAIPL) has set up a 'Centre of Excellence' (COE) on HVAC Systems at the University. Experts from DAIPL impart practical skill training to faculty and students on advanced technologies in Heating Ventilation and Air-Conditioning (HVAC) System (using air-conditioning units supplied by DAIPL) and industrial exposure to the students within the campus. The CoE is one of its kind to be set up by the Japanese Company, Daikin India in any educational institution in Gurugram.

Delta Power Solutions India Pvt Ltd, to develop and execute education and research projects, promote development of syllabi and activities that support research and development through

work-integrated learning programmes – Cooperative Education. The Partnership Agreement was signed in January 2017.

Beijing Wave Spectrum Science & Technology Co. Ltd. China, has set up a multidisciplinary Vibration Lab at NCU with an approximate cost of USD $60,000 (INR 40 lakhs) dedicated to research and development of Vibration Technology. NCU students are offered jobs and are working in China.

Mitsubishi Electric India Pvt Ltd has provided training equipment for students and faculty worth Rs 40 lakhs and conducts workshops, seminars and training programmes for students.

SAC, ISRO, Dept of Space, Govt of India, Ahmedabad, has set up Navigation Indian Constellation (NavIC) Lab at The NorthCap University for IRNSS Navigation Receiver Field Trial and Data Collection that is enhancing research and innovation at the University.Power Grid Corporation of India, Gurugram, a Navratna Public Sector Enterprise and one of the largest transmission lines utilities in the world for students'internship, management development, research and training programmes.

National Technical Research Organization (NTRO): The University signed an MoU with National Technical Research Organization, New Delhi, on 12 Sept 2018. The MoU shall provide collaborative working arrangement on specific research and development projects. In addition, NCU interns may be considered by NTRO for involving young talent in relevant fields.

The University is a part of the **BMW India's** 'Skill Next' programme aimed at imparting hands-on expertise and practical training to automobile engineering students.

IIT Certifications

IIT Bombay certifies for training in Free Open Source Software (FOSS) through Spoken Tutorials software project in various domains such as FOCP and C, OOPS and DBMS, Software Engineering etc.

We offer you the facility of gaining remote access to the Virtual Labs at IIT Delhi. Expert teams from IIT Delhi will train you in this.

Student Exchange Programme with Foreign universities

- **Michigan Technological University, USA,** for the 3+1+1 programme wherein selected BTech students can complete their fourth year from MTU.
- **University of Regina, Canada,** where selected students can proceed after two semesters and get a degree in Master of Engineering.
- **ITB, Dublin, Ireland,** for semester abroad for undergraduate and postgraduate students.
- **University of Dayton, Ohio, USA,** to undertake joint collaborative research and for student and faculty exchange.
- **MAGES Institute of Excellence, Singapore,** provides high quality tertiary level training with rapidly developing media, animation and gaming industries and aims at delivering a complete learning experience in Game Designing technology featuring programmes. MAGES Institute of Excellence also conducts internship programmes for NCU's students.
- **Shibaura Institute of Technology (SIT),** Tokyo, Japan, a leading university of Japan, for joint collaborative research, exchange of students and faculty, exchange of information and publications etc. SIT maintains a strong industry academia relationship with more than 250 state-of-the-art laboratories engaged in several multidisciplinary projects. NCU being a partner university of SIT, students from NCU shall get full programme and tuition fee waiver.
- **Providence University, Taiwan,** to undertake joint research activities and publications, participation in seminars and academic meetings, exchange of academic materials.
- **National Technical Research Organization,** New Delhi, provides collaborative working arrangement on specific research and development projects. In addition, NCU interns may be considered by NTRO for involving young talent in the relevant field.

Online Courses offered

To broaden your horizon and give international exposure we offer online courses from various universities across the world, which include MIT, Harvard, UC Berkeley and University of Texas. You may enroll in these courses along with a faculty mentor and will be evaluated both online and by the mentor at the University level. Suitable number of credits will be allotted to you after successful completion of the courses as per departmental norms.

NCU offers an innovative learning system as a supplement to classroom teaching – an e-learning portal - the Learning Management System (LMS). You can get online access to the course content offered at the University and to important academic information including lecture notes, recommended reading, tutorial sheets and assignments from this portal.

In addition, Massive Online and Open Courses (MOOCs) launched by the Ministry of Human Resources Development (MHRD), GOI, and University Grants Commission (UGC) covering diverse disciplines are also available at NCU.

At NCU you will also get high end training programmes of ASQ (I), a leading authority on quality in all fields, organizations, and industries. These programmes lead to certifications which are considered a universal benchmark and will enhance your profile at the time of placements.

Faculty

The School is proud of having a team of highly

NCU THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

qualified, experienced and dedicated faculty whom you can approach at all times. Most of them are PhDs or pursuing PhDs. Some of the most renowned academicians, researchers and industry stalwarts in the country are associated with us as Faculty Mentors for the academic grooming of our faculty and to further enhance their effectiveness as teachers, researchers and individuals in all spheres of life. All faculty members continuously upgrade their knowledge and relevant skills through advanced trainings, Faculty Development Programmes, Externships and are engaged in research activities in interdisciplinary fields.

Research

The Central Research Facility (CRF) at the University provides the latest and advanced analytical instruments for research in the areas of Physics, Chemistry, Engineering and interdisciplinary sciences at one central place. The recently commissioned Daikin Centre of Excellence (CoE), CRDI engine and the Vibration Lab in the Dept of Mechanical Engineering have opened up avenues for promising projects and research. A significant part of NCU's overall research is undertaken in collaboration with business/industry partners. NCU itself also supports research students and provides related funding for equipment through the Vice-Chancellor's Innovation Fund and also awards Best Project Awards to innovative and socially relevant projects.

Peer Tutor Scheme

Following 'Best Practices' in leading international universities wherein along with the scheduled teaching by professors various kinds of supplementary tutoring and academic skill development support, outside the classroom are also available to all students we also have 'Peer Tutors'. Through this initiative our meritorious, talented and highly capable students are recognized and rewarded and they use their skills to help weaker students, particularly in the first and second years of UG programmes. Peer Tutors guide and support, empower and encourage, within an interactive peer learning context but do not substitute for classroom teaching or regular faculty.

GATE Preparation

We encourage and prepare you to compete in the GATE exam conducted by IITs which is considered the national benchmark for demonstrating merit at the national level. We reimburse GATE application fee if you qualify. All students of BTech are required to appear for the GATE exam.

Industry Readiness

The University ensures that all students are put through the rigours of an intensive industry training programme to make them work ready.

Third Party Assessment

NCU has taken a new initiative to facilitate evaluation of students' employment readiness and gap analysis by outsourcing it to companies who do third party assessments for graduating students, on behalf of hiring companies. Many universities and institutions such as IIT Kharagpur, IIT Guwahati, IIT Roorkee, IIIT Delhi, NIT Delhi and some private universities are on the board of such assessment companies.

Placement Portal

The SOET is supported for placement by our School of Professional Attachment (SPA).

The complete working of SPA is automated. A placement portal is used as a tool for all communication with students:

- Uploading student resumes
- Posting the company profile and job profile of a visiting employer companies
- Accepting student nominations for the company
- Posting schedule of on campus placement drives
- List of successfully selected students
- Issue of 'No Objection Certificate' to students for joining industry internship
- Schedule of invited talks by industry experts.

SPA stands committed to hand-holding you right from the time you join the University till you join your dream company and even thereafter as alumni, for the benefit of providing the wisdom of your experience to your younger college mates in the form of career counselling and getting better job opportunities. We wish you a great learning experience here at The NorthCap University and an equally rewarding career thereafter.

Entrepreneurship and Incubation

Education plays a crucial and considerable role in developing entrepreneurial activity of students. Individual capacities including personal traits are often considered to be the key drivers of success for business startups. The University provides valuable support to budding students to become entrepreneurs. In this direction 60 students of our University took part in the Startup Weekend programme held under the aegis of the Government of Haryana and brought laurels to the University by bagging the First and Third position at the State level.

The Incubation Centre (MJCEI) at the University has created an environment for research and innovation, especially for software products and apps followed by incubation for commercialization. We hand-hold our students who create innovative projects with commercial viability.

Department of Electrical, Electronics and Communication Engineering

Message from the Head

Dr Sharda Vashisth
PhD, Banasthali University
Head, Dept of EECE

Welcome to the Department of Electrical, Electronics and Communication Engineering (EECE), a vibrant branch of engineering that has changed the world in which we live and work. It is poised to continue making important contributions to key issues facing society in areas such as energy, health, computing, network communication, environmental monitoring, information security etc. Our BTech and MTech programmes aim at providing a strong foundation in theoretical, practical and design aspects of engineering. You will learn core fundamentals and expand your horizon in the emerging areas of technology and their applications through new programmes particularly at the post graduate level.

Our ECE engineering graduates learn to work in teams with other specialists to design, fabricate, produce, test and supervise the manufacturing of complex products and systems and are sought after not only by electronics and telecom industry but also by computer and IT industries. We follow practical oriented learning practices that enhance your employability and help you to be readily placed in top companies. We develop in you broader expertise and diversified skills to become a successful technocrat in a rapidly changing global environment.

The approach of the Department is to make the learning process interesting and participative with experiential learning and strong emphasis on practical education, with exposure to real time scenarios through strong industry interface. The Department is provided with sufficient resources to meet these objectives. In addition to competent, well qualified and experienced faculty, the labs are well equipped, well-maintained and regularly modernized with latest equipment and industry standard software tools. Independent project work by students is highly encouraged. Faculty members update their knowledge base through regular training, externships, faculty development programmes and research activity. The Department organizes seminars, workshops and training programmes to give you exposure to new developments in various fields of Electronics& Communication Engineering. We ensure your holistic development through initiatives like innovative curricula, well planned curricular and extracurricular activities, numerous outreach activities, supplementary learning in tune with industry requirements, personality development programmes and exposure to the best available resources.

Keeping the industry demand in mind, the department has introduced two new specializations - Internet of Things (IoT) & Embedded systems and VLSI design. India is a growing market in IoT sector which is leading to the requirement of skilled IoT professionals. In the last three years the demand for IoT talent has accelerated by 300%. This is why IoT is seen as the next big thing in technology, which will transform the employment landscape in the industry and we want you ready to grab that opportunity. Specialization in Embedded systems and VLSI design will offer you better career and research prospects in India and abroad in core domains.

We will equip you with the capacity to work effectively and collaboratively to solve problems which continue to grow more complex, defy disciplinary borders and will prepare you to be a twenty-first century leader. Come and join our highly professional team of faculty and students and experience the joys of innovative learning and research in emerging technologies for a rewarding career.

The vision of the Department is to be known in the area of Electrical, Electronics and Communication Engineering as a department with unending quest for learning innovations, academic excellence and socially relevant quality research outcomes of internationally recognized standards; emerge as a preferred destination for students, faculty, employers and collaborators

NCU THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Specialization

EECE department offers following programs BTech

BTech (ECE)

BTech(ECE) with specialization in IoT

BTech(ECE) with specialization in Embedded systems and VLSI design

MTech

1. MTech(ECE) with specialization in Communication Systems
2. MTech(ECE) with specialization in VLSI Design

PhD

Wireless Communication, Signal, Speech and Image Processing, VLSI and Semiconductor devices, Power System, Renewable Energy, Control System,| Biomedical Electronics

Our Faculty Team

The Department has distinguished faculty members from the IITs, NITs and other leading institutes as well as from industry background. Most of the faculty members are PhDs and have published a large number of research papers and many have written textbooks which are widely used in the universities. Members of the faculty are often invited for consultancy projects (DRDO), to deliver guest lectures and chair technical conference sessions by other organizations and also engage in other outreach activities. Year after year faculty members of the Dept of EECE have received the 'Best Teacher Award'. Faculty development and quality improvement programmes regularly hone teaching skills of our faculty.

State-of-the-art Laboratories

The Department's laboratories have the latest equipment, instruments, kits and software tools and are constantly upgraded to match the requirements of the new curricula. Advanced level optical link simulators, DSP and FPGA kits and PCB fabrication facility will take your laboratory experience to a whole new level. Latest software packages including KEIL, MATLAB, Optisystem, Xilinx ISE, ModelSIM, Qualnet, Optisim,Cadence, Tanner EDA, PSPICE(ORCAD), OPNET, MASM, LABVIEW,UMPS, NS-2 and CST will provide you the latest project and research tools. With a MATLAB Total Academic Headcount license, everyone at the University has access to the same set of software tools — even when off-network or joining remote learning courses. Virtual Labs, in collaboration with IIT Delhi, have enriched and enhanced practical involvement of students.

Project Labs

The Department focuses on learning by doing and on innovative projects which you can develop at various stages during your stay at NCU. First year in-house training is part of the curriculum to lay a strong foundation for project based learning. In each semester you will develop about three mini projects. Major projects are developed in the Final-year of the BTech programme. For MTech programmes you will develop a minor project during the 2nd semester and take dissertation work during 3rd and 4th semesters. These minor projects, major projects and dissertation work are supported through well-equipped project labs with the industry benchmarked software packages. The labs have different sections where you can develop your hardware, perform simulations or develop software programmes.

Research @ Department of EECE

Practical orientation and developing hardware and software prototypes through various projects help in building better engineers. The Department will help you to understand the methodology of converting your projects into finished marketable products. We encourage you to work on industrial sponsored/ collaborated projects as some of our students have been greatly benefitted from such collaborations. A few entrepreneurial projects are selected for funding by external agencies and best projects awards are given to outstanding projects. The Department has set up the Navigation with Indian Constellation (NavIC) Lab in association with SAC-ISRO, Ahmedabad, to promote multidisciplinary research in the area of satellite navigation.

The Department has a large number of postgraduate students and PhD research scholars who under the guidance of our distinguished faculty are engaged in research in new and unexplored technological areas of Wireless Sensor Networks, Electric Power System, Load Frequency Control, Optical Wireless Communication, Signal, Speech and Image Processing, VLSI, Photovoltaics, Electronic Devices and Image Processing and Power Generation. Some of our innovative projects in the process of being patented this year are viz., FIGFPD Fuel indicator and global fuel pump detection system, D-Dustbin: Digital Dustbin and IPC System: Intelligent Power Control System of any power backup. The Department has several research publications in reputed indexed journals and conferences to its credit.

NCU
THE NOIDA CAMPUS
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gwalior)

Professional Societies

The Department of EECE is an effective member of various professional societies like The Institution of Electrical and Electronics Engineers (IEEE), American Society of Quality (ASQ), IETE, SPIE etc. The Department has NCU-IEEE-Firmware, an active IEEE student chapter. The International Society of Optics and Photonics (SPIE) student chapter is advancing an interdisciplinary approach to the science and application of light. You can actively participate in their activities which are organized regularly. The Institution of Engineers India (IEI) is another departmental professional society. It aims to develop your abilities in technical as well as non-technical fields. The Societies arrange many events and activities such as educational tours, technical presentations, seminars, lecture series, group discussions, quizzes, debates, essay writing, brain teasers, technical film shows etc., throughout the year. By joining a professional society/student chapter you'll get a head start on networking, eMentoring programme and will have access to the industry professionals at their events and meetings etc. which are held all over the world.

Industry Liaison

Close interaction with the industry is maintained by the Department at all levels of academic activity including curriculum design reviewed by relevant industry experts, classroom learning supplemented through guest lectures, technical workshops by industry experts, student project work, industrial visits and summer internships through industry association. The Department has industry linkages with Mentor Graphics and collaboration with Power Grid Corporation of India Ltd, a prestigious Govt of India Undertaking for collaboration in a number of areas of mutual interest. The Department has MoUs with industries like Ericsson and Nokia Siemens Networks (NSN), National Technical Research Organization (NTRO) for training, certification and placement of our Final-year students.

Value Added Programmes

For your all round development and enhancing your employability the Department lays great emphasis on supplementary courses in soft skills and personality development. These value added courses also include many computer and IT related courses including programming languages like Linux, Java, Python, DBMS, mobile apps design, Android, Robotics, cloud computing and others, as recommended by the industry from time to time.

Spoken Tutorials with IIT Bombay

NCU has collaboration with IIT Bombay for the 'Spoken Tutorial Program' sponsored by MHRD, Govt of India. Under the programme, IIT Bombay offers courses in various software training programmes such as Linux, Python, Scilab, QCAD, C++ which you can avail free of cost. These are typically, one semester courses conducted through webinars/self-learning materials and on successful completion you will be certified by IIT Bombay. These courses are beyond the regular curriculum.

Virtual Labs from IIT Delhi

The Dept has Partnership Agreement with IIT Delhi for remote access to IIT lab facilities through their Virtual Lab platform. Virtual lab experiments of IITs have been integrated as a part of the curriculum in many subjects. You will be trained to use this platform through regular sessions by expert teams from IIT Delhi.

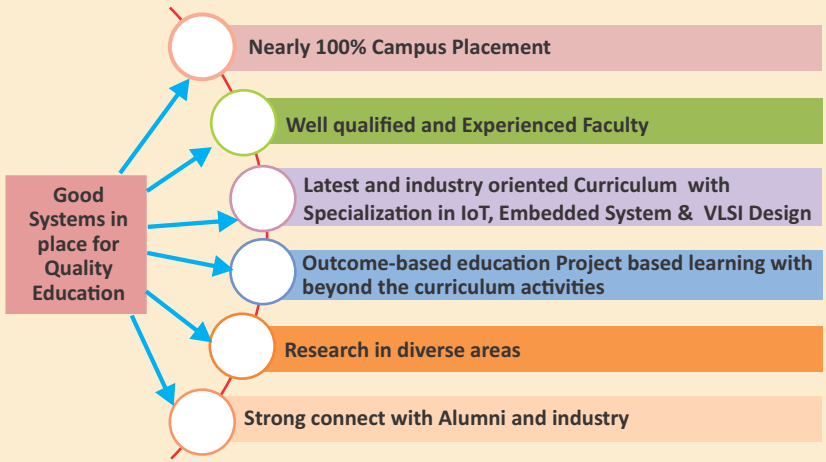
Collaboration with Mitsubishi and Delta Electronics

Our association with Mitsubishi Electric Private Ltd, Gurugram provides you training for proper integration of Mitsubishi PLC kits using HMIs in laboratory experiments for various courses at NCU and participation in various events organized by MEL.

Similarly, the MoU with Delta Electronics Ltd, a multi-billion dollar global company and the world's leading producer of power supplies, will provide you training and help developing and executing research projects through work-integrated learning programmes.

NCU THE NORTHCAP UNIVERSITY NAAC ACCREDITED

USPs of the EECE Dept



Why opt for BTech in Electronics & Communication Engineering?

Traditionally, an ECE graduate trained in core electronics and communication engineering subjects could meet the requirements of the electronics & telecom industry.

The BTech (ECE) programme is unique as it is designed to ensure that the content of the programme is regularly aligned to the needs of the industry. With the advancements in telecom technology like 3G/4G, future 5G mobile systems; Internet of Things (IoT) , and the smartphones becoming minicomputers, you as a telecom engineering graduate of today will get sound knowledge of software and computer subjects like C++, Java, DBMS, Data Structures, Cloud computing, mobile apps, big data, IoT, cyber security and so on. In addition to these subjects you will also get good knowledge of core electronics and communication engineering subjects. We will prepare you not only for employment in the electronics and telecom industry but also in the computer and IT industry which will be a distinct advantage as compared to all other branches of engineering.

The ambience in the Department is disciplined, professional and conducive to learning, creativity and innovation and supportive of initiatives both at the student and the faculty levels.

Highlight of our our ECE Programme

- Balanced, industry aligned curriculum, compares with the best like IITs, NITs etc. Includes current industry trends in ECE like 5 G, IOT, Artificial Intelligence, Data Science and other emerging areas. Specializations available in emerging areas like IoT, Embedded systems and VLSI design.
- Well qualified and highly experienced faculty with more than 90 % faculty members having PhD degrees from well-known Universities like IITs, NITs. Faculty Student Ratio (FSR) of better than 1:15, comparable to best Universities in the country.
- Progressive pedagogy with emphasis on development of higher order skills like problem solving, creative thinking etc. with strong emphasis on project based learning through mini projects, Tinkering Lab, Thought Lab, industry visits, guest lectures, Incubation Centre, extracurricular and co-curricular activities.
- All faculty members have close interface with industry through the faculty Externship programme, an innovative step towards bridging industry academia gap. Many MoUs such as with ISRO for research projects and IITs for various e-learning programmes of MHRD, Govt of India, with industries like Mitsubishi for project work etc.
- Dedicated student counsellors for providing career and other guidance throughout the programme duration. Preparing e-portfolios for each student to identify their strengths and best employment match, based on individual student's aptitude and skillset
- 100 % placements of eligible students consistently for the last several years in well-known companies such as Delloitte, British Telecom, Reliance, Ericsson, Airtel, Cadence, Synopsys, TCS and many more.
- Many of our students pursuing PG programmes in prestigious universities abroad like University of Pennsylvania, Georgia Tech University, Carnegie Mellon University, University of California and so on as well as in India at IITs & IIMs etc.
- Congenial environment for research in futuristic areas like emerging wireless technologies, VLSI design, renewable energy etc. Every year the Department has more than 50 research publications by faculty in top SCI/ Scopus indexed journals/conferences and sponsored research projects from GOI & other agencies.
- Have a large pool of successful alumni working in key positions in companies such as Apple, Intel, Cadence, Synopsys and in Government departments and many are successful entrepreneurs. The alumni are in close contact with the current students to guide them in project work, internships and career as well as placements

MTech programmes in ECE & VLSI Design

The curricula and syllabi of MTech programmes have been designed and reviewed by top academic and industry experts from IIT and industry and comparable with the best in the country. The programmes are conducted by well qualified and experienced faculty with distinguished track record.Our MTech (VLSI Design) programme has drawn the attention of top VLSI industries and many of our students have been hired in these industries at very attractive packages. MTech (ECE) students have also done very well in teaching and industry careers. Regarding placements, almost all the students who have came through in earlier years are well placed. Many of them opted for teaching and are working in well-known engineering institutions but most of them have gone for industry jobs with very good packages. The Dept of EECE as well as the central placement cell (SPA) at NCU extend all possible help to M Tech students in finding suitable placements.

Come, be part of this enthusiastic professional team and experience the joys of learning with excellent rewards.

NCU THE NORTHCAP UNIVERSITY Bridging the gap between academia and the real world NAAC Accredited (Formerly ITM University, Gurugram)

Placements

Students graduating from the Dept of EECE enjoy the best of both the worlds in terms of campus placements as they not only have placement opportunities in well-known electronics and communication engineering companies such as Mentor Graphics, Cadence, Samsung, Ericsson, Orange, Airtel, Qualcom etc. but also in premium computer software and information technology companies like TCS, Delloite, IBM and the list goes on. This is evident by the nearly 100 % placement record of ECE graduates year after year for the last 15 years at very attractive annual packages, unmatched by any other discipline. Many of our students are doing higher studies in reputed US, European, Canadian and Indian Universities. Some of our students have turned successful entrepreneurs and have set up their own thriving ventures.

Success Stories

Shivam Garg
Mentor Graphics
BTech ECE 2016

"I feel privileged to be part of The North Cap University's growing family. After pursuing the competitive BTech program in Electronics and Communication Engineering, working for a US based multinational company dealing in electronic design automation for electric engineering and electronics is a dream come true for me! I still remember my initial days at the university when my professors introduced me to various subjects in this area of study. Of all the subjects, I developed a special interest in Digital & VLSI Design. It was under the guidance and supervision of Dr. Neerja Kr. Shukla that I got the opportunity to develop this interest further. He encouraged and motivated me to undertake various research projects, trainings and workshops. He trained me and helped me grow professionally. I dedicate my job at Mentor Graphics, a leading EDA company to him, the ECE dept and the university!"

Avinash Swami
WESEE, Indian Navy,
Ministry of Defence
Class of 2014

I am Avinash Swami working with WESEE, Indian Navy, Ministry of Defence, New Delhi. Life at NCU has been breath-taking and enriching. The environment here not only helped me in imbibing knowledge but also in developing my overall personality, building confidence in me. MTech. (ECE) at NCU is a comprehensive course in technology covering the basics as well as advance concepts in the field. I appreciate the concept of class discussions and class presentations. A lot of attention is paid on research work and the faculty is knowledgeable and enthusiastic to guide and solve queries. The labs are equipped with latest softwares that help in pursuing good research. I thank the faculty and the University for imbibing in me the knowledge and skills that will prove to be fruitful for my career and my life as a whole.

Neha Yadav
Intel
(MTech VLSI Design
Class of 2017)

I am gratified to be a part of The NorthCap University as it was an integral part of my career advancement. I am thankful to all the instructors, colleagues and other helpful resources for fostering me in not only the studies but also in my overall growth and development as a postgraduate engineer in VLSI domain. I was given various opportunities that helped me in my overall development of technical and non-technical skills especially in my field of choice i.e. ASIC Verification Field. This has helped me to enhance my technical dexterity with the industry knowledge as an intern in Intel Corporation.

Ankit Juneja
Class of 2014

I am Ankit Juneja, Currently pursuing Master's at University of California Riverside, and alumni of NCU ECE Class of 2014. Contradicting a famous saying that "Alma mater is the second home", I firmly assert that my college, ITM University (now The NorthCap University), was my first home. My four years at ITM has had an everlasting impact on my life, both personally and professionally. From being a naïve high school graduate to a seasoned engineer, the transformation that ITM has done to me is the one I hold close to my heart. Hoping to learn a little-bit about engineering, I started my journey in Electronics and Communication Engineering domain and soon developed great interest towards it due to the compelling teaching of the dedicated professors and I was drawn to make a career out of the same.

Even after graduation, during my work at Samsung, the things I learnt during my Bachelor's helped me analyze the requirements better. ITM also made me better as a person. I started to communicate better with people around me because of the facilities provided by ITM (Personality Development Programmes) which helped me grow socially. As an experienced professional, I would applaud ITM for two things especially that are considering the

industry requirement, organization of the technical value added courses, and the various extra-curricular events; which help to groom a person both professionally and personally.

Gautam Garg
(Class of 2013)

I am Gautam Garg, founder of 'The Arrangers' (www.thearrangers.xyz) and alumni of NCU ECE Class of 2013. I have spent some of my best years at NCU and have enjoyed the learning experience under the guidance of very experienced senior faculty members. Faculty helped me a lot to understand the concepts. Apart from education, NCU provided us the platform to become socially active and participate in various events. While being in NCU, I have seen many ups and downs, which have turned out to be very beneficial in my life. Thanks to my alma mater for inculcating the habit of discipline in me which is helping me in every sphere of life.

Tanishk Bhardwaj
2008-2012 Batch

I am Tanishk Bhardwaj working as Assistant Manager, Compliance Operations at Gerson Lehrman Group (GLG) and alumni of NCU ECE batch 2008-2012. The reputation of NCU needs no distinct mention; it is and in fact has always been ranked amongst the top engineering institutions in India. Mid-summer 2008, I had a tough decision to make. I'd been accepted into another engineering program of a central varsity. Confused, well I did some research – and eventually it all boiled down to NCU. How did it happen, you ask? Fortunately, I had cousins from both the campuses, but unfortunately each one of them spoke highly of their institute, faculty and teaching – not helpful! And so I realized if it is just about the core theoretical concepts/knowledge? What about skill development? What about practical learning? What about industry partnerships? NCU was a straight winner there!

Richa Bindra
2006-2010 Batch

I am Richa Bindra, alumni from 2006-2010 ECE batch. I am currently working as a Senior Software Developer at Ciena, Canada. Studying engineering at NCU has given me an invaluable experience in the journey of my life. Fresh out of the high school, it not only gave me a right direction and a stepping stone, but also the opportunity to succeed in an engaging career in engineering. Faculty members are what really set the university apart from other universities. We were encouraged to come out of comfort zones, participate and our opinions were always appreciated. That experience has played a central role in my life, as the technical and interpersonal skills I gained during those 4 years encourages me to imagine, communicate and engage during all my life challenges. NCU provides the perfect balance between studying in the classrooms vs the extracurricular activities and the students are always motivated to show their talent in every way possible. Studying at NCU has been one of the best experiences of my life and I am proud to be a part of NCU family."

Tarun Aggarwal
(EI Class of 2008)

I am Tarun Aggarwal working with Honeywell as Sales Leader- West and alumni of NCU EI Class of 2008. NCU has given me a foundation on which I can successfully embark on business of earning a living. It has given me wings to aspire to great heights. Most important of all, this institute and faculties have given me faith in myself. Our faculties ensured whenever required they were and are ready to go out of the way to support me, to me they have acted as Friend, philosopher and guide based on situation. Got an opportunity to meet talented bunch of college mates and few became friend forever!!!

Amitanshu Chugh
ECE (Class of 2018)
British Telecom

It would have only been a dream of getting placed in a Big company but is now a reality for me as I have got this wonderful opportunity to work with BT (British Telecom), one of the leading Communications company in the UK and in other 170 countries. I would like to thank The North Cap University for providing me this amazing opportunity to work in BT and the faculty of the Dept of EECE for supporting me throughout my BTech journey.

Toshiyanka Goswami
BTech,
Class of 2013 (ECE)

"I feel honored to be a part of Institute of Technology and Management as it was the steppingstone in my career. I am grateful to all my professors and acquaintances for assisting me to acquire the comprehensive knowledge in Electronics and Communication. My undergraduate study became more valuable and directional when I got an opportunity to work under the supervision of Prof. (Dr) Neeraj Kr Shukla. I actively participated in several workshops, projects, internships and research work in VLSI Design under his guidance which helped me to enhance my technical skills and prepared my to get admission in one of the top universities of USA (Arizona State University) for Master's. He also helped me in conditioning my personality and I learned to be more patient, optimistic, diligent and to be a team player. These technical and personal skills helped me during my Master's and in getting a job at Intel Corporation. I feel privileged to have a mentor and supervisor in my life."

Priyanka Khattar
AVL India
(ECE Class of 2018)

"Success doesn't come to us, we go towards it."

The journey of an engineering student is not an easy one. One is always chasing after lectures, projects, submissions, internal evaluations and last but not the least the placement. I, being an engineering student was no different. But, being a student of The NorthCap University, I am gratified by the guidance and environment that helped me in every little step during my Engineering. I would like to specially thank the whole team of SPA for grooming me to be industry ready.

The job profile of AVL is technical and I even got an opportunity to go for training to Germany. This is all because of the patience and confidence that my family, my faculty and SPA developed in me. I owe it all to the institution and my family. I shall always seek their guidance and I know that they will always be there for me.

Himanshu Sharma
SNPS
MTech,
VLSI Design 2017

"Being a part of M.Tech program in (VLSI) NCU, is one of Life changing event for me. Under the guidance of Neeraj Shukla, Charu Rana and Vandana Khanna , the dream of being in VLSI industries has come to true this year. What is most appreciable point about the faculties here is they are every time motivator , enabler to new technical skills and supportive. Dr. Neeraj Shukla is gem of VLSI skills and always tries to help their student as much as he can. The labs here is occupied with all latest Cadence tools which has enabled me to do practical's and learn in a better way. Every quarter there were Industrial meet in which engineers from the VLSI companies come and share their experience and enlightens us what is important , what will be asked in interview and guided us according to our interest. The most important part of program were presentation on every topics every week . I used to present PPT on assigned topics almost every week which has helped me to come over hesitation to speak in front of people. I have enough to say about the program but unfortunately I cant express it in words. Just do the M.Tech program here in NCU and change your Life. Thank you Neeraj Sir and all the faculties of NCU for your great support and technical guidance. Thanks NCU

Pulkit Bhatnagar
Apple California
(BTech ECE
Class of 2012)

It all started almost a decade ago in 2008 when I joined Institute of Technology & Management (ITM), Gurgaon (now NCU) for undergraduate study in Electronics & Communication Engineering. The University provided access to highly qualified faculty, state-of art lab facilities and campus. The faculty and staff were always supportive and provided help and guidance concerning not only academics but also extracurricular activities and projects. I would specially like to mention the efforts of the VLSI group at ITM for motivating us and imparting essential skills needed to explore the field of hardware design. I got an opportunity to work with STMicroelectronics and Synopsys after I graduated from ITM. Even after I graduated I was in constant touch with VLSI group and other faculty members. I finally ended up joining one of the top schools in the US, University of California at San Diego to pursue Master's degree in Computer Engineering. I recently joined Apple's Silicon Engineering Group after completing my graduate work at UCSD. I would like to take this opportunity to thank all the faculties and staff of ITM for always being supportive and connecting with me even to this day.

Department of Mechanical Engineering

Dr Pramod Bhatia
PhD (Mechanical Engineering)
Purdue University, USA
Master's, University of illinois, USA
Head, Dept of Mechanical Engineering

Message from the Head

"Strive for perfection in everything you do. Take the best that exists and make it better. When it does not exist, design it." These lines by Henry Royce best describe the strategy and practices that the Department of Mechanical Engineering follows to be a preferred destination for students, researchers, teachers and external stakeholders. Accordingly, our primary focus is on providing quality education, nurturing innovative thinking and promoting a socially relevant research environment in the field of Mechanical Engineering. The Department of Mechanical Engineering offers three programmes viz., BTech and MTech in Mechanical Engineering and PhD in several fields. The BTech programme has the option of specialization in Thermal Engineering, Mechanical Engineering Design, Industrial and Production Engineering, or Automobile Engineering, from the 3rd Year. The MTech programme offers the option of specialization in Thermal Engineering or Mechanical Engineering Design, from the 2nd Year.

NCU's Mechanical Engineering graduates gets high end placement offers in the reputed companies as we skill them to run from the day one. We have a relevant and industry-ready curricula with the flexibility of choosing courses from a large number of departmental and interdepartmental electives, which provides our students with the option of choosing their subject of interest and specialization. We maintain a high level of industry-academia collaboration through a wide range of activities including industry associated projects, internships, industrial visits, expert lectures, workshops and conferences. We are committed to offer our students a platform to develop and hone their skills and be ready to face market challenges when they graduate and, therefore, offer industry relevant programmes with updated syllabi, laboratory and computational facilities.

There is significant growth potential in this sector as the Government's policies focus on making India a global manufacturing hub. Hence, the demand for quality Mechanical engineers in the manufacturing sector and in many other areas will continue to remain high and companies will continue to look for Mechanical engineers who are specialists in cutting edge technology, empowered with greater analytical and technical skills. With the aim of producing well-rounded graduates, the Mechanical Engineering curriculum maintains balance between a strong theoretical foundation and its practical applications, and technical knowledge and complementary studies.

In addition to a sound knowledge of applied sciences and technology, our students learn to work as a member of a team and become well-equipped and talented graduates with the right attitude. For leadership positions in the manufacturing, design, industrial, automobile, refrigeration and many other industries we also prepare our mechanical engineers with good oral and written communication skills so that they can present their ideas in a logical and structured manner. Emphasis is on holistic development through participation in co-curricular and activities of professional societies.

VISION: To be a preferred destination for students, researchers, teachers and external stakeholders by providing quality education, nurturing innovative thinking and promoting socially relevant research environment in the field of Mechanical Engineering.

Qualified faculty

We have highly qualified faculty members from premier institutions like IITs both from India and abroad. Two-third of our faculty members are PhD holders. These experienced faculty members nurture the young students for their future endeavors. Our faculty has expertise in all specialized domains i.e. Design, Automobile, Robotics, Thermo-Fluid, Industrial, Manufacturing and Engineering Materials. Faculty along with students are active in research and consultancy in thrust areas.

Laboratory Facilities

We focus on practical orientation and our major projects are supported by well-equipped labs like the IC Engine Lab with a 'Single Cylinder CRDI (Common Rail Direct Injection) Diesel Research Engine Test Rig' facility. The other labs include the Machine Shop, Fitting/Sheet Metal Shop, Foundry Shop, Pattern making/Carpentry shop, Welding Shop, Fluid Machines Lab, Automotive Lab, Auto Fuels and Lubrications Lab, Computational Fluid Dynamics Lab, Heat and Mass Transfer, Refrigeration and Air-Conditioning Lab, Material Science Lab, Elements of Mechanical Engineering Lab, Engineering Drawing Lab, PG and Mechatronics Lab, Energy Conversion Lab, Strength of Material Lab, and CAD Lab. We offer our students the opportunity to test their technical skills in real-life challenges like applying technical knowledge to design and build an off-road, all-terrain vehicle under the mentorship of our industry experts.

Partnership Agreements

Under the Agreement with Beijing Wave Spectrum Science & Technology Co Ltd, China, and The NorthCap University the Vibration Lab was setup at the University with an approximate cost of USD $60,000 (INR 40 lakhs) by Beijing Wave Spectrum. It is a multidisciplinary lab with test equipment and instruments for mechanical, civil and electronics engineering disciplines.

Collaboration with Mitsubishi Electric India Private Limited has provided equipment worth over Rs 32 lakhs for demonstration, learning and training of students and faculty at NCU.

Daikin Air-conditioning India Pvt Ltd, a 100 percent subsidiary of Japanese air-conditioning solutions provider Daikin Industries, recently partnered with the Department of ME and has set-up a Centre of Excellence (CoE) at the University.

The University has collaborated with Maruti Center for Excellence (MACE) in the field of Training and Development of students through practical and theoretical trainings and through projects during internships. Technical seminars and guest lecturers are also conducted by MACE, under the MoU with MACE.

NCU is also a part of BMW India's Skill Next programme aimed at imparting hands-on expertise and practical training to automobile engineering students. Under the Skill Next initiative, BMW provides technical training by Master Technicians under 'Train the Trainer' workshops at NCU, a combination of classroom sessions and hands-on practical sessions using detailed training materials.

Daikin's Centre of Excellence (CoE)

This unique centre, which has been built as a common facility for both Daikin Air-conditioning India Pvt Ltd and The NorthCap University, is aimed at nurturing young minds and harnessing them for the Heating Ventilation and Air Conditioning (HVAC) industry. The training at this Centre of Excellence is focused towards enhancing industry-readiness of budding technocrats through practical as well as theoretical training. This Centre provides our students with the opportunity of industrial internship and workshops where they can learn from the experts in the field of HVAC. Through the medium of this centre Daikin is offering funding for research projects and sponsored events. Placement opportunities with Daikin and its channel partners is available to Mechanical Engineering students at NCU.

Specializations Offered

Our students have the option of choosing from four specializations, namely, Thermal Engineering, Mechanical Engineering Design, Industrial and Production Engineering, and Automobile Engineering. The brief highlights of each of these specializations is as follows:

1) **Thermal Engineering**

These days development of any nation is directly linked to its energy self sufficiency which is not possible without efficient utilization of the available resources. Specialization in Thermal Engineering provides an edge to the students who want to pursue their career in the energy linked industries viz. power, refrigeration and air conditioning, renewable energy, design of internal engines etc.

2) **Mechanical Engineering Design**

Design Engineers are required in almost every sector be it automobile, aerospace, shipping, construction, IC engine design,

medical equipments, sports gears, office accessories etc. The design engineers also carry out extensive research on latest design trends, market values, safety, texture, shape, safety, weight and materials to be used before designing a product. Students who specialize in Mechanical Engineering Design have bright chance of getting absorbed in several industrial sectors. Additionally, one can even pursue higher study in this area.

3) Industrial and Production Engineering

Specialization in Industrial and production Engineering caters to the combined knowledge of manufacturing technology and managing industrial processes, and applying that knowledge to produce quality products. An industrial and production engineer is expected to possess wide knowledge of preferred engineering practices and awareness about the management challenges related to processes and mass production. The goal is to accomplish the production process in the smoothest, most-judicious and most-economic way. The specialization in this domain opens multiple avenues for the students aspiring to work in manufacturing industry within India and abroad.

4) Automobile Engineering

Automobile Engineering gained recognition and importance ever since motor vehicles capable of transporting passengers have been in vogue. The automobile sector has seen a rapid growth of auto component manufacturers and automobile industries, and there is a great demand for Automobile Engineers. This specialization deals with the designing, developing, manufacturing, testing, repairing and servicing of automobiles such as cars, trucks, motorcycles, scooters etc; and the related sub-engineering systems. Specialization in automobile engineering will enable the students to work in the automotive industry, or pursue higher studies in this field.

Departmental Magazine

If you are a creative writer you can contribute to the Department's biannual magazine 'MechTalk' which also has contributions from industry experts and faculty. It is a medium to share news, views, activities and events of the Department. You may share your short stories, views, puzzles, quizzes etc.

Societies and Clubs

The Department has active Student Chapters of professional societies like the Society for Automotive Engineers (SAE), Indian Society of Heating Refrigeration and Air-conditioning (ISHRAE), The Institution of Engineers India (IEI) and American Society for Quality (ASQ). Participating in the activities of these societies will develop your technical and non-technical skills as well as it will help in building professional relationships.

Research @ the Department

Faculty members pursue research in their area of expertise, publish books and research papers in various national and international journals and conferences. The Department is granted financial support to organize national and international level conferences by the Government and private agencies. Apart from pursuing research activities the faculty members also undertake consultancy projects from the industry. PhD scholars are pursuing research in the fields of Thermo Fluid, Industrial Engineering, Industrial Engineering, Mechatronics, Stock Development consumption & waste Management and Supply Chain Management.

Technical Projects by students

We offer you opportunities to take up challenging projects and some technical projects are sponsored by various industries and Government agencies, like the Ministry of Micro, Small and Medium Enterprises (MSME), MACE, IFB etc. Innovative projects are showcased to external experts at events such as 'Technovation' and 'Cerebration'. The Best BTech projects are given handsome cash awards. Mechanical Engineering students competed in a global environment and won the 2nd Prize, the 'Excellence Award' in the Delta Cup 2017 held at Wujiang, Suzhou City, China. Their project titled 'Self-Check-out System in Retail' is based on Smart Machines, Smart Robots and Smart Manufacturing using Delta Electronics (a US based MNC) components. Recently at the National Student Project Exhibition on Engineering Design our students' project 'Supra Vehicle' won the Best Project in Mechanical and Civil Engineering category and the project 'Coconut Opener' won the Best Project in the Open category. Every year, a group of students undertake a formula racing car project, which they showcase at the BAJA competition organized by SAE. Recently our multi-disciplinary team 'ELECTROTECH' comprising of students from Mechanical Engineering and Electrical and Electronics Engineering received acclaim in a national level automation project competition organized by M/s Mitsubishi Electric Ltd. Team Alacrity won the first prize in endurance test of electric-solar vehicle challenge (ESVC) at all India national level event organized by ISIE in 2018. The efforts of team Alacrity again led to the first position in Hybrid Vehicle Challenge (HVC) held at Jaipur which was organized by ISIE, 2018. ME, 2nd Year, students presented their research paper on 'Design and Fabrication of a Portable Grass Cutting machine' in the National Conference on Advanced Concepts in Mechanical Engineering in Sept 2018. It was an outcome of their 1st Year Mini project. Students of our Department have excelled

NCU THE NORTHCAP UNIVERSITY Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

in GATE 2018 and have carried forward the legacy of the Department as a leading branch of engineering.

The NorthCap University has instituted the Vice-Chancellor's Innovation Fund to encourage innovative ideas and research. The scheme aims at encouraging innovative ideas amongst researchers, faculty members and students. Further, to support innovative projects, the Incubation Centre has been established at The NorthCap University. The funding from Vice-Chancellor's Innovation Fund acts as an initial grant to nurture ideas, passion & convert products into startups. Such opportunities will provide our students a platform to test their knowledge, hone their skills and give them a real world experience. Besides the Tinkering Lab in the campus, the Department of ME has a designated 'Maker's Space' supported by technical staff and necessary equipment for students where you can work on your original ideas and develop innovative projects.

Socially relevant industry sponsored projects

The Dept of ME received approval in Feb 2018 for two socially relevant industry sponsored projects:

- 'The Mango Project – Development of electric vehicle' submitted for support to Life CNC Tools, Faridabad. The industry has agreed to sponsor the project after finalizing the details of the vehicle.
- 'Structural analysis of electric 3W chassis' submitted to Terra Motors Motors (Japan's No 1 electric vehicle company) for support. A team from Terra Motors, Gurugram visited NCU in Feb 2018 to see the facilities at NCU and have agreed to sponsor the project after finalizing the details of the vehicle.

Placement Opportunities

After graduating as a Mechanical Engineer from NCU you will be in demand at design bureaus, manufacturing and software industries in the public and private sectors. The automobile industry, heavy engineering, steel plants, power companies, oil and gas companies are some of the sectors which welcome mechanical engineers in large numbers. If you choose you may pursue higher studies in India or abroad. Nearly 100 percent placement record of Mechanical Engineering graduates from NCU demonstrates the amount of effort we invest in nurturing each one of our students.

Dheeraj Duhan
Assistant Engineer,
Irrigation Department,
Haryana.

Saniya Sood
BTech, ME
Denso

Abhishek Bhardwaj
BTech, ME
ANDRITZ Hydro

Nishant Yadav
BTech, ME
SquareRoot

Vishesh Singh
BTech, ME
ICAT

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED

USPs of Mechanical Engineering

- *Efficient and highly qualified faculty members (80% PhDs or pursuing PhDs) nurturing students for their future endeavours.*
- *State-of-the-art laboratory facility (IC Engine, Vibration labs, CoE and others) for understanding and undertaking quality research work.*
- *Market driven curriculum (relevant electives) that are being updated periodically in consultation with experts from industry and academia.*
- *Flexibility in choosing specialization options and their electives to facilitate industry placement and admission in Universities abroad.*
- *Outstanding industry-academia interaction through expert sessions, industrial visits, internships, professional societies and workshops.*
- *Emphasis on holistic development of students through promotion of co-curricular activities and professional societies in the department.*
- *Excellent placement through our placement partners like CB&I, Denso, Subros, Samsung, Flour Danial, Maruti, Sona, IFB, Daikin and many more.*

Department of Computer Science and Engineering

Message from the Dirctor

Ms Neeru Bahl
Director
Centre For Emerging Technologies

The first phase of the technological revolution transformed operational automation across almost every imaginable industry, ranging from banking to construction sector. This further led to insatiable strive for higher productivity and efficiency. Over the course of time, this revolution has been well understood and well exploited, eventually leading to a natural stabilization of growth and innovation in this phase of technology. However, lately there has been a second Tech revolution sweeping across the world; the revolution that has brought phenomenon such as User Experience, Artificial Intelligence, Data Science, Internet of Things and Cyber Security. The second Tech revolution has created layers of opportunity above and below the existing layers of existing systems, where the systems only represent actual work processes, improved by automation etc. User Experience has added a layer above, drawing attention to the design of the system and how people are using and responding to it. On the other hand, Data Science has created a layer below the systems, crunching the troves of data being created by the system to generate useful insights. Cyber security is the dome of protection that allows these layers to integrate and function safely.

These new layers are essentially areas of huge opportunities, where the first phase of automation has stabilized; the second phase is just beginning to grow, creating a massive demand for UI / UX experts, Data Scientists, AI / ML experts and Cyber Security professionals. This is where our academic team comes into the picture, to prepare the next generation of NCU graduates to leverage these invaluable opportunities and truly create a space for themselves in the most cutting-edge technology serving across industries. As a part of the change, we are introducing a series of specializations in areas such as Data Science & AI, Full Stack Development, IOT, Cyber Security and Game Tech / AR & VR. These new specializations will be implemented via module based experiential learning - while working on the student's core attitude, skills and knowledge based on industry standards. We commit to act as a bridge between academia and industry and provide holistic development to the students while meeting the need for talent demanded by the industry. We aim to get the glimpse of confidence that reflects in our students when they graduate and step out in the world, challenging undiscovered challenges.

"It's not a faith in technology. It's faith in people"
~ Steve Jobs

Message from the HoD

Dr Kavita Khanna
PhD, GGSIU, Dwarka
MTech, MSc MDU Rohtak
Head, Dept of CSE

Computer Science is an area that is evolving each day with new innovations that have been changing the globe over the last 50 years. The Dept of CSE is one of the core departments of The NorthCap University. The Department is striving towards its goal of providing innovative and quality education with high standards to achieve academic excellence. Keeping in view the dynamic nature of growth in industry and the increasing demand for latest technologies, the Department is offering specializations for BTech CSE in Data Science and AI; Cyber Security; IoT & Cloud Computing; Full Stack Development and Game Tech, AR and VR to stay in tune with the current and future requirement of the industry.

We, at NCU, take immense pride in initiating experiential learning methodology for building knowledge skills and attitude among our students. To achieve a record of 100% placements we provide our students a strong foundation not only in problem solving techniques, but also inculcate in them meta and soft skills so that they possess analytical ability to learn any language or concept and prove to be enthusiastic team members. To achieve this objective we lay more emphasis on context and project based learning and various co-curricular & extracurricular activities. Tinkering Lab, Incubation Centre and Thought Lab promote creativity and innovation among the students. Competent faculty and state-of-the-art lab facilities enable excellent research and development environment in the Department. We have strong industry and academic collaborations to provide the right set of exposure to our students.

We believe that Computer Engineering is the most preferred discipline and that is the prime reason that we are carrying out research in areas like Cyber Security, Data Science, Big Data, Machine Learning, Cloud Computing, Image Processing, Digital Forensics etc. The Dept of CSE endeavours to provide the best professional opportunities to our students for their bright future. We as a team have resolved to take the Department to the new heights of success and glory and prepare our students for the forthcoming challenges.

The Vision of the Department of CSE is to encourage all modern endeavors in academia, learning innovations, socially relevant research and problem solving in the field of Computer Science and Engineering.

Programmes offered

UG Programmes

Bachelor of Technology in Computer Science and Engineering

with specialization option in :

- *Full Stack Development*
- *Cyber Security*
- *Internet of Things (IOT) & Cloud Computing*
- *Data Science and Artificial Intelligence (AI)*
- *Game Technology, Augmented Reality (AR) and Virtual Reality (VR)*

PG Programmes

Master of Technology in Computer Science and Engineering with specialization option in:

- *Cyber Security*
- *Data Science*

PhD in Computer Science and Engineering

Areas of Research:

- *Cloud Computing*
- *Internet of Things*
- *Cyber Security*
- *Image Processing*
- *Computational Neuroscience*
- *Machine Learning*
- *Data Analytics*

Specializations in Computer Science & Engineering

As Information Technology has changed the way business processes happen, enterprises are facing dearth of professionals in vertical domains of Computer Science. NCU has taken initiative to roll out specializations to make sure the students gain the best from both the worlds of - Academia and Industry. Any student admitted to B.Tech programme, will have an option to opt for specialization from second year of his degree course. Such flexibility will help the student to study a well-defined set of courses in the specialized domain thereby providing required breadth in the following verticals:

- **Data Science & Artificial Intelligence**

  40 zettabytes of data will be in existence by 2020. Access opportunities of the future will be coveted skills in Data Science & AI. Learn how to create statistical predictive models, data visualization and data driven processes using AI, Machine Learning and other core statistical methods. Meet the exponential demands for Data Scientists, Data Analysts, Machine Learning Engineers and more.

- **Internet of Things & Cloud Computing**

  The future of all 'things' - the Internet of Things (IoT) connects every moment of our lives with smart devices. Through this specialization we nurture experts trained in technology integration, designing IoT systems comprising of sensors, edge devices, wireless network connections while integrating data analytic capabilities with big data and cloud computing.

- **Cyber Security**

  With digital infiltration at its highest across every industry in the world and the consequent rising incidents of cyber-attacks, Cyber Security has become a global necessity. In this specialization students explore fields like digital forensics, penetration testing, information security, malware analysis etc. building a solid foundation for a career in Cyber Security.

- **Full Stack Development**

  Full Stack Development, amongst the most crucial roles in IT, was also ranked the second most popular developer occupation. This Full Stack specialization has been carefully designed to build experts who work across all layers of software to build, support and maintain web applications. You will master skills in Front-end and Back-end technologies by employing the most popular JAM (Java, Angular and MongoDB) Stack.

- **Game Tech, Augmented Reality & Virtual Reality**

  Taking you through a journey, this specialization builds up from the foundation of Computation Tech, followed by engaging Game Development skills leading you to immersive Augmented & Virtual Reality content production. One of the most comprehensive specializations yet, this course will prepare you for a variety of job roles in the cutting-edge arenas of IT.

Research at the Department

Research is the primary activity and focus of the Department. Faculty members are active researchers in their respective domains of expertise and lead various sub groups. Research within the Department is grouped into eight clusters namely: Cloud Computing, Cyber Security, Data Mining, Soft Computing, High Performance Computing, Computational Optimization, Software Engineering, Information Security, Speech and Image Processing and Bioinformatics.

Experienced and Well qualified faculty

Majority of the faculty members hold a PhD degree from reputed university like IITs, NITs and JNU. This bring out the best in

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC Accredited
(Formerly ITM University, Gurugram)

students, thus making their experience at NCU memorable.

Curriculum in line with industry

The curriculum at NCU is planned with the right mix of research and industry-relevant subjects taught through project based learning. It has been designed keeping in mind the industry needs and is thoroughly revised by all industry experts and academicians from IITs and JNU. The Department is working hard in thrust areas of Cyber Security, Internet of Things and Cloud Computing, Data Science and Artificial Intelligence, Game Technology, Augmented Reality and Virtual Reality, High Performance Computing. Our curriculum includes a right blend of engineering courses, basic science courses, management courses, foreign languages, Colloquium and General Proficiency.

Industry Engagement

The university has signed Memoranda of Understanding (MoUs) with different industries, organizations like NTRO, Ansyst etc. to strengthen its curriculum, enhance placements, internships and opportunities for engagement of students in live projects. Corporate leaders from leading organizations like Deloitte, TCS, Fidelity etc. regularly come to NCU to share their valuable experience. In addition, the faculty also visits these companies during the internship period of our students so as to strengthen the relationship with firms and get feedback that helps us further to improve our curriculum.

Industry Mentored

As a part of immersive industry practice, students at NCU work on the real-time project of an organization under the direct mentoring by a faculty and an industry professional. Industry mentors get associated with the students from second year of the course and take the guiding journey forward through engagement of students in live projects in third year. They even visit the campus to conduct pre-placement interviews in order to make the student industry ready. This practice makes the transition from a student to an employed professional in industry, seamless and smooth. At NCU, we have achieved a placement record of nearly 100% for past many years. Leading companies like IBM, Deloitte, TCS, Ernst and Young, Nagarro, Orange, British Telecom, HSBC, Hindustan Times etc. visited our campus and gave exciting job offers to our students.

Experiential – Real Time Projects

The programme emphasises on Experiential Learning that allows learners to apply concepts learnt in classroom in simulated and real time situations. NCU provides the necessary ecosystem to encourage students to get engaged in socially relevant real time projects. With cutting-edge labs & start-up incubation center on campus, students apply their knowledge to real life problems and nurture their entrepreneurial spirit. Students even get the opportunity to gain financial support through Vice Chancellor's innovation fund in order to map the concept to prototype. Our projects like SHIKSHAK – A system for blind people, SAHARA- an app for old people and many others have won National and International awards.

*Blended Learning- 24*7*

At NCU, we follow the concept of Blended learning where we combine the classroom teaching with online learning and independent study, allowing the student to have more control over the time, pace and style of their learning. Leaners can access engaging learning material at their own pace through lecture videos, student notes, curated contents etc., through a learning management platform that is engaging and mobile- friendly.

Module Based Learning

The university has adapted modular approach to course design and learning. Each semester that consists of 18 weeks is bifurcated into two phases. In each phase, maximum of three courses are taught simultaneously to ensure that student gets to focus on the subject and apply the knowledge gained onto the project(s) to develop the required skills. The subjects are carefully planned such that the learning of the related subject is applied to the next subject for deepening the knowledge and building the skills required.

Continuous Assessment

The learner's performance is assessed continuously throughout the semester using various tools such as quiz, assignments, mid-semester and

NCU NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
(Formerly

comprehensive exams. The assessment results are shared with the learners to improve their performance.

Student E-portfolio

At NCU, students are guided to generate their E-Portfolio right from the moment when they start their journey from first year. Students use e-portfolios to collect their work, reflect upon strengths and weaknesses, and strive to improve. E-portfolios provide a rich resource for both students and corporates to learn about achievement of important outcomes over time, gain insights leading to improvement, and develop identities as learners.

Peer Tutoring

The NCU Peer Tutoring program provides students an opportunity to meet with a fellow student and ask questions related to their course material. Peer Tutors are NCU students only who guide, encourage, and support other students in their learning process. All tutors are undergraduates who excelled in their course and are recommended by NCU faculty.

Research and Computing Laboratories

The Department has a hi-tech learning environment with well-equipped research laboratories for Network Programming, Database Management Systems, Software Engineering, Computer Graphics, Java Programming, Information Security and Cryptography, Operating System, Object Oriented Programming, Compiler Design, Computer Networks, Internet and Web Programming, Mobile Computing, Software Testing, C/C++ Programming, Modeling & Simulation, Advanced Algorithms, .NET Programming, Object Oriented Software Engineering. The CISCO Network Academy at NCU is a joint venture between The NorthCap University and CISCO. High Performance Computing Lab has also been established with 1 teraflop computing power.

Spoken Tutorials with IIT Bombay

The Department has collaborated with IIT Bombay for Free Open Source Software (FOSS) training through Spoken Tutorials software project.

Activities and Achievements of the Department

The Department has collaborated with various international universities for collaborative research, student and faculty exchange. The Dept of CSE conjoined with Amazon Web Services (AWS) Educate initiative under which AWS credits are given to each student along with access to free Online Labs. Students work on live projects in industries and get internship opportunities in organizations such as NTRO, DeitY, Delhi; HCL Info Systems, DRDO, New Delhi, etc. Various workshops, guest lectures and industry visits are conducted to create awareness about the latest industry trends.

Pre-placement interviews for BTech (CSE) pre-final year students are conducted to recognise their strengths and areas that require improvement so that students are able to identify the domain that best suits their profile. Value Added Courses, Summer Schools and Refresher Courses are carried out as a pre-placement activity. Students have won several competitions for the Best BTech Project, Google Summer of Code and obtained First Rank in Hackathons. Even faculty members have also received national and international recognition and often work in collaboration with researchers from other groups / departments on interdisciplinary projects by DST, AICTE, DRDO and MSME.

The Department organized the International Conference on Computational Intelligence and Data Science 2018 in association with the University of Dayton, Ohio (USA) and included a keynote lecture by Dr Nilufer Onder, Michigan Technological University, USA.

Recently the NCU-CSI Student Chapter received the 'Best Accredited Student Branch' award. Two teams out of 10 selected teams from the University were selected for 'Hackthon on Road Safety: Code for Safer India' organized jointly by NSS IIT Delhi, Live Media, Delhi Traffic Police and Ministry of Road Transport and Highways. Students attended the Developer Student Club summit organized by Google in Goa. Faculty of the Department have been recognized as

CISCO certified CCNA Advanced Level Instructors.

Student Achievements

Some noteworthy achievements of students are mentioned below:

- ASQ-NCU Chapter Chair and Student Deputy, NextGen, Shringa A Vatas, participated in ASQ's World Conference on Quality and Improvement 2018 at the Washington State Convention Center in Seattle, Washington.
- Urvika Gola went to Canada to speak at DebConf about her Open Source Contributions with Debian as an Outreachy Intern.
- Pooja Khunger (CSE) and Kartika Kanodia (ECE) received the Best Project Award for 'IoT device for home automation'.
- Devansh Bhatia, Rohit Malhotra and Navkrishna were ranked 24th all over India by ACM.
- Aaditya Verma (16CSU001) bagged 3rd position in Monster Gaming organized at The CSI Regional Student Convention 2018
- Sachin Kushwaha, Akarshan Ganotra and Sandeep Yadav, participated in a Hackathon and won the First Prize. They presented their idea to angel investors and some well-known big companies.
- Urvika Gola and Pranav Jain participated in the United Nations Climate Change COP 23 Event at Bonn, Germany under the official name of Hack4Climate. Urvika Gola and Pranav Jain delivered sessions at the FOSSASIA Conference at Singapore. Pranav and Urvika Gola were selected to participate in a 24 hour long hackathon which took place in Taj Palace, New Delhi. It was inaugurated by the Prime Minister, Shri Narendra Modi and Rt Hon Theresa May, Prime Minister of UK. They were the only ones to receive the award from Microsoft for their overall performance. They also won the Best Team Name award for the solution named 'Janhit Mein Jaari'.
- Pranav Jain, won the First Prize of Euros 10000 in 5G Hackathon 2017 and OYS Challenge 2017 at Oulu, Finland.
- Akarshan Gandotra and Harsh Lathwal, successfully completed Google Summer of Code (GSoC) 2017, an international annual programme organized by Google to bring more students to open source development.
- Divya Sharma, Kunal Arora and Antariksh Anand studied abroad at the Institute of Technology, Blanchardstown (ITB), Dublin, Ireland, and Jitesh Miglani is studying for Masters of Science in Computing in Applied Cyber Security (BN528) under

the MoU between the NorthCap University and ITB, Ireland. They were offered a 40% tuition fee waiver by ITB, Ireland and a 50% scholarship as fee reimbursement by NCU.

- Tanya Joon was invited for the Developer Student Club summit, Goa

Professional Societies and Clubs

The Department offers you opportunities to enhance your soft and technical skills by being part of various groups like Google Students Club, Computer Society of India (CSI), ISTE, SPL, Microsoft Technical Club, Reframers Club, ACM, FOSS Group. The University has Student Chapters of these reputed societies. Students of the Department are prepared such that they are second to none and have won several international competitions, participated in Global conferences and also helped develop innovative solutions to solve global issues such as the United Nations Climate Change COP 23 Event (Hack4Climate). Students got the opportunity to attend Mr Sundar Pichai's session and also attended Grace Hopper Conference by Google in Bangalore. The e-Gov Cell provides a platform for e-Gov projects which benefits the society.

Holistic development of students

The campus is always abuzz with various student run clubs. From photography, singing, dancing, theatre, trekking to innovation, there are clubs to meet everyone's interests. When it comes to sports, NCU has indoor sports like chess, carom and outdoor sports like basketball, cricket, football and tennis. Strong emphasis is laid on Context & project based learning through mini projects, tinkering lab, thought lab, industry visits, guest lectures, student activities & Leadership events, professional societies like Computer Society of India, Google Developer's Club, ACM and incubation center.

Seamless community connect

NCU aims to sensitize students through inculcation of moral and ethical values. Frequent visits are made to old age homes, orphanages, govt. schools and students even develop projects for these organizations with a view to make the life of people staying there really easy.

International Collaborations

The Department has collaboration with Michigan Technological University (MTU), USA for the 3+1+1 programme wherein a BTech student can complete his 4th year from MTU. He can also complete his/her post-graduation in one year from there. Teacher training and Academic Research Programme is also a part of the collaboration. The Department has collaboration with the University of Regina, Canada for MTech students to earn a Canadian MEngg degree. The Department also has a strong collaboration with ITB, Ireland. The Department also has a strong collaboration with ITB, Ireland. In 2017 the Department signed a Partnership Agreement with the University of Dayton, Ohio, USA to undertake joint collaborative research and for student and faculty exchange. In 2018, the University signed Partnership Agreement with Providence University, Taiwan. Both universities have agreed to undertake joint research activities and publications, participation in seminars and academic meetings, exchange of academic materials.

USPs of CSE

Domain Specialization: *Five specializations namely Data Science and AI, IoT and Cloud Computing, Cyber Security, Full Stack Development and Game Tech, AR & VR based on latest industry needs.*

Industry Engagement: *MoUs with different industries, organizations like NTRO to strengthen its curriculum, enhance placements, internships and opportunities for engagement of students in live projects.*

Industry Mentored: *Students at NCU work on the real-time project of an organization under the direct mentoring by a faculty and an industry professional.*

Placements: *Record of nearly 100% placements in highly reputed firms like Deloitte, Ernst and Young, TCS, Fidelity etc.*

Experiential – Real Time Projects: *The university provides the necessary ecosystem to encourage students to get engaged in socially relevant real time projects.*

Module Based Learning: *The university has adapted modular approach to course design and learning*

Experienced and Well Qualified Faculty: *Brings out the best in students by keeping them in touch with futuristic and latest technologies.*

Student portfolio: *Students are guided to generate their E-Portfolio right from the moment when they start their journey from first year.*

Research Opportunities: *Strong research groups in the department with a rich legacy of high quality publications, sponsored projects and filed patents*

International Tie-ups: *Collaboration with leading foreign universities for research and for student and faculty exchange.*

Department of Civil & Environmental Engineering

Message from the HoD

Dr Archanaa Dongre
PhD from IIIT, Hyderabad
Head, Dept of Civil and Environmental Engineering

Exposure to globalisation and modern living styles has made the work of civil engineers not only essential but also interesting and fun. A career in Civil Engineering can take you to great heights (literally) as we enable ever taller skyscrapers in the heart of the busiest cities, work on more efficient highways, flyovers, underground transport networks, etc. There are a wide range of diverse careers for Civil Engineering graduates, with great employment opportunities not just in the construction industry but in the business, management and financial sectors as well. Besides new constructions, as infrastructure continues to age the requirement for civil engineers will grow as they will be needed to manage projects, rebuild bridges, repair roads, and upgrade levels and dams etc. Our degree programmes are in step with the current needs of the Civil Engineering industry and prepare you for everything you need. Unlike a few years earlier, Civil Engineers today also enjoy excellent facilities on site as well.

The Department of Civil & Environmental Engineering (CEE) at the The NorthCap University has been providing quality education since 2007 and is among the most dynamic departments at the University. The Department is flourishing under the able guidance of Vice Chancellor Prof. H.B. Raghavendra who is Civil Engineer and PhD from IISC Bangalore. Well qualified and dedicated faculty having interest in wide research areas and specialized in their field contribute to the strength of the Department. You will become an expert not only in designing, construction, and maintenance of the built environment but also learn soft skills, such as, effective communication, critical thinking, leadership quality, project management apart from technical skills like writing reports, research papers etc. and get international exposure in terms of internship, conferences etc. With excellent infrastructure, facilities, qualified and dedicated faculty, we ensure your dream comes true, whether for becoming a professional engineer, researcher, teacher or entrepreneur. After graduating a career in civil engineering shall be highly rewarding. Our students are successful entreprenuers with turnover in crores, few students placed in package range from 5 to 12 lakhs, few opted for higher studies in USA, Canada, London, Australia.

VISION
To be known as global leaders in the area of Civil & Environmental Engineering through innovations, academic excellence and socially relevant research outcomes and to become a preferred destination for all the stakeholders.

NCU NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
(Formerly IIMT University, Gurugram)

Programs Offered

B.Tech *in Civil Engineering with specialization in Construction and Project Management*

M.Tech *in Civil Engineering with specialization in*

i) Structural Engineering

ii) Construction Engieering and Management

iii) Environmental Engineering

Ph.D with research specialization in

i) Structural Engineering

ii) Environmental Engineering

iii) Geotechnical Engineering

About the profession & your role

Civil engineering consists of several sub-disciplines, including Structural Engineering, Geotechnical Engineering, Water Resources Engineering, Environmental Engineering, Transportation Engineering, Surveying, Construction Engineering, Remote sensing and GIS and new thrust areas, such as green building technology, Disaster management, with emphasis on sustainability and other future challenges including effects of climate change.

A Civil Engineer should possess skills for analysis, design, construction and maintenance of various structures; computing, managerial and communication skills for optimal management of resources and a consciousness of environmental sustainability. Students will be trained in softwares for analysis, design and construction, new technologies like remote sensing, green buildings, intelligent buildings, intelligent transport systems, managerial skills for managing resources and structures and good communication skills. If student would like to combine technical knowledge and has creative flair to solve problems then Civil Engineering is an excellent career choice. For many civil engineers, it is the way to make one's dream come true by designing a sky scraper or beautiful structure or by bringing a change in the society by contributing in waste management and disaster management, and improve the lives of millions of people that draw them to the profession. A Civil Engineer sees whole projects through each stage from feasibility to design and implementation.

The Civil Engineering curriculum and scheme of studies is relevant and updated regularly to meet the changing needs by drawing on the expertise of the industry and leading academicians from India and overseas. It includes the study of Basic Sciences, Core and Programme Electives, Open Electives, a compulsory foreign language, foundation course, communication and technical skills. The structured programme provides invaluable experience; transform graduates into highly employable individuals**.**

Experience and well-qualified faculty

Faculty is backbone of the Department. Department is having highly qualified and experienced faculty from IIT, NIT, IISC etc. with excellent track record. Faculties are awarded with research projects from Department of Science and Technology and other government organizations, also published their research work in reputed national and International journals and conferences. Faculty are keen on overall career development of students, help them in achieving their dream of higher education and placement with good industry or as per students interest.

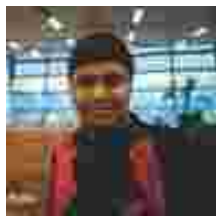
How we equip our students for the 'Real World'?

Your career prospects will be sharpened through real-world practical training, project work, exposure to the latest software, industrial visits and more. In addition, to keep you abreast with the latest developments in the industry, we invite industry experts to interact / deliver guest lectures and train you to use the latest relevant software. Communication skills are improved through periodical technical colloquiums in which you will make presentations of your skills and research achievement or work as a member of a multidisciplinary team and become an effective project manager. We promote multidisciplinary research and develop technology support for industry and Government institutions with focus on sustainable development and socially relevant projects for the betterment of human society, environment and the nation. For acquiring managerial skills you will prepare reports of case studies. Regular field visits right from the first-year to the final-year will enable your smooth transition from solving classroom problems to real-world problems.

Industrial internship

We ensure that every student gains the ability to apply knowledge of mathematics, science, and engineering to analyze, design and construct in the field of civil engineering. After second and third year you will work in the real world for one month on summer internship at one of the leading national / international industry such as Jacobs, GMR, GR Infra, Simplex Infrastructure Limited, JK Lakshmi Cement Pvt Ltd etc. You will then be able to explore more about Civil Engineering and apply the basic concepts you learnt in the classroom. The Department has

global linkages and industry connects at multiple levels that provide students an enriching experience and an opportunity for learning recent advances in the field. A group of students from third and second year attended 15 days winter internship programme in Dec 2018 at The Linton University College, Malaysia.



3rd year student, Aditya also attended winter internship in Dec 2018 at Bhabha Atomic Research Centre, (BARC) Mumbai.

Employability Skill Development

To widen the domain of knowledge and understanding we stress on learning through Massive Open Online Courses. To enhance the employability skills of our students, we do continuous assessment by outsourcing it to companies who do third party assessments such as Co-Cubes and Youth for Work. You will be well groomed and industry ready.

Professional Societies

The main objective of professional societies is to develop skills in technical and non-technical fields, beyond the classroom and to encourage professional networking and exposure to the professional world. The Department of Civil & Environmental Engineering has active student chapters of the Institution of Engineers (India) and the American Society of Civil Engineers (India). The Department has the Society in Pursuit of Advances in Civil Engineering (SPACE) in the University. The Department recently established the student chapter of the Indian Concrete Institute (ICI) and Indian Road Safety Campaign (IRSC) in collaboration with IIT Delhi.

Laboratory Facilities

The Department of Civil & Environmental Engineering has state-of-the-art laboratories for Soil Mechanics and Geotechnology, Concrete Highway Engineering, Fluid Mechanics, Surveying, Environmental Engineering, Engineering Geology, Structural Analysis and Computer Simulation and Modelling. Some of the major equipment with which experiments can be conducted on fundamental and field projects include the Triaxial Shear testing equipment with data acquisition system in the Soil Mechanics and Geotechnology laboratory, Total Station in the Surveying laboratory, Tilting Flume in the Fluid Mechanics laboratory, Spectrophotometer and High-Volume Samplers in the Environmental Engineering laboratory, Computerized Universal Testing Machine in the Strength of Material laboratory etc.

The NorthCap University Testing Centre (NABL Accredited)

The NorthCap University Testing Centre

(NCUTC) established by the Department of Civil Engineering provides facilities and equipment for the mechanical testing of building and construction materials. It is accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) and provides professional services to the outside organizations and agencies involved in real estate business and the construction industry. NCUTC follows the managerial and testing procedure guidelines as per International standard ISO: 17025 - 2005 and NABL, a Constituent Board of Quality Council of India. NCUTC provides third party assessment of quality in the area of mechanical testing of building and construction materials, such as, cement, aggregate, concrete, soil, bitumen, etc.

International and National collaboration

The Department has international collaboration with Michigan Technological University (MTU), Houghton, USA, wherein a student having passed his/her 3rd Year has the provision to complete 4th year at MTU and can also enroll for an additional one year's MS plan in continuation to the undergraduate programme. Collaboration with Linton University College, Malaysia is in progress.

The Department has several national collaborations such as with Exponiq for on-campus training on latest software tools of Civil Engineering such as STAAD-Pro, Nevis Works, E-tabs, Revit, Primevera etc. and IIT Delhi for the Indian Road Safety Campaign, a voluntary organization running under the umbrella of Transport Research and Injury Prevention Program to enrich guest lectures, student internships, workshops and awareness programmes at the University. Partnership with M/s G-Eng Advisory Services has further enhanced industry engagement for internships, placements and live projects for students and collaboration with Seafaradays India Pvt Ltd, an offshore renewable energy space has opened up new opportunities in emerging technologies in the renewable energy sector.

Placement Opportunities

A career as a civil engineer offers several lucrative job avenues in both public and private sectors. Some popular options include Steel Authority of India, National Hydroelectric Power Corporation, Bharat Heavy Electricals Ltd., consulting firms, railways, defense forces, municipal corporations, State and Central government organizations like PWD, CPWD, DDA and DMRC. Multinational and private sector companies like L&T, CB&I, Fluor Daniel India Pvt. Ltd., Shobha Developers, Global Reality, Seafaradays Energy Pvt. Ltd., Express Roadways etc. regularly recruit our civil engineers. Civil Engineering graduates are not limiting themselves to core area; however, they are being spreading their expertise and creating jobs in other managerial fields and firms like Zomato, OYO etc.

Sumit Sharma
(13CVU044)
Sobha Group Dubai – 12LPA

Yash Gupta
(14CVU057)
Jacobs – 4.7 LPA

Ishu Sharma
(15CVU015)
Zomato – 5.8 LPA

Chirag Chhabra
(15CVU008)
OYO Rooms – 5 LPA

NCU
NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Gaurav Yadav
(15CVU012)
OYO Rooms – 5 LPA

Dushyant Singh Goyat
(15CVU011)
Logistic Expressway – 3 LPA

Civil Engineers turned Entrepreneurs

For Civil Engineers desirous of becoming successful entrepreneurs and exploring the globe as leaders, the University has established an Incubation Centre with the objective of hand-holding innovative and commercially viable projects. The centre strives to identify talented youth and plans to organize various training sessions for entrepreneurship development through budding as well as settled entrepreneur alumni. Many of our Civil Engineering graduates are successful entrepreneurs and a few are listed below:

Akshay Kumar Tyagi *(Class of 2011), Managing Director, JOY Homes*
Civil Engineer turn entrepreneur, Akshay Kumar Tyagi runs his own company 'JOY Homes' with a turnover of around Rs 10 crores.

Nimish Gupta *(Class of 2014), successfully running his company as Executive Director, RSB Infrastructure Ltd.*

Sahil Gupta *(Class of 2014) after completing his Masters from London School of Economics, is successfully running his business.*

Experienced civil engineers can manage large-scale projects. Other areas in which civil engineers work includes teaching and research, for which one needs to acquire additional degrees at the Master's and PhD levels. Civil Engineering offers unparalleled opportunities to work overseas. By becoming professionally qualified you will be able to enter the international workplace and work abroad on mega projects. Today the world is undergoing vast changes and the coming decades will be some of the most creative, demanding and rewarding times for civil engineers.

Raghu Raj Kapoor
University of Houston

Harsh Bansal
University of Illinois at Urbana Champiagn

Kuchi Prashant
University of Illinois at Urbana Champiagn

Tanya Gautam
Australian National University

Rohit Singh
University of Massachusetts Lowell

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Our GATE Rankers:

Our Students of SOET Have Excelled In Gate 2018 and Carried the Legacy of NCU as a Leader amongst Private Universities Percentile of 99.65 achieved by Student Himanshu Singla.

Civil and Environmental Engineering Department Students

GATE EXAMINATION 2018

Ashish Khurana
14CVU013
Percentile: 97.42

Manish Yadav
14CVU030
Percentile: 94

Pankaj Dagar
14CVU038
Percentile : 91.97

Yash Gupta
14CVU057
Percentile: 89.42

Vidit Jain
14CVU052
Percentile: 88.51

Continuing its Past Legacy of performance in Gate Examination where 18% students were qualified in GATE 2017

Rohit Arora
Percentile 99.48

Sukrit Sharma
Percentile 99.08

Yashraj Singh
Percentile 98.08

Subham Bhardwaj
Percentile 94.90

Rahul Yadav
Percentile 94.88

Kunal Vashisht
Percentile 94.32

Naman Jain
Percentile 93.36

Ankit Brar
Percentile 92.57

Harshal Khasa
Percentile 94.20

Major activities of the Department

The Department hosts an annual technical fest 'SPACE DAY' which includes various technical and non-technical events. It is an inter University event providing students a platform to showcase their talents and abilities. The Department organizes several technical workshops for learning about the latest software.

The Department hosts annual events supported by ASCE Student Chapter, IRSC in association with IIT Delhi like the national level bridge design competition, national level awareness camps, industrial visits etc. There is a national level design competition organized by the Department in association with CADD Centre every year in which our students compete with students from other universities and represent the Department at the State and National level.

USPs of Civil & Environmental Engineering

1. **Intellectual Capital:** Well qualified, and dedicated faculty and committed technical staff
2. **State-of-the-art laboratory facilities:** For academia and research
3. **NABL Accreditation:** Facilitates consultancy and research.
4. **Good placements:** With core companies e.g. Sobha Developers, CB&I, Fluor Daniel, L&T, Jacobs, OYO, Seafaradays Energy Pvt. Ltd. etc.
5. **Outstanding industry interaction and international collaboration:** Through lectures, industrial visits, internships and workshops.

Department of Applied Sciences

Message from the HoD

Dr Ambika Devi
PhD, JUIT, Solan
MSc, HP University, Shimla
Head, Dept of APS

The Department of Applied Sciences offers a wide range of courses in the areas of Physics, Chemistry and Mathematics to build a strong foundation of students as a part of engineering education. The Department also offers undergraduate and postgraduate programs in basic Sciences. We educate a diverse group of students through a blend of rigorous and project-based curricula and adopting unique teaching methodologies. Basic Sciences form the backbone for knowledge development not only for scientists but also for engineers. Our focus is to produce scientists and engineers equipped with modern scientific tools with strong understanding towards real world and engineering problems.

The applicability and practicality of our courses provide the necessary skill set to face the future with confidence. Students will have the opportunity to take part in stimulating investigations, exciting field trips as well as get theoretical grounding with plenty of hands-on experience. We strive to ignite the spark for interdisciplinary research and development in our students and calibrate the real world requirements through our academic curriculum. The laboratories of the Department are equipped with world class equipment. We have highly sophisticated teaching and research laboratories to take the students experience to the next level. The Department has received funding from various research organizations like DST, DRDO, CSIR etc to build competent research laboratories and infrastructure in the Department. We have around 25 research scholars, pursuing PhD in the thrust areas of Physics, Chemistry and Mathematics. The students of the Department are highly involved in co- curricular and extracurricular activities. We have the student chapters of various national and international societies like OSA, Enactus, Mathemactive and many more.

(Formerly ITM University, Gurugram)

The Vision of the Department of Applied Sciences is to emerge as a school of applied sciences providing strong foundation in relevant areas of Mathematics, Physics, and Chemistry to engineering and other disciplines and develop innovative minds for learning and interdisciplinary research

Programmes Offered by the Department

The Department of Applied Sciences is comprised of Physics, Chemistry and Mathematics sections. Apart from offering some foundation courses to the under graduate programs of School of Engineering and Technology, the department also offers BSc (H) Physics, BSc (H) Maths and MSc Mathematics programs. The focus of these programs is to enable the professionals to lead in academics, research and industries. We encourage our students to 'Learn how to think not what to think' and to apply the fundamental concepts of sciences for solving practical problems in various fields of Sciences, Engineering, Technology and Management. Our BSc and MSc programmes have internship and project based curriculum, at par with the best institutions. We offer special guidance for NET, GATE, JAM, NBHM and other competitive exams. We will develop your full potential and provide you an enriched educational experience that will equip you with the qualifications and skills to achieve your ambitions. Besides offering the UG and PG programmes the Department also offered PhD program in thrust areas of Physics, Chemistry and Mathematics.

About the Department

*The Department of Applied Scie*nces not only aims to provide a strong foundation of basic sciences courses offered to under graduate programs of School of Engineering and Technology, but also offers some very important courses in Mathematics to under graduate students of other schools. Besides offering these courses, the department offers BSc (H) Physics, BSc (H) Maths and MSc Mathematics programs. The USP of the Department is its highly qualified, experienced and research oriented faculty from reputed organizations of the Country. We devise the curriculum of the courses taught to various schools and also programs offered by the Department, in consultation with Honorary Distinguished Professors from renowned organizations. The curriculum is being periodically revised with the possibility of exploring different forms of knowledge through theoretical, practical and other productive means. We provide value education with professional standards to the enthusiastic and vibrant student community.

The Department has modern infrastructural & instructional facilities to create a modern learning environment. The laboratories are equipped with world class equipments and facilities based on the latest technology pertaining to different sections. The department is actively engaged in research and has received funding from various funding agencies like DST, DRDO etc. We believe in quality publications and the faculty members are publishing their research work in various journals of repute. We also believe in continuous learning and developing the skills of our faculty through organizing conferences, workshops and faculty development programs.

Faculty

We are proud to have a rich pool of talent with highly qualified, experienced and research-driven faculty, many of them from IITs. In its quest for continuous improvement, formal training and development of all faculty members is an ongoing process. The Department regularly organizes workshops in collaboration with departmental societies such as OSA, Enactus, Quizzards and Mathemactive in emerging areas of interest. Other than classroom teaching-learning, faculty members share their knowledge and experience by conducting seminars which are open to both students and faculty. Our highly qualified and competent faculty is continuously engaged in publishing books, research papers in national and international journals of repute, guiding scholars and students in their specialized areas, organizing faculty development programmes, conferences etc. Faculty members have bagged the Best Teacher Award and Best Research Paper Award year after year. Besides the well qualified and experienced faculty we have Honorary Distinguished Research Professors associated with the Department.

Laboratories

The laboratories are equipped with world class equipment and facilities based on latest technology. The Central Research Facility and the state-of-the-art labs are available to take your laboratory experience to a new level.

Math Lab: To help enrich students' learning experience of the fundamentals and

NAAC ACCREDITED

theoretical aspects of Mathematics, the Math Lab was established in the Dept of APS. It provides a learning environment where a student can visualize various mathematical functions in multi-dimensional space, learn to solve mathematical problems numerically, visualize the solution trajectory and more.

Physics Labs: For BTech and BSc Mathematics (Hons) programmes we have two Physics labs with facilities of biprism setup, diffraction grating set, bar pendulum, Michealson interferometer, Newton ring apparatus, Polarimeter, Plank constant set, spherometer, Vernier calliper, numerical aperture set, ultrasonic diffraction set, cathode ray oscilloscope, dielectric constant kit etc.

Chemistry Lab: For BTech programmes, the Department has a Chemistry lab with facilities of conductometer, centrifuge machine, distillation plant, electrical balance, flash point apparatus, flame photometer, pH meter, Redwood viscometer, spectrophotometer, melting point apparatus, ultrasonic bath, magnetic stirrer, etc.

Environmental Microbiology Lab in the Department of Applied Sciences was established to facilitate research at the University and is equipped with gas liquid chromatograph, UV-VIS spectrophotometer, laminar flow hood, incubator with illumination, centrifuge, autoclave, double distillation unit, light microscope, haemocytometer, etc.

Research

The Department is credited with having secured recognition from Government institutions like the Department of Science and Technology (DST), Council for Scientific and Industrial Research (CSIR), and Defense Research and Development Organization (DRDO), who fund various research projects at the University.

Ongoing Sponsored Research Projects in the Department are:

- Study of optical and electrical properties of nanostructured glasses for application in optical recording media funded by DST (WOSA)
- Study of Polymer nanocomposites for solar cell applications funded by DST (WOSA)
- Lateral Flow Assay Strip Sensor Development for Non-Invasive Point of Care Diagnosis of Urinary Tract Infection funded by DST (SERB) Young Scientist

PhD scholars are pursuing research in the fields of Applied and Pure Mathematics, Chemistry, Condensed matter physics (glasses), Green Chemistry, Mathematics, MicroBiology, Nano Chemistry, Nano Material Synthesis, Nano Materials and solar cells, Nanotechnology, Optimization Technique & Applications, Organic Chemistry

Professional Societies

The Department of Applied Sciences has The Optical Society (OSA) student chapter that supports academic studies, power of research and provides opportunities to propel careers in optics and photonics. Every year start-up funds are sanctioned and an OSA student represents OSA chapter abroad, wins Student Chapter Excellence Prize ($1,000 USD).

The Department has an effective student chapter of the Enactus Society. It is an international organization that connects students, academics and business leaders through entrepreneurial-based projects that empower people to transform opportunities into real, sustainable progress for themselves and their community. Enactus NCU won the KPMG Business Ethics Grant 2016 of Rs 50,000/- for its new project 'Inaayat'.For the same project Enactus NCU received the Walmart Women Economic Award 2016-17.

The mathematical society MATHEMACTIVE equips students with the necessary aptitude to hone their maths skills. It includes professional programmes such as meetings and conferences, surveys, young scholar's programmes and Mathematical Moments events for public awareness.

The Minerva Quizzing Society aims to inculcate curiosity in students and encourages them to undertake the quest for knowledge. The Society aims at preparing all student members to be competent enough to face the fast-moving, competitive world by motivating them to participate in competitive examinations with confidence and emerge victorious.

The Yoga Club is for the all-round development of students and staff of the University. Its mission is to foster self-awareness, and a culture of healthy living through the practice of yoga.

THE NORTHCAP UNIVERSITY
Bridging the Gap between Academia and the real world
(Formerly ITM University, Gurugram)

USPs of Applied Sciences

- **Highly qualified, experienced and research driven faculty** mostly from reputed organizations of the country.
- **Project based curriculum**
- **Small Class size:** For better one-to-one interaction
- **Higher studies options:** Up to PhD at par with other reputed institutes
- **Special guidance:** For NET, GATE, JAM, NBHM and other competitive exams

Success Stories

Laveleena Garg
MSc Mathematics,
IIT Bombay

"Selecting NCU for pursuing my undergraduate degree in BSc Maths (H) was one of the best decisions of my life. Faculty members of Department supports in all possible ways. Cracking JAM (Joint Admission test for MSc) and securing 20 All India Rank (AIR) was really a great achievement for me. It would not have been possible without the support of faculty members. The course content is very efficacious."

Bhavika Mehta
(16MSM004)

I am happy to be working with Great Lakes Institutes of Management, which is among the top ten business schools of India, as a consultant. I feel thankful to the faculty for preparing me for the upcoming challenges as well as the updated and relevant curriculum which is appropriate in terms of what actually is in demand by the industry.

Manpreet Kaur Walia
Nagarro

I am lucky to get selected in Nagarro, a custom software development and business consulting company that provides consulting and technology services to its clients. I would like to thank The NorthCap University as this would not have been possible without the support, guidance and faith in me that I got there. I am also thankful to the University for helping me acquire the requisite communication skills and other soft skills which helped me during the crucial interview.
This testimonial would be incomplete without referring to how indebted I am to the Elective courses which are being offered by the Department of Applied Sciences.

Akshita Goel,
MSc Maths
Data Analyst,
Nagarro Software Pvt Ltd

Choosing NCU was the best decision I ever made. I started to dream BIG after joining it! I am currently working in Nagarro because of the guidance of the faculty. Thanks to all the faculty members for making my dreams come true.

Pradeep Kumar
MSc Mathematics,
IIT Bombay

Being at NCU has been a perceptive learning experience for me. Cracking JAM and that too with AIR 3 is like a dream come true and it has been possible only because of the guidance and confidence given by NCU faculties. The unmatched teaching methodology, competitive classroom atmosphere, relevant course content had always been a motivating force for me. I feel privileged to be a part of NCU as a student of BSc Mathematics (H) programme, Class of 2015.

Ayushi Bhargava
Selected for MS
(Data Analytics),
Georgia State University, USA
& Stony Brook University,
New York, USA

"Aiming for higher studies along with the challenge of maintaining good academic results in MSc Maths was a difficult task. This was made possible by the NCU faculty's teaching methodology, relevant course content and the competitive classroom ambience. I am really thankful to NCU and its faculties for all my success."

NCU
NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

School of Professional Attachment

Director's Message

Mr BK Gupta
BSc (Hons) Electrical Engg, Punjab Engineering College, Chandigarh
Formerly Executive Director - Engineering India Ltd (EIL), New Delhi
Director, School of Professional Attachment

School of Professional Attachment (SPA) has been established at NCU to nurture you from the time you join the University till you finally get a good placement. SPA acts as a bridge between you and your first job. It helps in building and enriching your potential and plan your career better. For your holistic development, SPA will equip you with the right kind of skills and attitude so that you can become more effective, efficient and productive in your employer's organization and are ready to face contemporary challenges of the corporate world and for your smooth transition from the campus to the corporate world.

The University is proud of its students who have been serving in various capacities as technocrats, business managers, industrialists and entrepreneurs. The most frequently cited accolades regarding our students from the organizations which are regular recruiters from NCU include our students' flexibility, ability to learn quickly, versatility, performance as team players, excellent analytical skills, and most importantly the positive attitude that they bring to their jobs. We are confident that our students will make a mark wherever they go and make their alma mater proud.

SPA is engaged in the task of enhancing student employability, improved industry internship attachment, career counselling and gap analysis, continuous improvement in the systems and processes, higher and better job placements with a wider industry reach and obtaining industry feedback for improving the academic curricula.

The School of Professional Attachment (SPA) at NCU is responsible for nurturing you from induction to placement, a bridge between the classroom and your first job. SPA ensures regular professional attachment of academics with industry for your professional enrichment and better job opportunities. Regular grooming sessions are held to explain various activities during campus placement drives such as Pre Placement Talks (PPT) by company officials, aptitude tests, Group Discussions (GDs), technical and HR interviews etc. To get the feel of a real-life working environment and to be up-to-date with the latest technologies you will undertake summer internships by working in the industry for a period of six to ten weeks.

Enhancing Student Employability

In addition to the technical skills you will gain through classroom learning, training programmes, certifications and on-the-job training, the soft skills or interpersonal (people) skills are required to be developed by a student to enhance employability. Soft skills are the abilities and traits pertaining to personality, attitude and behaviour. They help raise your Emotional Intelligence Quotient. There is a strong need to acquire these skills right from the moment you enter the first year of professional studies rather than waiting till the final year or just before the job placement selection process begins.

There is an important saying 'Technical Skills will get you the interview, but it's your Soft Skills that get you the job'. At NCU your soft skills are developed through a series of initiatives:

Industry internship attachment

Internship gives the opportunity to develop relevant skills, knowledge and experiences. Industry internship provides you the opportunity to get attached with a professional organization, on a full-time basis, for a period of six to ten weeks to:

- Get exposed to a real-life work environment to acquire first-hand practical experience and sharpen your skills in tune with the requirements of the industry.
- Interact with real life working professionals and gain valuable references to gain an edge for better job placements.
- Apply theoretical knowledge gained through academic studies to the workplace, and blend it with real-life practical situations.
- Serve as an opportunity to showcase your potential for a prospective employment opportunity with the same organization.

Internship thus acts as a stepping stone for entering into the professional world with the required skills. The job market is competitive and by showing your commitment as soon as you can, you will stand out. SPA extends all possible help in getting you placed with an appropriate company for your internship so that you get career-related work experience.

'Aarohan' and 'Lakshay' Clubs

The NorthCap University lays strong emphasis on equipping you with requisite skills to successfully migrate from 'Campus to Corporate'. To achieve this objective, two student leding clubs 'Aarohan' and 'Lakshay' help you in grooming and placement related activities, supervised and guided by SPA.

'Aarohan' starts from the day you join NCU and continues till you get placed. It includes three main aspects – learning, practical exposure and assessment. 'Aarohan' is a label given to a programme called PPP (pre-placement preparation). It has been designed to help in your professional grooming with the objective of preparing you climb the ladder of success in your professional life.

'Aarohan' is managed by student executive members drawn from the three Schools namely School of Engineering & Technology, School of Management and School of Law. Grooming activities are carried out round the year by conducting seminars, invited talks by industry experts, presentation competitions, mock group discussions and interviews.

'Lakshay' targets final placement related activities. It will serve as a launching pad for you make it to the best organization based upon your professional interests and abilities. 'Lakshay' has been designed to cover all placement related activities which generally begin when you will enter the final year until you finally get placed. It includes registration for placement, opting for attending the placement drive of a company and appearing for the placement.

Third Party Assessment

NCU has taken a new initiative to facilitate evaluation of students' employment readiness and gap analysis by outsourcing it to companies who do third party assessments for graduating students, on behalf of hiring companies. Many universities and institutions such as IIT Kharagpur, IIT Guwahati, IIT Roorkee, IIIT Delhi, NIT Delhi and some private universities are on the board of assessment companies. These tests are compulsory for BTech students.

Placement Portal

The complete working of SPA has been automated. A placement portal is used as a tool for all communication with students. It is used for:

- Uploading student resumes
- Posting the company profile and job profile of a visiting employer companies
- Accepting student nominations for the company

NCU THE NORTHCAP UNIVERSITY
Enduring the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

- Posting schedule of on campus placement drives
- Listing of successfully selected students
- Issuing of 'No Objection Certificate' to students for joining industry internship
- Scheduling of invited talks by industry experts.

SPA stands committed to hand-holding you right from the time you join the University till you join your dream company and even thereafter as alumni, for the benefit of providing the wisdom of your experience to your younger college mates in the form of career counselling and getting better job opportunities. We wish you a great learning experience here at The NorthCap University and an equally rewarding career thereafter.

Success Story

Raminder Singh
CSE (Class of 2018)
EY 14CSU159

Ernst & Young (EY) is a dream company for many and I feel proud to be placed in it. But the journey to this point is even better. The constant evolution over the period of 4 years through learning, perseverance and seizing the opportunity has made me what I am today. Yes, you need to work hard but need to be smart enough to use that knowledge to attain success. This leads to a new chapter in my life where I wish to succeed, achieve new heights and make everyone feel proud of me.

I owe it all to The NorthCap University which has always been there and helped me to explore and develop into a better personality. I am thankful to NCU for providing me an opportunity with the dream company Ernst & Young. I will always be thankful to my parents, faculty members and SPA Cell for their constant support, effort, timely guidance and blessings which helped me achieve my goal.

Thank You!

Rowan Britto
ECE (Class of 2018)
Fidelity International
14ECU072

I believe success is a matter of 'hard work' and 'being at the right place at the right time'. And that is exactly what has helped me get into a company that I have always admired - Fidelity International.

I have always liked the investment banking business as a whole from my boyhood and Fidelity International is one of the biggest names in that industry worldwide. During my high school years, I used to read a lot of financial books ranging from Philip Fisher to Benjamin Graham. And one of my favorite authors was Peter Lynch, who is one of the most respected authors in the value investing genre. Incidentally, he was the Fund Manager of Fidelity Investments during his historically successful run in mutual funds. And I was amazed at the flexibility and value for excellence that a company as big as Fidelity had. It became my dream company.

Fast forwarding 8 years, here I am with the help of my college, I have achieved a rather latent dream of getting into this organization. I feel immensely blessed by God! I thank the college, SPA, ever-supportive teachers and mainly my loving parents who have contributed greatly in this success of mine.

And as I said before, being at the right place at the right time can make a huge difference in your life. And my right place has been The NorthCap University.

Neev Puri
CSE (Class of 2018)
Protiviti 14CSU126

Protiviti ,a global consulting firm that delivers deep expertise, a tailored approach to help leaders confidently faces the future, with 70 offices over 20 countries.

When I entered the Protiviti office I was astonished to see the environment and culture and there itself I realized that I cannot let this opportunity go. The first level to clear was aptitude test. Second was GD and after that technical interview followed by HR interview and finally I was interviewed by the director of the company. I could feel sense of confidence within myself as the day progressed.

I feel blessed to have been selected in such an organization. I would be failing in my responsibilities if I don't thank the institution, its management faculty for making me what I am today. I am indebted to SPA for their contribution without which I would not have achieved. The professionalism, technical and overall development acquired by me during course in last 3.5 years has been impeccable.

AS said "There are no secrets to success. It is the result of preparation, hard work, and learning from failure."

NCU THE NORTHCAP UNIVERSITY ® Bringing Excellence NAAC ACCREDITED (Formerly ITM University, Gurugram)

Priyanka Khattar
ECE (Class of 2018)
AVL India 14ECU061

"Success doesn't come to us, we go towards it."

The journey of an engineering student is not easy. One is always chasing after the lectures, projects, submissions, internal evaluations and last but not the least, placement. Being an engineering student was no different. But, being a student of The NorthCap University, I am gratified by the guidance and environment that helped me in every little step during my Engineering. I would like to specially thank the whole team of SPA for grooming me to be industry ready.

The job profile of AVL is technical and I even got an opportunity to go to Germany for training purpose.

This is all because of the patience and confidence that my family, my faculty and SPA developed in me. I owe it all to the institute and my family. I will always seek their guidance and I know that they will always be there for me in my future.

Some Leading Recruiters

The University has strong links with a variety of employers – from startups to multinational corporations - all operating across a multitude of sectors. Efforts of SPA have resulted in over 97% placements of digible students who passed out in June 2018, in premier companies like Deloitte Consulting, Optum-UHG, Ernst & Young, McKinsey & Company, Fidelity International, Intel, Protiviti Consulting, Siemens, Daikin, Orange Business Services, Ericsson Global, British Telecom, Yatra.com, Libsys Corp., Newgen Software, Nagarro Software, Maruti Suzuki, CB&I, Samsung Engineering, SK Engineering, Think Future Technologies, Mentor Graphics, Andritz, Denso and many others.

A positive feedback of the previously employed students, from the employers, has resulted in these companies continuing to return for campus placements with more inclusions each year. Besides securing job placements, a number of our students have gone in for higher studies in India and abroad.

Sl. No.	BTech	Total
1	STRENGTH	**487**
2	ELIGIBLE AND INTERESTED FOR PLACEMENTS*	**328**
3	NUMBER OF PLACEMENTS	**315**
4	% PLACEMENTS	**97%**

* Exclude higher study, Entrepreneurs and those joining family business

Centre for Languages Learning

Message from the Head

Dr Payal Khurana
PhD, MA (English)
University of Jammu
Officiating Head
Dept Centre for Languages Learning

Possessing good communication skills is of utmost importance in today's world. The Centre for Languages Learning (CLL) was established with the aim of providing students of The NorthCap University, the required knowledge and effective communication skills in order to achieve excellence in various fields.

At The NorthCap University, we have students coming from diverse backgrounds possessing different speaking and writing abilities. . To achieve excellence in any field it is of utmost importance to possess good communication skills. Our courses are designed keeping in mind the changing global patterns in business and communication. The English Section of the Centre seeks to cater to these diverse needs of the students of NCU by offering them the opportunity to be well read and be able to express themselves effectively both orally and in writing. The Centre offers courses in Communication Skills that enables the students to acquire abilities which are desired globally. We lay emphasis on enhancing communication skills by encouraging the students' to articulate their ideas and demonstrate advanced reading, writing, listening and speaking skills The curriculum is well-developed and it enhances skills from the perspective of employability as well. The faculty is highly qualified, experienced and committed to providing excellent standards of teaching by focusing on writing, reading, speaking and listening skills.

The Centre also offers courses on Human Values and Professional Ethics, Creative Writing and Campus to Corporate. The Centre conducts specialized workshops/training sessions in areas like Soft Skills, Personality Development, Body Language etc. By integrating ICT into classroom teaching, the Centre attempts to bridge the gap between academia and the professional world.

Besides developments in technology, research and higher education requires multilingual communicators having proficiency in foreign languages. The Centre offers mandatory courses in French, German and Spanish. Thus, we at NCU provide our students the opportunity to acquire proficiency in French, German, Spanish etc.so that they are well equipped to meet global challenges with confidence. Thus, every student enrolled in an UG course across the three Schools acquires a foreign language before graduation. The Centre is also running PhD programme in English.

The vision of CLL is to be a sought-after Centre for Language Learning that employs novel methodologies to encourage appropriate use of language in order to reconcile the varying demands of communication in the modern socio-economic milieu.

Faculty

We have a highly experienced team of qualified and talented faculty ready to provide you quality language education through Core and Elective Courses using innovative learning techniques and resources. As we have students coming from diverse backgrounds possessing different speaking and writing abilities, CLL identifies students, who are weak in speaking and writing skills and remedial classes are conducted to improve their skills. We lay strong emphasis on enhancing the writing, reading, speaking and listening skills of all our students. We will also help in preparing for interviews, group discussions and writing CV at the time of placements.

Curriculum

Our courses are designed keeping in mind the changing global patterns in business and communication and catering to the emerging need of not only polishing your interactive skills in English but also affording you an opportunity to acquire proficiency in a foreign language. The Centre conducts specialized workshops/ training sessions in areas like Soft Skills, Personality Development, and Body Language etc. The curriculum of the courses is developed to enhance your employability skills.

Language Lab

We have a modern well equipped 'digital language lab' that offers rich language learning content. The students can use it extensively to familiarize themselves with content from different sources and media such as text, images, audio, and video. The idea is to offer an alternative way of learning and to promote the practice of skills learnt in class by using technology as a tool.

The Centre runs various clubs like Samwad, Success Mantra, Lingua Franca and Abhivyakt which conduct several enriching activities, competitions, seminars etc. Students can be an active participant of these clubs, voice their opinion on contemporary issues and polish their language, communication, interpersonal skills and be ready to face the world with poise and confidence.

USPs of the Centre for Languages Learning

- ***Emphasis on learning a foreign language:*** *The Centre offers mandatory courses in French, German and Spanish. Every student enrolled in UG courses across the three Schools acquires one foreign language basic skill before graduation.*
- ***Acquisition of Soft Skills:*** *Integrating ICT into classroom teaching, the Centre attempts to bridge the gap between academia and professional world through the instruction of soft skills.*
- ***Enhancement of Communication skills:*** *The Centre strives to encourage students to articulate their ideas and demonstrate advanced reading, writing, listening and speaking skills.*
- ***Emphasis on Personal Skills and Human Values:*** *The Centre offers courses on Human Values and Professional Ethics, and Campus to Corporate.*

Research @ the University

If you are creative, have new ideas which you want to test, see them materialize and patent them, we will assist you in every way as the vision of The NorthCap University is to be known globally for learning innovations, academic excellence and socially relevant research outcomes. It accords the highest priority to research and promotes sponsored research, project consultancy and industry academic linkages. NCU has set up a Research Development and Industry Liaison (RDIL) cell in the University for this purpose. We have a well-equipped Central Research Facility, a Centre for Creativity, Innovation and Entrepreneurship and an Incubation Centre to hand- hold you in developing your commercially viable ideas.

Central Research Facility

A Central Research Facility has been established at The NorthCap University with the objective of providing a central facility with latest and advanced analytical instruments for research in the areas of Physics, Chemistry, Engineering and interdisciplinary sciences. A total amount of Rs 1.2 crore has been spent on establishing this facility at the University. It is equipped with the latest state-of-the-art equipment such as UV-Vis-NIR Spectrophotometer, LCR Meter, I-V Picometer, Vacuum Coating Unit, spin coating, Solar Simulator etc. Three more sophisticated instruments; Scanning Electron Microscope (SEM), Holography set up and solar simulator were recently added to the facility. It has strengthened research relevant infrastructure of science and technology at the University and faculty members and students utilize this facility to pursue their research work. Several UG, PG, and PhD level projects funded by NCU and external funding agencies are being carried out at the facility. Researchers from other reputed organizations are also using this facility to pursue their research work.

Contribution of Distinguished Research Professors

Distinguished research professors of eminence strengthens research activities at the Department level by conducting workshops, seminars, initiating socially relevant student projects and establish national and international level collaborative programmes. Under their guidance, several research groups are working in advanced research areas. The research groups are interdepartmental and multidisciplinary with faculty members from two or more departments participating to complement each other's skills.

Best Research Paper Awards

NCU encourages and recognizes research publications of research scholars and faculty through the Best Research Paper Award.

Sponsored Research Projects

In summary, during the reporting year, Nine research projects for a total amount of Rs 2.6 crore have been sanctioned by funding agencies and Rs1.54 crore has been received till date. One DST (WOS-A) project of 30.03 Lakh has been completed in 2018. In addition to these, 12 research projects (from Jan 2018 to December 2018) have been submitted to various funding agencies.

One DST (WOS-A) project of 27.80 Lakh has been Technically Approved on 20th Feb, 2018

Publications

137 journal papers have been published in refereed journals. Two books and 16 book chapters have been published by the faculty.

Tech Fests

'Cerebration', 'Technovation' and NCU's SAE Collegiate Club's technical cum automotive fest, SAKSHAM, are technical fests that will give you an opportunity to showcase your technical skills in an environment of competition with colleges all over North-India. These programmes provide you a platform to demonstrate creativity, innovation and technical knowledge. Technical competitions are regularly held in diverse fields such as robotics, building all-terrain vehicles, hardware assembly, design and programming, website design, and graffities where you get the chance to showcase your innovative projects.

NCU
NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the corporate
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Personality development, sports and a wide variety of extracurricular activities make up an important part of student life. The University provides excellent physical infrastructure, necessary support and offers a myriad of opportunities for your holistic development.

Sports and Extracurricular Activities

If you want the thrill of competition or desire physical fitness, NCU will provide you a wealth of sporting opportunities, both on and off campus. The University has sports facilities for nearly all indoor and outdoor sports and numerous clubs that provide an array of activities to choose from. The cricket-cum-football ground is arguably one of the finest grounds in Gurugram, with floodlight facilities for night sports. The sports ground is embellished with an athletics track, a multipurpose sports arena and amphitheatre. Our students have been participating and performing well in different sports tournaments in and outside Delhi/NCR. Sports have earned the University several awards, with winners' trophies in basketball, football and cricket in inter-university tournaments across India.

Students' Activities

A lot of activities are available for honing talent and for enhancement of your overall personality. Student Activities and Leadership (SAL) Committee at NCU promotes the involvement of students in extracurricular activities, nurtures leadership skills and enhances the quality of their lives as responsible members of the society and the world as a whole. It provides a platform to students to showcase their skill and talent in beyond academic activities and acknowledges their achievements.

Regular activities occur on and off campus and are open to all students. The campus is enlivened by the number and diversity of its students' organizations. The office of students' activities serves as a living-learning centre for students to coordinate in a broad range of social, cultural, intellectual, educational and leadership programmes. Many students' groups are dedicated to community service and social action.

You will get varied opportunities to participate in the performing arts - in theatre productions, music ensembles, dance groups, or to become involved in committees that sponsor speakers or organize cultural festivals. The music, photography, art, painting, films and dramatics societies are active throughout the year. Symposia of literary pursuits like debates, group discussions and quizzes are regularly conducted. A variety of cultural activities, festivals and tech fests, which synthesize technical knowledge with fun, are organized. 'Momentum', the annual cultural festival of the University, and 'Club Fiesta' are occasions for you to display your talent and give artistic expression to your personality.

National Service Scheme

The University is running the National Service Scheme (Self Financing Unit) which enables students to participate in various national and international activities, being conducted by the Ministry of Youth Affairs and Sports, Govt. of India.

Special Activities and Trips

If you have interest in journalism, there are rich opportunities available for you. VectorTech, the bi-annual publication about the life at the University serves as a platform for presenting opinion on a wide spectrum of issues. In addition, a monthly 'Newsletter' serves as the chief source of campus news. A student run magazine 'Hashtag' is a forum for discussion.

The Recreational Club organizes adventure cum educational trips regularly. All trips are designed to educate and build your confidence, provide you thrills of adventure and outdoor recreation, explore and learn more, as well as promote the ethical use of environmental resources.

SPIC MACAY

Musical concerts are organized under the aegis of SPIC MACAY, where students get an

opportunity to attend performances by renowned exponents of classical Indian music and dance. Renowned artists like Pandit Hari Prasad Chaurasia, Pandit Neeladri Kumar, Pandit Vishwa Mohan Bhatt, Pandit Salil Bhatt, Shri TN Krishnan, Shrimati Savita Devi, Pandit Rajendra Prasanna, Pandit Prateek Chaudhuri, Shrimati Rashmi Aggarwal, Mr Gustavo Tavares and guitarist Anders Clemens, Ms Ragini Chandrashekar, renowned folk artist Ustad Rehmat Khan Langa, Qutbi Brothers, Ms Sudha Raghuraman, theatre performance by 'Naya Theatre', founded by renowned playwright, poet and actor Late Habib Tanvir and many more have performed at the University.

Scholarships

The NorthCap University considers it a social responsibility in putting education within the reach of everyone and grants a number of full/partial fee concessions and Merit Scholarships of about Rs. 1.58 crores every year to about 200 students from the Schools of Engineering, Management and Law, so as to encourage promising students from economically and socially weaker sections of society as per University rules.

Scholarships are also awarded to students on the Dean's List for encouraging meritocracy.

Social Outreach

If you have genuine concern for those who are not so privileged and want to reach out to those whose lives you can touch and make a difference you can do so through the 'Yukti' club at NCU. It focuses on spreading happiness amongst different sections of society by regularly organizing activities such as:

- Blood donation camps at the University for the benefit of the sick.
- Slum Childrens' Day through competitions (painting, singing, dancing etc.), movie shows, gifts, refreshments etc.
- Invite young students of Government schools to experience a University and get inspired to pursue higher education.
- Student volunteers take forward the 'Swachh Bharat' campaign for a clean and healthy India.
- Distribute clothes to the economically weaker sections through the Vastradaan initiative.
- Provide necessary amenities, medicines etc. to the old and the disabled inmates of the Old Age Home and be empathetic listeners and make them feel cared.
- Invite children from the orphanages and encourage them to participate in cultural programmes in the University.

These initiatives give our students an insight into the realities of life, instill in them a level of responsibility, trust and confidence about themselves and the community, and help them grow into role models, both as technocrats as well as caring human beings. NCU's mantra is 'Empowered individuals make an empowered nation'.

THE NORTHCAP UNIVERSITY
(Formerly ITM University, Gurugram)

NCU Alumni

We have an active Alumni Association with a vibrant over 9000-strong alumni network. Besides an Annual Alumni meet, which is a regular feature; we have frequent interactions with our alumni, so as to inspire students to share lifelong commitment, pride, and passion for the University. We engage alumni as active members of the University community, and strive to develop programmes and services that add value to the alumni experience and to the life and work of the University. A one time alumni association fee of Rs. 1000/- is charged at the time of enrolment at the University to run the association.

PART - II

Admission Policy & Selection Procedure

For the Academic Year 2019-20 (School of Engineering & Technology)

Admission Policy & Selection Procedure

FOR THE ACADEMIC YEAR 2019-20
SCHOOL OF ENGINEERING & TECHNOLOGY,

This policy shall be called the "ADMISSION POLICY & SELECTION PROCEDURE-2019" (APSP-2019) for admission to the degree programmes offered by SCHOOL OF ENGINEERING & TECHNOLOGY AT THE POST GRADUATE AND UNDERGRADUATE LEVEL.

This Admission Policy and Selection procedure is approved by the Board of Management of The NorthCap University, Gurugram. All admissions shall be made strictly in accordance with merit in a fair and transparent manner on the basis of minimum eligibility / selection criteria prescribed for each programme.

1. APPLICABILITY

1.1 *This "Admission Policy and Selection Procedure-2019" is valid for the academic year 2019 – 20 and shall be applicable for admissions of all resident Indian students to UG/PG programmes of School of Engineering & Technology(Part II) and also covers children/wards of Non Resident Indian (NRI's)/International students (Covered in Part III) wherever applicable.*

1.2 *The University has a comprehensive and transparent policy regarding Fee Structure, refund, cancellation & withdrawal policy. The Refund & Cancellation policy is in line with UGC/MHRD/AICTE policy on the matter as per UGC Notification dated 02 November 2018.*

NCU
Bridging the gap between the classroom and the real world
NAAC ACCREDITED

2. Programmes offered by the School of Engineering & Technology, their Intake, Minimum Eligibility and Selection Criteria for the year 2019-20

a)

S. No.	PROGRAMME		MINIMUM ELIGIBILITY CRITERIA	SELECTION CRITERIA
SCHOOL OF ENGINEERING & TECHNOLOGY				
1	**UNDER GRADUATE**			
A	**B.Tech Degree (4 years)**		1. 10+2 (English Medium) examination conducted by Central Board of Secondary Education or equivalent examination from a recognized board in Science stream with an overall aggregate of minimum 60%. Must appear in JEE 2019. 2. In case adequate students are not available in a discipline(s) a higher number can be filled in the discipline(s) which have a greater demand subject to the number of students not exceeding the total intake of all disciplines. 3. 15% intake will be allocated for Children/Wards of NRI / International students. Unfilled seats in this category will be transferred to the resident Indian category and shall be filled on merit. 4. Should seats still remain vacant, in any course, if at all, after exhausting the merit list of applicants of the National Test(s), seats may be filled on the basis of results in the qualifying examination subject to meeting the minimum eligibility criteria specified.	i) 60% weightage will be given to JEE 2019 Main (Paper – I) and 40% weightage will be given to the aggregate marks in English, Maths, Physics and Chemistry secured in 10+2 or equivalent. ii) If a candidate appears in JEE Mains 2019 Paper-1, held in January and April both, the better score shall be considered for the weightage
	Branch	**Seats**		
	Computer Science & Engineering (CSE) Specialization options 1) Full Stack Development 2) Cyber Security 3) Internet of Things (IOT) & Cloud Computing 4) Data Science and Artificial Intelligence (AI) 5) Game Technology, Augmented Reality (AR) and Virtual Reality (VR)	300		
	Electronics & Communication Engineering Specialization Options 1) Internet of Things (IOT) 2) Embedded Systems and VLSI Design'	45		
	Mechanical Engineering Specialization Options 1) Thermal Engineering 2) Mechanical Engineering Design 3) Industrial and Production Engineering 4) Automobile Engineering	45		
	Civil Engineering Specialization options 1) Smart Infrastructure Development 2) Construction & Project Management	30		
	Total Intake	**420**		

NCU THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurgaon)

S. No.	PROGRAMME		MINIMUM ELIGIBILITY CRITERIA	SELECTION CRITERIA
	SCHOOL OF ENGINEERING & TECHNOLOGY			
1	**UNDER GRADUATE**			
B	**LATERAL ENTRY TO BTECH SECOND YEAR**	10% of the intake	– Candidate should have studied his/her 10th/12th class in English medium – Candidate should not be more than 24 age on 31st Dec. 2019 – Candidate should have passed Diploma in relevant branch of Engineering granted by the Board of Technical Examination of a State Government with at least 60% aggregate marks in the qualifying exam.	Students will be selected as per the merit list prepared on the basis of marks in the State LEET exam and the marks obtained by the applicant in Diploma. Weightage of these scores are 80% and 20% respectively.

2	**POST GRADUATE**				
A	**M.Tech Degree (2 years)**		**Specialization offered**		
	Branch	**Seats**			
	Degree in Computer Science & Engineering (CSE)	18	(I) Cyber Security (ii) Data Science	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in i) BE/ B.Tech. in Computer Science and Engineering/ information Technology/ Computer Technology/ Computer Science and Applications/Computing in Software/Computer Networking/ Electronics & Communication Engineering OR ii) MCA OR iii) MSc (Computer Science/ IT/ Electronics/ Software Engineering/ Mathematics/ Statistics/ Physics) OR iv) any other relevant equivalent qualifying degree."	30% of the seats are reserved for GATE qualified applicants. For balance 70% seats, the selection criteria shall be based on merit as follows: 85% weightage will be given to marks in the qualifying examination at the UG level, and 15% weightage to the personal interview. Any unfilled seats from GATE applicants shall also be treated as unreserved.
	Degree in Electronics & Communication Engineering (ECE)	18	(i) Communication Engineering (ii) VLSI Design	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in I) BE/BTech in Electrical Engg/Electronics Engg/Electronics & Communication Engg./Electronics & Instrumentation Engg/Communication Engg/Computer and Communication Engg/Electrical and computer Engg/Electrical and Electronics Engg/Electrical Instrumentation & Control Engg/Computer Science Engg/Information Technology OR ii) MSc (Electronics / Physics/Computer Science) OR iii) any other relevant equivalent qualifying degree."	

NCU THE NORTHCAP UNIVERSITY® Bridging the gap between Academia and Industry NAAC ACCREDITED (Formerly ITM University, Gurugram)

2	**POST GRADUATE**				
A	**M.Tech Degree (2 years)**		**Specialization offered**		
	Branch	**Seats**			
	Degree in Mechanical Engineering (ME)	18	(i) Mechanical Engineering (ii) Thermal Engineering (iii) Mechanical Engineering Design	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in the relevant qualifying degree, BE/BTech in I) BE/BTech in Mechanical Engineering, Automobile Engineering, Aero space/Aeronautical Engineering, Production/Manufacturing Engineering, Mechatronics, Industrial Engineering, Material Science and Technology, Production and Industrial Engineering, Marine Engineering, Tool Engineering OR ii) any other relevant equivalent qualifying degree."	30% of the seats are reserved for GATE qualified applicants. For balance 70% seats, the selection criteria shall be based on merit as follows: 85% weightage will be given to marks in the qualifying examination at the UG level, and 15% weightage to the personal interview. Any unfilled seats from GATE applicants shall also be treated as unreserved.
	Degree in Civil Engineering (CV)	18	(I) Structural Engineering (ii) Construction Engineering & Management (iii) Environmental engineering	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in i) BE/ B.Tech. in Civil and Environmental Engineering/Civil and Rural Engineering/Civil and Water management Engineering/Civil Engineering/Civil Engineering and Planning/Civil Engineering(Construction Technology)/Civil Engineering (Environmental Engineering)/Civil and Infrastructure Engineering/Civil Technology/Construction Engineering/ Construction Engineering and Management/ Construction Technology/ Construction Technology and Management OR ii) any other relevant equivalent qualifying degree."	30% of the seats are reserved for GATE qualified applicants. For balance 70% seats, the selection criteria shall be based on merit as follows: 85% weightage will be given to marks in the qualifying examination at the UG level, and 15% weightage to the personal interview. Any unfilled seats from GATE applicants shall also be treated as unreserved.
				M.Tech Full Time: The duration of Full Time M.Tech degree is 2 years covering 4 semesters. **M.Tech Part Time:** Working professionals can pursue M.Tech degree programme part time. However, the part time degree will be awarded on satisfactory completion of 6 semesters taken over 3 years. Classes for part time students may be held in the morning / evening and / or on weekends as may be specified by the department / time-table. In case adequate students are not available in a discipline(s) a higher number can be filled in the programme / specialization which have a greater demand. **Note:** GATE score is not mandatory, but candidates with valid GATE score will get preference in selection. For M.Tech minimum number is 10 in each course. (Minimum 60% aggregate in 10th and 12th is compulsory.)	
	Total Intake	**72**			

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

S. No.	PROGRAMME		MINIMUM ELIGIBILITY CRITERIA	SELECTION CRITERIA
SCHOOL OF ENGINEERING & TECHNOLOGY				
3	**UNDER GRADUATE**			
A	**BSc (Hons) Mathematics** (3 Years)	30	1. Minimum 50% marks in aggregate (with English and Mathematics as compulsory subjects) at the 12th level from any recognized Board with at least 50% marks in Mathematics. 2. 15% intake will be allocated for Children/Wards of NRI / International students. Unfilled seats in this category will be transferred to the resident Indian category and shall be filled on merit.	On merit as per eligibility criteria
B	**BSc (Hons) Physics** (3 Years)	20	1. Minimum 50% marks in aggregate (with Physics and English as compulsory subjects) at the 12th level from any recognized Board with at least 50% marks in Physics. 2. 15% intake will be allocated for Children/Wards of NRI / International students. Unfilled seats in this category will be transferred to the resident Indian category and shall be filled on merit.	On merit as per eligibility criteria
4	**POST GRADUATE**			
A	**MSc Mathematics** (2 years)	20	Minimum 50% marks (or equivalent CGPA) in the aggregate in BSc or equivalent degree (with compulsory 3 papers of Mathematics in annual system or atleast four papers of Mathematics in semester system)	On merit as per eligibility criteria
	Total Intake	**70**		

NCU THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED

(i) Rounding of marks in the aggregate and /or in the compulsory subject (s), wherever applicable is not permitted.

(ii) The University reserves the right not to run the programme if less than 75% of seats are filled at commencement. The intake shown in the table above is subject to change by the university. An increase/decrease in intake upto 20% of seats could take place within the total intake without compromising quality and minimum eligibility criteria.

(iii) Admission will be based solely on the merit criteria as per procedure indicated while ensuring an overall intake of 25% of total seats for Haryana residents.

(iv) The applicants may note that merely Meeting Minimum Eligibility Criteria shall not assure Admission to the applied Program. The Admission shall be strictly based on merit as defined in the admission brochure and the university reserves the right to decide the merit cutoffs for various Programs.

(b) SPECIALIZATIONS AVAILABLE IN SOET

Guidelines for allotting specializations are as follows:

1. Students can indicate their preferred specialization choice in a particular branch (program) , if any , in the application form at the time of application. Students can give their choices in a particular branch (program) in order of priority.
2. Students shall have the option of changing their specialization in a particular branch (program) at the end of first semester .
3. The total number of seats in each branch (program) , including all specializations in that program are as indicated in the Table 2 above.

4. The seats shall be allotted to students based on merit and their indicated preferences.
5. After successful completion , all the students enrolled in these specializations shall get there regular B Tech degree in their respective chosen program. Further, in addition to the B.Tech degree in the program , a separate certificate mentioning the specialization done will also be awarded to these students.
6. The University reserves the right not to run a particular specialization in a program if the number of students opting for that specialization is less than 10. In such cases students shall be offered alternate available choices for the specialization in order of their indicated preference.

Refer section 84 to 123 of this document for highlights of the above specializations in various programs.

(c) CHANGE OF BRANCH AFTER FIRST YEAR FOR B.TECH PROGRAMMES

Limited seats are available for outstanding students to change their branch after first year. This option is available only to those students who are amongst the top 10% in their class. The selection will be as per NCU guidelines & shall be based on merit only. The merit considered shall be as per the CGPA scored by the student at the end of First Year (first two semesters).

(d) DISTRIBUTION OF SEATS

BTech School of Engineering

S.NO.	BRANCH	INTAKE	General Category (60%)	Child of NRI/ International Students(15%)	Haryana General (15%)	Haryan a SC (10%)	Kashmiri Migrant (1 seat in each branch, Super numerary)	Total No. of seats
1	B.TECH COMPUTER SC. & ENGINEERING	300	180	45	45	30	1	301
2	B.TECH ELECTRONICS & COMMUNICATION ENGINEERING	45	27	7	7	4	1	46
3	B.TECH MECHANICAL ENGINEERING	45	27	7	7	4	1	46
4	B.TECH CIVIL ENGINEERING	30	18	4	5	3	1	31
		420	**252**	**63**	**64**	**41**	**4**	**424**

THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world

MTech

S. NO.	BRANCH	INTAKE	General Category (60%)	Child of NRI/ International Students (15%)	Haryana General (15%)	Haryana SC (10%)	Kashmiri Migrant (1 seat in each branch, Super numerary)	Total No. of seats
1	M.TECH COMPUTER SC. & ENGINEERING	18	11	2	3	2	1	19
2	M.TECH ELECTRONICS & COMMUNICATION ENGG	18	11	2	3	2	1	19
3	M.TECH CIVIL ENGINEERING	18	11	2	3	2	1	19
4	M.TECH MECHANICAL ENGINEERING	18	11	2	3	2	1	19

(Formerly ITM University, Gurugram)

Applied Sciences

S.NO.	BRANCH	INTAKE	General Category (60%)	Child of NRI/ International Students (15%)	Haryana General (15%)	Haryana SC (10%)	Kashmiri Migrant (1 seat in each branch, super numerary)	Total No. of seats
1	B.SC. (H) MATHEMATICS	30	18	4	5	3	1	31
2	B.SC. (H) PHYSICS	20	12	3	3	2	1	21
3	M.SC MATHEMATICS	20	12	3	3	2	1	21

NOTE: Seats remaining vacant in any of the categories including NRI, but excluding Kashmiri Migrants shall be merged in General category.

3. DEFINITIONS

3.1 **INDIAN NATIONALS:** All Indian nationals from any part of the country, who comply with the minimum eligibility criteria, are eligible to apply.

3.2 **CHILDREN of NRI/International students:** The applicant must be a child/ward of a Non Resident Indian (NRI)/ as defined under Income Tax Act and must comply with the minimum eligibility criteria to be eligible under this category. In addition, International students can also apply under this category and their admission will be based on the aggregate marks secured in Class XII/Graduation or equivalent of their qualification. A student who has obtained a foreign qualification at the 10+2 / Graduation or equivalent level would be required to submit a certificate of equivalence from AIU (Association of Indian Universities). International students will have to get all clearances, including but not limited to visa requirements etc. from all statutory bodies of their respective countries and India. Students admitted under this category will pay a higher fee as per table in clause 16.1 below. The extra fee collected from these students will be used to give fee concessions to students on merit cum means criteria and scholarships for meritorious students. (Refer Admission Brochure Part –III for complete details).

3.3 **HARYANA (General):** A candidate who is a resident of Haryana (refer Form 2) or has passed his 10+2/ Graduation or equivalent examination from a recognized school / University in Haryana and complies with the minimum eligibility criteria, is eligible under this category.

3.4 **HARYANA (Scheduled Caste):** A candidate who is a resident of Haryana and from a Scheduled Caste of Haryana as notified by Haryana State Government (refer Form 3) and should comply with the minimum eligibility criteria. After allotment of seat / branch to all eligible Haryana SC students, unfilled seats under this category shall be merged with Haryana General seats to make good the overall 25% seats for Haryana Resident candidates.

3.5 **KASHMIRI MIGRANTS:** One seat in each programme shall be reserved for Kashmiri migrants as per the guidelines of Director Higher Education vide memo no.18/51-2000 UNP (4) Dated 9/12/2015.

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

4. MINIMUM ELIGIBILITY CRITERIA (COMMON FOR ALL PROGRAMMES OF SCHOOL OF ENGINEERING AND TECHNOLOGY)

4.1 A student from a university / board NOT recognized by CBSE / AICTE / UGC /AIU/ MHRD or any other statutory body of Government of India shall not be eligible for admission.

4.2 **AGE LIMIT:** The applicant must not be more than 21 years of age as on 31st December, 2019 for UG programs. The date of birth printed on the Class X mark sheet issued by CBSE or equivalent board shall be considered for determining the age of the candidate. In case of student(s) who may have passed their equivalent examination from an overseas board, the age mentioned on his/her passport shall be considered. For PG programmes, there is no age limit.

4.3 **M.Tech/M.Sc (Maths) Programme:** Candidates appearing in the final year of their qualifying degree examination and those who have appeared and awaiting their results can also apply. Such candidates must produce a certificate from the Principal/ Head of the University/ Institution certifying that the candidate is currently in the final year/ is awaiting final results and has obtained the marks required as per the eligibility of the programmed (MTech/MSc) marks or equivalent based on latest available grades or marks. If selected, such candidates may be permitted to join the programs provisionally subject to his/ her final result complying with the minimum eligibility criteria latest by 15/08/2019. The admission will be confirmed only when the candidate submits the marks/ grade sheet and a certificate of having passed the qualifying degree and his/ her result complies with the minimum eligibility criteria latest by 15/08/2019. Non fulfillment of this condition will automatically result in the cancellation of the provisional admission and the seat under such circumstances shall be offered and filled by another eligible candidate.

5. GENERAL CONDITIONS

5.1 STUDENTS/ PARENTS ARE CAUTIONED NOT TO USE ANY INTERMEDIARY OR BROKER FOR SECURING ADMISSION. BESIDES BEING ILLEGAL, SUCH AN ACTION COULD RENDER THE CANDIDATE INELIGIBLE TO PARTICIPATE IN THE ADMISSION PROCESS. IF PARENTS OR STUDENTS ARE APPROACHED BY ANY SUCH BOGUS AGENTS, THEY SHOULD REPORT THEIR DETAILS TO THE REGISTRAR, THE NORTHCAP UNIVERSITY, GURUGRAM. NCU HAS NOT AUTHORISED ANY PERSON / BODY WHATSOEVER FOR ANY PART OF THE ADMISSION PROCESS INCLUDING COUNSELING OF STUDENTS/PARENTS.

5.2 A student who wishes to be admitted after a gap period of one year and/ or more (after passing the 10+2 / Graduation examination) shall submit at the time of admission, an affidavit duly Notarized, justifying the reasons for the gap period and certifying that he/ she had not taken admission in any college / university or had not been rusticated or had not been sentenced to jail for a criminal offence. In case a student had taken admission in any other college / university during the gap years he/she shall have to provide an NOC /Migration certificate from the said college/university. He/she will necessarily have to comply with the minimum eligibility criteria including programme wise applicable entrance examination, if any.

6. ADMISSION COMMITTEE

6.1 Admissions shall be made by the Admission Committee comprising of faculty and administrative staff of the School/University to be nominated by the Vice Chancellor.

6.2 The Committee shall scrutinize the application forms for admission of the candidates in accordance with the eligibility/selection criteria prescribed in this 'Admission Brochure 2019-20' (APSP-2019).

6.3 The decision of the Admission Committees on any matter concerning the admission policy and selection procedure shall be final and binding on all concerned, subject to review as per Clause 19.

7. ADMISSION NOTICE

7.1 To fill seats to UG/PG programmes offered for the academic session 2019-20, the University shall publish an admission notice inviting applications from interested candidates. The admission notice shall be published in at least two national dailies and / or their education supplements.

7.2 A copy of the admission notice along with this "Admission Brochure 2019-20" shall be uploaded on the website of the University not less than 60 days before commencement of the programme for the information of all concerned.

8. HOW TO APPLY

8.1 There are two ways students can apply:

(a) **Online on University website www.ncuindia.edu:** Students can fill in the form online and pay the Application fee of Rs.1000/- (Non refundable) online, and upload self-attested scanned copies of documents mentioned in Clause 8.2 below. They will receive an email confirmation for their online application.

(b) **Offline Application Forms:** Application forms downloaded from the University website should be filled and submitted by hand or by post and enclosing a bank draft of Rs.1000/- application fee (Non refundable) in favour of The NorthCap University, Gurugram at the University Campus along with the documents mentioned in Clause 8.2 below. For important dates refer to Table 10 for all programmes. The Application fee is non-refundable under any circumstances whatsoever. Documents should be submitted along with the application form at the following address:

The Chairman, Admission Committee,
BTech/MTech/BSc (Hons) Maths /BSc (Hons) Physics / MSc Maths (Tick one)
The NorthCap University, Sector - 23A,
Gurugram 122017, Haryana

8.2 (SELF-ATTESTED DOCUMENTS) TO BE SUBMITTED WITH ALL ONLINE / OFFLINE APPLICATIONS

S.NO.	PROGRAMME	DOCUMENT TO BE SUBMITTED
	SCHOOL OF ENGINEERING	
1	**B-Tech**	(i) Class X marks sheet (as proof of date of birth) (ii) Class XII (or equivalent) marks sheet (iii) JEE 2019 Main (Paper-1) score card
	CSE	
	ECE	
	ME	
	Civil	
2	BSc (Hons) Maths	(i) Class X marks sheet (as proof of date of birth) (ii) Class XII (or equivalent) marks sheet
3	BSc (Hons) Physics	(i) Class X marks sheet (as proof of date of birth) (ii) Class XII (or equivalent) marks sheet
4	**M.Tech**	(i) Class X marks sheet (as proof of date of birth) (ii) Class XII or Diploma Marksheet (iii) Graduation (or equivalent) Degree and marks sheet or last set of result declared (iv) Valid GATE score card, if any
	(I) Degree in Computer Science & Engineering (CSE) with specialization in (i) Cyber Security (ii) Data Science	
	(I) Degree in Electronics & Communication Engineering (ECE) with specialization in (i) Communication Engineering (ii) VLSI Design	
	(I) Degree in Mechanical Engineering (ME) with specialization in (i) Thermal Engineering (ii) Mechanical Engineering Design	
	(I) Degree in Civil Engineering (CV) with specialization in (i) Structural Engineering (ii) Construction Engineering & Management	
5	MSc. Mathematics	(i) Class X Marks sheet (as proof of date of birth) (ii) Class XII (or equivalent) marks sheet (ii) BSc (or equivalent) marks sheet

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC Accredited
(Formerly ITM University, Gurugram)

Notes:

In addition to the above, Haryana domicile/ Haryana SC certificate (Forms 2 & 3 enclosed) should be attached, for those who are applying in Haryana General or Haryana Scheduled Caste Category.

Kashmiri Migrants should attach J&K Migrants certificate issued from Government of Jammu & Kashmir Office of the Relief &Rehabilitation Commissioner (M) Jammu, with the application form.

8.3 ADMISSION BROCHURE : The Admission Policy and Selection Procedure 2019-20 for admission to all UG/PG programmes of School of Engineering and Technology shall be available in soft copy form on the University website. All candidates are advised to thoroughly read the entire Admission Policy and Selection Procedure 2019-20 before applying for admission.

8.4 Students should submit only one application form using any one of the two methods i.e. online or offline application form. In case multiple applications are received for the same programme, all will be rejected.

8.5 Branch Preferences (for B.Tech programme only): Students are cautioned to fill their branch preferences in the application form only after careful consideration. Once the application form has been submitted, no change in preference will be permitted. Therefore, they must fill all the choices in their order of preference.

If a preference is left blank, it will be presumed that the applicant is not interested in the said discipline. However, to improve their chances of securing the preferred seat through the sliding process, candidates are advised in their own interest to fill in preferences for all branches and not to leave any space blank.

8.6 It is made clear that admissions shall be made strictly on merit, to those who have applied on the prescribed form, within the stipulated time limit prescribed in this Admission Brochure 2019-20 or as may be amended and uploaded on the website and whose application has not been invalidated due to any deficiency. Applications which are incomplete and not in the prescribed form and not accompanied with the self attested copies of documents as given in Clause 8.2 shall be rejected.

9. ACKNOWLEDGEMENT OF APPLICATION FORMS

9.1 Applicants must insist on a receipt for the application form if submitted by hand. Online applications shall be acknowledged by e-mail confirmation. Postal applications shall be sent their receipts by post.

9.2 The receipt/acknowledgement shall constitute the only evidence for timely submission of the application form.

NCU
THE NORTHCAP UNIVERSITY ®
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

10. IMPORTANT DATES FOR ALL PROGRAMMES

EVENT / ACTIVITY	B.Tech	BSc. (H) Maths/BSc Physics (H)	MSc. Maths	M.Tech	
UPLOADING OF ADMISSION FORM, ELIGIBILITY CRITERIA, SELECTION PROCEDURE	10.02.2019	10.02.2019	10.02.2019	10.02.2019	
LAST DATE FOR SUBMISSION OF APPLICATION FORMS WITH SCANNED/ COPIES OF REQUIRED DOCUMENTS ONLINE/BYHAND / BY POST	20.05.2019	20.05.2019	12.07.2019	Round-I	22.05.2019
				Round-II	19.06.2019
				Round-III	10.07.2019
DISPLAY OF FIRST ADMISSION CUM MERIT LIST ON THE UNIVERSITY WEBSITE www.ncuindia.edu AND AT THE CAMPUS NOTICE BOARD	24.05.2019	24.05.2019	15.07.2019	Round-I	24.05.2019
				Round-II	21.06.2019
				Round-III	12.07.2019
LAST DATE FOR PAYMENT OF FIRST SEMESTER FEES FOR STUDENTS OFFERED ADMISSION IN FIRST LIST	31.05.2019	31.05.2019	24.07.2019	Round-I	31.05.2019
				Round-II	28.06.2019
				Round-III	19.07.2019
DISPLAY OF SECOND LIST AFTER DUE SLIDING	04.06.2019	-	-	-	
LAST DATE FOR PAYMENT OF FIRST SEMESTER FEES FOR STUDENTS OFFERED ADMISSION IN SECOND LIST.	10.06.2019	-	-	-	
FINAL SLIDING LIST	13.06.2019	-	-	-	
LAST DATE OF ADMISSION	18.06.2019	18.07.2019	27.07.2019	20.07.2019	
ORIENTATION OF ADMITTED STUDENTS	20.07.2019	20.07.2019	27.07.2019	20.07.2019	
COMMENCEMENT OF ACADEMIC SESSION	22.07.2019	22.07.2019	29.07.2019	22.07.2019	
START AND LAST DATE OF ADMISSION AGAINST VACANT / DROPOUT SEATS AFTER 15.07.2019	19.06.2019 TO 15.08.2019	19.07.2019 TO 15.08.2019	29.07.2019 TO 15.08.2019	23.07.2019 TO 15.08.2019	

10.1 The above dates do not apply to NRI / International students. For their deadlines / dates they must refer to "Admission Brochure 2019-20 Part - III" applicable for Children /wards of NRI / International students.

10.2 Dates are subject to change solely at the discretion of the University. Change(s), if any, shall be notified on the website www.ncuindia.edu.

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

10.1 The above dates do not apply to NRI / International students. For their deadlines / dates they must refer to "Admission Brochure 2019-20 Part - III" applicable for Children /wards of NRI / International students.

10.2 Dates are subject to change solely at the discretion of the University. Change(s), if any, shall be notified on the website www.ncuindia.edu.

11. ADMISSION CUM MERIT LIST

11.1 First Admission cum Merit list prepared on the basis of selection criteria / distribution of seats will be uploaded on the website of the University www.ncuindia.edu, and displayed on the Notice Board of the University for the Information of all concerned as per dates mentioned in Important dates.

11.2 Last date for payment of fees for securing admission and fee payable shall be in accordance with Clauses 10 & 15 respectively which will also be mentioned in the covering note of the programme wise Admission cum Merit list.

11.3 Merely depositing fee will not confirm the admission. Submitting/ getting documents verified is a necessary condition before provisional admission is offered.

12. SECURING YOUR ADMISSION

12.1 Students whose names appear in the first or second merit cum admission list displayed by the University must deposit their first semester fee in full on or before the last date specified for the purpose, to secure their admission, failing which the offer of admission will stand withdrawn.

12.2 In the event a student fails to deposit his/her fee on or before the date specified, the offer of admission will stand automatically withdrawn and the student will have no claim whatsoever on the seat.

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

13. SLIDING PROCESS (FOR B.TECH ONLY)

13.1 After the last date for depositing the fee by students offered admission in the First Merit cum admission list has expired, the Second merit cum admission list shall be prepared by sliding the admitted students, based on merit and their branch preferences. In other words those students, who were offered admission in the first list and have accepted their admission by paying their semester fee on or before the last date specified, will be upgraded and given their branch preference if available before considering fresh students in the merit list.

13.2 After the last date for depositing the fee for students offered admission in the Second Admission cum merit list has expired, a Final Sliding shall take place only for admitted students.

14. FILLING OF DROPOUT SEATS

Since seats are perishable and must be filled before the last date of admission, vacant and drop out seats if any shall be filled on 'first - come – first – served' basis, subject to the minimum eligibility criteria, upto the close of admissions i.e 15.08.2019 as per the directions of the Government of Haryana from time to time.

15. TUITION FEE

15.1

PROGRAMME	TUITION FEE FOR ACADEMIC YEAR 2019-20 (INR)		CHILD/WARD OF NRI/INTERNATIONAL STUDENTS
	PER SEMESTER	ANNUAL	
B.TECH	123000	246000	Annual Rs 3,50,000/- or equivalent foreign exchange
M.TECH (FULL TIME)	76000	152000	Annual Rs 2,00,000/- or equivalent foreign exchange
M.TECH (PART TIME)	43750	87500	NA
BSc (Hons)Maths	51000	102000	Annual Rs 1,50,000/- or equivalent foreign exchange
MSc (Maths)	41000	82000	Annual Rs 1,34,000/- or equivalent foreign exchange
BSc (Hons)Physics	53000	106000	Annual Rs 1,50,000/- or equivalent foreign exchange
Hostel Fee (where applicable)	Rs 60000 per semester		

15.2 Caution Money: A sum of Rs 5,000/- to be charged from each student seeking admission to the University in the Academic Year 2019-20. The amount is interest free and will be refunded to the students at the time of withdrawal or at end of their programmes, whichever is earlier, after deduction of dues, if any,

15.3 Alumni Association Fee: A onetime Alumni Association fee of Rs. 1,000/- for all programmes is payable by all students.

15.4 Industry Employability Aptitude Test Fees: Industry Employability Aptitude Test fees of Rs. 1,500/- is payable for B.Tech & School of Management programmes only.

15.5 Fees as given in Table 15.1 is the total tuition fees.

15.6 Fee applicable in the year of admission shall be subject to year on year increase of 3% for the duration of the programme.

15.7 The total fee for the year including hostel charges (if applicable) will be payable in two equal bi-annual installments (semester wise, in advance). Children/wards of NRI / International students shall pay the fee annually, in advance.

15.8 Semester fee will not be accepted in parts and/or in installments.

15.9 Fees can be paid by cash (subject to (15.10) below), Demand Draft, Credit Card or Debit Card. All demand drafts shall be made favouring The NorthCap University, Gurugram and shall be payable at Gurugram/ Delhi.

15.10 Unless otherwise provided by extant Govt. rules., a maximum of Rs 2 lakhs only shall be accepted in cash from a student during the entire duration of his/her Programme

15.11 Taxes if applicable under subsequent Govt./GST rules will be extra.

NCU THE NORTHCAP UNIVERSITY® NAAC ACCREDITED (Formerly ITM University, Gurugram)

15.12 Child/wards of NRI or International students will not be eligible for refund before or after the last date of admission in case of withdrawal.

15.13 Students must obtain a receipt for every payment made to the University as that shall constitute their only proof of payment.

15.14 Admission/Semester fees must only be paid at the Accounts Office of the University on any working day from Monday to Saturday from 9.00 AM to 4:00 PM.

NO OTHER FEE / FUND BY WHATSOEVER NAME CALLED SHALL BE PAYABLE BY THE STUDENT

15.15 **EDUCATION LOANS:** Many Nationalised and Private Banks like SBI, Syndicate Bank, HDFC & Kotak Mahindra Bank offer education loans to needy students on the banks terms and conditions. University does not gurantee Education Loan. Education loans are granted based on fulfilling the criteria as laid down by the respective banks.

A Syndicate Bank branch is also located in the Campus provides Education loans to students of NCU subject to fulfilling eligibility criteria and guidelines as per their education loan scheme Syndvidya.

For further details visit www.syndicatebank.co.in or Contact on Mobile No. 9868394473, Land Line: 0124-2460740 or

Email to: br.8247@syndicatebank.co.in.

16. MERIT CUM MEANS FEE CONCESSIONS

16.1 Fee Concession is applicable to Haryana Residents only for UG programmes and shall be based on Merit-cum-Means criteria, as per the Standard Operating Procedure of The NorthCap University from time to time and available at www.ncuindia.edu.

16.2 Notwithstanding the award of fee concessions, all candidates selected for admission will have to first deposit their first semester fee to secure their admission. Those awarded fee concession will be refunded the tuition fee deposited by them as per fee concession awarded, within two months from the last date of admission.

16.3 In addition to the merit cum means concession, to encourage & motivate students the following awards are also given:

i. Merit Based Scholarships

ii. The NorthCap University Scholars Award (On GATE results - for Final Year B.Tech)

iii. Research Fellowship Award (for PhD Scholars)

iv. Vice Chancellor's Innovation Fund Awards

Only one type of scholarship/fee concession from any source whatsoever is admissible to a student. A certificate signed by the student & parent is to be provided as proof for this.

16.4 **GATE Scholarship (MTech Students) :**

Rs 12,400/- per month GATE Scholarship is available through UGC for GATE qualified MTech students, subject to UGC terms and conditions. The tenure of Scholarship is maximum two years without any further extension. NCU shall facilitate applying to UGC by enrolled candidates.

17. VERIFICATION AND NON RETENTION OF STUDENTS ACADEMIC AND PERSONAL TESTIMONIALS

17.1 All original academic and personal certificates and testimonials like mark-sheets, school leaving certificates and other such documents, other than migration certificate shall be returned by the University after their due verification and receipt of fees. In case a student withdraws before the last date of admission (refer table at para 10) the original migration certificate shall also be returned.

17.2 However, Migration from the last institution to The NorthCap University shall be deemed to be complete only after submitting the Migration Certificate. In case a student leaves after the last date of admission for vacant and drop out seats (15.08.2019) the original migration certificate submitted by the candidate will accordingly be cancelled by stamping across it. Migration certificate shall be issued by the University under its seal in case of Migration/Withdrawal after the last date of admission and / or completion of the degree subject to fulfilment of all requirements as per rules/ regulations of the University.

17.3 The self-attested testimonials of students shall be held valid and authentic for all purposes and administrative requirements and should there be a need for physical verification at any time during the course of program of study, such verification shall be undertaken in the presence of the student and certificates and testimonials thus verified shall be returned immediately to the student.

18. GRIEVANCE REDRESSAL MECHANISM

18.1 Grievance/complaints, if any, against any action/decision of the Admissions Committee can be made in writing within 3 days of the decision to the Grievance Redressal Mechanism, constituted as per UGC (Grievance Redressal) regulation 2012 amended by time to time.

18.2 In case there is any ambiguity whatsoever, with respect to this policy, Vice-Chancellor's interpretation/clarification/decision shall be final and binding on all concerned.

19. ORIENTATION PROGRAMME

It is compulsory for all newly admitted student to attend the orientation programme. For details timings see table below:

SCHEDULE FOR ORIENTATION PROGRAMME					
SR.NO.	**PROGRAMME**	**DATE**	**TIMINGS**	**LOCATION**	**REMARKS**
1	B.TECH (ALL BRANCHES)	20.7.2019	8.30 AM – 1.00 PM	AUDITORIUM	Including visit to Department from 10.30 AM-1.00 PM
2	M.TECH (ALL BRANCHES)	20.7.2019	11.00 AM – 3.00 PM	AUDITORIUM	Including visit to Department from 1.00 PM-3.00 PM
3	B.Sc (Hons) Math, B.Sc (Hons) Physics & M.Sc (Maths)	20.7.2019	11.00 AM – 3.00 PM	AUDITORIUM	Including visit to Department from 1.00 PM-3.00 PM

20. COMMENCEMENT OF ACADEMIC SESSION

22 July 2019 (Monday)

NCU THE NORTHCAP UNIVERSITY Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

21. REFUND / CANCELLATION POLICY

Tuition fees shall be refunded by the University to an admitted student within fifteen days from the date of receiving a written application from him/her subject to the following.

a) Refund amounts payable as per UGC Notification dated 2nd November 2018 shall be as under.

Sr. No (1)	Percentage of Refund of Tuition fees (2)	Point of time when notice of withdrawal of admission is received by the University (3)	Effective periodas per column (3) (BTech) (4)
1	100% Tuition fee less Processing fee	15 days or more before the formally notified last date of admission	on or before 03-06-2019
2	90%	Less than 15 days before the formally notified last date of admission	04.06.2019 to 17.06.2019
3	80%	15 days or less after the formerly notified last date of admission	19-06-2019 to 03-07-2019
4	50%	30 days or less, but more than 15 days, after formally notified last date of admission	04-07-2019 to 18-07-2019
5	00%	More than 30 days after formally-notified last date of admission	on or after 19-07-2019

b) Processing Fee An amount of 5% of the fees paid by the students subject to a maximum of Rs.5,000/- shall be deducted from the Tuition fee deposited by every student withdrawing his/her admission for all as per Sr. No 1 above.

c) The procedure shown in Table 21 (a) shall also be applicable for Admissions against vacant/dropout seats, for which the commencement and last date of admission are **16.07.2019 and 15.8.2019 respectively.**

d) The Table above equally applies to other programmes of SOET i.e. BSc (H) Maths, BSc (H) Physics, MSc Maths and MTech, except that the rekonable dates shall be as per Table at Para 10 above.

e) The percentages shown in Table above are inclusive of all Tuition fee but exclusive of Caution money, Alumini Association and Industry Test fees as given in para 15 above.

f) If for any reason whatsoever, including insufficient students the University is unable to run any programme, 100% of Tuition fees and all other charges collected at the time of Admission shall be refunded. In such cases, application fees will also be refunded.

g) The refund shall be made in the name of the student by crossed account payee cheque only and shall be mailed by Registered post to the student within fifteen days from the date of receiving application. There is no need for the student and /or his/her parent to visit the University in this regard.

h) In case a student does not have a bank account and wishes to have his/her refund cheque in the name of either parent, he/she shall submit a notarized affidavit along with the application for withdrawal (specimen of affidavit available at Form-5)

I) Since children/ward of NRI's / International students are admitted on 'First-come-first-served' basis and not on the basis of merit of a common entrance test or marks, in case of withdrawal before or after the last date of withdrawal/admission, no fee/fund by whatsoever name called is refundable in their case.

NCU THE NORTHCAP UNIVERSITY (Formerly ITM University, Gurugram)

22. LAPTOPS

Laptops are an important tool for learning for the students and are an integral part of modern day higher education. In line with the best practices in leading global and national universities, The NorthCap University has introduced more extensive use of laptops in the education processes. The whole NCU campus is equipped with Wi-Fi and all the class rooms are equipped with teaching aids like LCD projectors. The well-stocked NCU library also has large number of e-books and e-journals online for access by the students. Some of the class tests, assignments, project work, presentations. etc. are also required to be submitted online. It is therefore essential for all the students including newly joining first year students to have a laptop of their own. All incoming students are therefore advised to arrange their laptops once admitted to NCU. (Recommended configuration: 500GB HDD, 6GB RAM, i5 or higher processor with OS Windows 7/8 or higher & with Wi-Fi). Necessary training to students for effective use of laptops in learning is provided by NCU.

It is the responsibility of the students to ensure that the software present in their laptop is licensed. NCU will not be held responsible for any type of licensing issue.

23. LIMITED LIABILITY

All admissions made by the Admission Committee are provisional and subject to confirmation by the Chancellor of the University. If the admission of any candidate is not confirmed by the Chancellor, for any reason whatsoever, the liability of the University will be limited only to the refund of full fees paid by the candidate and that there shall be no further consequent liability on the University and / or any of its employee.

24. MID COURSE WITHDRAWALS

In the event of a Mid-course withdrawal i.e. withdrawals after the last date of admission for vacant and drop out seats (15.08.2019), no refund of fees shall be admissible, as the seat so vacated cannot be filled by the University and shall continue to remain vacant for the entire duration of the programme. Being an unaided, self-financed University, in addition to the first semester tuition fees, the University is entitled to claim the balance year's fees, in view of the Constitution Bench Judgment of the Hon'ble Supreme Court of India in the case titled, "Islamic Academy of Education Vs State of Karnataka bearing CWP no. 350 of 1993 and related subsequent judgements.

25. JURISDICTION

Disputes, if any, arising out of this University Admission Policy shall be the subject matter exclusively of courts in Gurugram only.

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between Education and Employability
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

26. HELPLINE

Queries if any, regarding the admissions process and /or any aspect thereof may please be addressed to:

	BTECH	MTECH	B.Sc (Hons) Maths	B.Sc (Hons) Physics	M.Sc (Maths)
Helpline No.	8448495100				
Admissions Enquiry	0124-4195224 9871589136 9599831057	CSE : 8448721441 ECE : 8800650215 MECH : 9821314520 CIVIL : 8527935138	0124-4195223, 7827056462	0124-4195223, 9821314509	0124-4195252, 9910819408
Email	btechadmissions2019@ncuindia.edu	mtechadmissions2019@ncuindia.edu	bscmaths2019@ncuindia.edu	bscphysics2019@ncuindia.edu	mscmaths2019@ncuindia.edu
Online Application Technical support	Ph. 8800521301				
Email	ncu@ncuindia.edu				
Website	www.ncuindia.edu				

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Date 10 February 2019
Place : Gurugram

Vice Chancellor
The NorthCap University,
Gurugram

ACADEMICS

27. FACULTY

The NorthCap University has one of the best and largest pool of faculty amongst all the Private Universities in North India. Many of the faculty members hold PhD degrees from renowned Indian and foreign universities with a very distinguished track record and are drawn from prestigious institutions like IITs, NITs, Industry and Research Labs. The faculty members have a mix of rich academic and industry experience. There is strong emphasis on good quality teaching as well as research in current areas of technology and all the faculty members keep themselves abreast with latest developments and are engaged in active research resulting in a large number of research publications in leading international and national journals. Many of the faculty members have published books in their specialized fields and are members of editorial boards / reviewers of reputed journals. A department wise list of faculty members of all the three Schools is as under:

FACULTY OF SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF APPLIED SCIENCES

NAME	DESIGNATION	QUALIFICATIONS	EXPERIENCE IN YEARS
Dr. Kalika Srivastava	Professor	B.Sc, M.Sc, PhD	31
Dr. Ambika Devi	Associate Professor & HOD	B.Sc, M.Sc, PhD	11
Dr. Hukum Singh	Associate Professor	B.Sc, M.Sc, PhD	18
Dr. Pranati Purohit	Assistant Professor (Sr. Scale)	B.Sc, M.Sc, M.Phil, PhD	16
Dr. Sunita Sharma	Assistant Professor (Sel. Grade)	B.Sc, M.Sc, PhD	7
Dr. Bharti Arora	Assistant Professor (Sel. Grade)	B.Sc, M.Sc, PhD, M.Phil	6
Dr. Tejpal Singh Chundawat	Assistant Professor (Sel. Grade)	B.Sc, M.Sc, PhD	12
Dr. Seema Thakran	Assistant Professor (Sr. Scale)	B.A, M.A, PhD	8
Dr. Aditya Sharma	Assistant Professor (Sel. Grade)	B.Sc, M.Sc, PhD, M.Phil	5
Dr. Anshu Malhotra	Assistant Professor (Sr. Scale)	B.Sc, M.Sc, M.Tech, PhD	4
Dr. Indra P Debnath	Assistant Professor	B.Sc, M.Sc, PhD	2
Dr. Rajni Rohilla	Assistant Professor	B.Sc, M.Sc, PhD	1
Dr. Trapti Neer	Assistant Professor	B.Sc, M.Sc, PhD	1
Dr. Tarul Garg	Assistant Professor	B.Sc, M.Sc, PhD	1
Dr. Anpam	Assistant Professor	B.Sc, M.Sc, PhD	1

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

VISITING FACULTY OF DEPARTMENT OF APPLIED SCIENCES			
NAME	**DESIGNATION**	**QUALIFICATIONS**	**EXPERIENCE IN YEARS**
Dr. Prabha Sharma	Emeritus Faculty	B.Sc, M.Sc, PhD, Post Doc	45
Dr. Sanjay Yadav	Assistant Professor	B.Sc, M.Sc, PhD	7
Ms. Shilpa Jain	Assistant Professor	B.Sc, M.Sc, Pursuing PhD	3
CENTRE FOR LANGUAGES LEARNING			
NAME	**DESIGNATION**	**QUALIFICATIONS**	**EXPERIENCE IN YEARS**
Dr. Payal Khurana	Assistant Professor (Sel. Grade) & HOD	B.Sc, M.A, PhD	14
Dr. Divyabha	Assistant Professor (Sel. Grade)	B.A, M.A, PhD	11

VISITING FACULTY OF DEPARTMENT OF CENTRE FOR LANGUAGES LEARNING			
NAME	**DESIGNATION**	**QUALIFICATIONS**	**EXPERIENCE IN YEARS**
Dr. Shrutimita Mehta	Assistant Professor (Sr. Scale)	B.A, M.A, PhD	20
Dr. Kriti Khurana	Assistant Professor	BA, MA, PhD	10

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING			
NAME	**DESIGNATION**	**QUALIFICATIONS**	**EXPERIENCE IN YEARS**
Prof. H B Raghavendra	Vice-Chancellor & Professor	B.E, M.Sc., PhD	32
Dr. Archanna Dongre	Associate Professor	B.E, PhD	8
Dr. Vaishali Sahu	Assistant Professor (Sr. Scale)	B.Tech, M.Tech, PhD	11
Mr. Shubham Bansal	Assistant Professor	B.E, M.E	5
Mr. Lokesh Choudhary	Assistant Professor	B.Tech, M.Tech	6
Mr. Diptendu Roy	Assistant Professor	B.Tech, M.Tech	1

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING AND INFORMATION TECHNOLOGY			
NAME	**DESIGNATION**	**QUALIFICATIONS**	**EXPERIENCE IN YEARS**
Dr. Kavita Khanna	Associate Professor & HOD	B.A, PGDCA, M.Sc, M.Tech, PhD	13
Dr. Vijendra Singh	Associate Professor	B.Sc, M.Sc, M.Tech, PhD	24
Dr. Prachi Ahlawat	Associate Professor	B.Tech, M.Tech, PhD	10
Dr. Rita Chhikara	Associate Professor	B.E, MBA, M.Tech, PhD	21
Dr. Shilpa Mahajan	Assistant Professor (Sel. Grade)	B.Tech, M.E, PhD	10
Dr. Yogita Gigras	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	10
Dr. Supriya Raheja	Assistant Professor (Sel. Grade)	B.E, M.Tech, PhD	10
Mr. Sandeep Singh	Assistant Professor (Sr. Scale)	B.Tech, M.Tech, Pursuing PhD	17
Ms. Meghna Sharma	Assistant Professor (Sel. Grade)	B.E, M.Tech, Pursuing PhD	16
Ms Kanika Gupta	Assistant Professor	B.Tech, M.Tech, Pursuing PhD	3
Ms Shakshi Sharma	Assistant Professor	B.Tech, M.Tech,	1
Ms Anjali Goyal	Assistant Professor	B.Tech, M.Tech,	1
Ms Nisha Arya	Assistant Professor	B.Tech, M.Tech,	24
Ms Monika Yadav	Assistant Professor	B.Tech, M.Tech,	2
Mr Anand Kumar Gupta	Assistant Professor	B.Tech, M.Tech,	5
Ms Manvi Breja	Assistant Professor	B.Tech, M.Tech,	4
Ms Ankita Singh	Assistant Professor	B.Tech, M.Tech,	5
Mr. Deepak Satyarthi	Assistant Professor	B.Sc, MCA, M.Tech, Pursuing PhD	18
Dr. Jagdeep Kaur	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	13
Ms. Suman Bhatia	Assistant Professor (Sel. Grade)	B.Sc, M.Sc, M.Tech, Pursuing PhD	11
Dr. Jyoti Sahni	Associate Professor	B.Sc, M.Sc, M.Tech, PhD	8
Dr. Geetika Munjal	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	12
Ms. Prerna Singal	Assistant Professor	B.E, M.Tech, Pursuing PhD	11
Dr. Anuradha Dhull	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	8

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Dr. Sumanlata Gautam	Assistant Professor (Sel. Grade)	B.E, MBA, M.E, PhD	14
Ms. Neeti Kashyap	Assistant Professor (Sr. Scale)	B.Tech, M.Tech, Pursuing PhD	9
Ms. Mehak Khurana	Assistant Professor	B.Tech, M.Tech, Pursuing PhD	9
Ms. Jyotika Pruthi	Assistant Professor	B.Tech, M.Tech, Pursuing PhD	5
Ms. Hitesh Yadav	Assistant Professor (Sr. Scale)	B.E, M.Tech, Pursuing PhD	5
Ms. Garima Sharma	Assistant Professor	B.Tech, M.Tech, Pursuing PhD	3
Mr. Sumit Kumar	Assistant Professor	B.Tech, M.Tech	2
Ms. Monika Gahalawat	Assistant Professor	B.Tech, M.Tech	1

VISITING FACULTY OF DEPARTMENT OF COMPUTER SCIENCE ENGINEERING AND INFORMATION TECHNOLOGY

NAME	DESIGNATION	QUALIFICATIONS	EXPERIENCE IN YEARS
Prof. A K Dua	Professor	PhD	40
Ms. Sonal Gahlot	Assistant Professor	B.Tech, M.Tech, Pursuing PhD	5
Ms. Neha Goyal	Assistant Professor	B.Tech, MBA, M.Tech, Pursuing PhD	6
Ms. Monica Lamba	Assistant Professor	B.Tech, M.Tech, Pursuing PhD	2
Ms. Nisha Sharma	Assistant Professor	B.Tech, M.Tech, Pursuing PhD	2
Ms Balpreet Kaur	Assistant Professor	B.Tech, M.Tech	7

DEPARTMENT OF ELECTRICAL, ELECTRONICS & COMMUNICATION ENGINEERING

NAME	DESIGNATION	QUALIFICATIONS	EXPERIENCE IN YEARS
Dr. Sharda Vashisth	Associate Professor & HOD	B.E, M.Tech, PhD	18
Prof. Swaran Ahuja	Sr. Professor	B.Tech, M.Tech, PhD	44
Dr. Anjali Garg	Associate Professor	B.E, M.Tech, PhD	17
Dr. Rekha Vig	Associate Professor	B.E, M.Tech, PhD	22
Dr. Nitin Malik	Associate Professor	B.E, M.E, PhD	16
Dr. Neeraj Kr. Shukla	Associate Professor	B.Sc, B.Tech, M.Tech, PhD	18
Dr. Shaveta Arora	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	16
Ms. Naresh Kumari	Assistant Professor (Sr. Scale)	B.E, M.Tech, Pursuing PhD	13
Dr. Mona Aggarwal	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	13

NCU THE NORTHCAP UNIVERSITY ®
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

DEPARTMENT OF ELECTRICAL, ELECTRONICS & COMMUNICATION ENGINEERING

NAME	DESIGNATION	QUALIFICATIONS	EXPERIENCE IN YEARS
Dr. Vandana Khanna	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	14
Dr. Pooja Sabherwal	Assistant Professor (Sr. Scale)	B.Tech, M.Tech, PhD	13
Ms. Kusum Grewal Dangi	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, Pursuing PhD	10
Ms. Amanpreet Kaur	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, Pursuing PhD	10
Mr. Pankaj Rakheja	Assistant Professor (Sr. Scale)	B.E, M.Tech, Pursuing PhD	7

DEPARTMENT OF MECHANICAL ENGINEERING

NAME	DESIGNATION	QUALIFICATIONS	EXPERIENCE IN YEARS
Dr. Pramod Bhatia	Professor	B.Tech, M.S, PhD	18
Dr. Rohit Singh Lather	Associate Professor	B.Tech, M.Tech, PhD	5
Dr. Shiv Manjaree Gopaliya	Assistant Professor (Sel. Grade)	B.E, M.Tech, PhD	12
Dr. Amit Arora	Assistant Professor (Sel. Grade)	B. Tech, M.Tech, PhD	10
Dr. Manoj Kumar Gopaliya	Associate Professor	B.E, M.Tech, PhD	14
Dr. Vikas Sharma	Assistant Professor (Sel. Grade)	B.Tech, M.E, PhD	9
Dr. Akanksha Mathur	Assistant Professor (Sr. Scale)	B.E, M.Tech, PhD	2
Dr. Abhishek Pratap Singh	Assistant Professor	B.Tech, M.Tech, PhD	11
Mr. Anmol Bhatia	Assistant Professor (Sr. Scale)	B.E, M.Tech, Pursuing PhD	7
Dr. Satnam Singh	Assistant Professor (Sel. Grade)	B.Tech, M.Tech, PhD	3
Mr. Jag Parvesh Dahiya	Assistant Professor	B.Tech, M.Tech	8
Mr. Praveen Singh	Assistant Professor	B.Tech, M.Tech	3

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

SCHOOL OF LAW			
NAME	**DESIGNATION**	**QUALIFICATIONS**	**EXPERIENCE IN YEARS**
Prof. Pushpesh Pant	Distinguished Professor Emeritus	BALLB, MA, PhD	48
Dr. Praveen Kumar Lohchab	Assistant Professor (Sel. Grade)	LLB, LLM, PhD, JRF NET	7
Dr. Subhradipta Sarkar	Assistant Professor (Sel. Grade)	LLB, LLM, M.Phil, PhD	9
Ms. Archana Sarma	Assistant Professor (Sr. Scale)	LLB, LLM, M.Phil, Pursuing PhD	10
Ms. Pallavi Bajpai	Assistant Professor	LLB, LLM, UGC NET	5
Dr. Balwinder Singh	Assistant Professor (Sr. Scale)	B.Sc, LLB, LLM, PhD	7
Dr. Shabana Shabnam	Assistant Professor (Sel. Grade)	LLB, LLM, PhD	7
Mr. Bilal Ahmed Kuchey	Assistant Professor	LLB, LLM	9
Ms. Unanza Gulzar	Assistant Professor	LLB, LLM , Pursuing PhD	8
Ms. Garima Lakhmani	Assistant Professor	LLB, LLM,	2
Ms. Deborisha Dutta	Assistant Professor	LLB, LLM	4
Ms. Anushka Chaudhary	Assistant Professor	LLB, LLM,	3
Ms. Neha Kapoor	Assistant Professor	LLB, LLM	3
VISITING FACULTY OF SCHOOL OF LAW			
Dr. Anamica Chopra	Assistant Professor	LLB, LLM, PHD	14
Mr. Ajit Singh Ranhotra	Assistant Professor	LLB,LLM	15
Ms. Ritu Solanki	Assistant Professor (Sel. Grade)	LLB, LLM	2
Mr. Sargam Makkar	Associate Professor	M.Phil, PGDBM	7
Ms Parul Khanna	Visiting Faculty	BA, MA, JRF, CS, Pursuing PhD	5
Ms Anshi Goel	Visiting Faculty	BCom, MCom	4
Dr. Indu Prabha Pathak	Visiting Faculty	MA, PhD, NET, SLET	3
Ms Vaiji Raghunathan	Visiting Faculty	BCom, LLB, LLM	2

THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

SCHOOL OF MANAGEMENT					
S. No.	**Name of the Faculty**	**Designation**	**Qualification**	**Specialization**	**Experience in Years**
1	Prof. Prem Vrat	Pro Chancellor, Professor of Eminence and Chief Mentor, The NorthCap University Gurugram; Honorary Visiting Professor - IIT Delhi	PhD, M.Tech., B.Tech. (H),	Operations Management	50
2	Dr. Ruchi Nayyar	Assistant Professor (Sel. Grade)	PhD, MCA, MDBA	Marketing	16

SCHOOL OF MANAGEMENT					
S. No.	**Name of the Faculty**	**Designation**	**Qualification**	**Specialization**	**Experience in Years**
3	Dr. Shilpa Sindhu	Assistant Professor (Sel. Grade)	PhD, MBA, BA (Eng-Hons), ASRB, UGC-NET	Marketing	12
4	Dr. Preeti Chawla	Assistant Professor (Sel. Grade)	PhD, MBA, MCom, UGC-NET		13.0
6	Dr. Saumya Dixit	Assistant Professor (Sel. Grade)	PhD, MBA IIIT, Allahabad	Marketing	9
7	Dr. Esha Jain	Assistant Professor (Sel. Grade)	PhD, MBA, UGC-NET	Finance	12
8	Dr. Deergha Sharma	Assistant Professor (Sel. Grade)	PhD, MBA (Finance)	Finance	9
9	Ms. Jiveta Chaudhary	Assistant Professor (Senior Scale)	PhD (Pursuing), MBA, BBA, NET Qualified, MBTI® Certified Practitioner, Gold Medal-Diploma in T&D from ISTD	HR & OB	10
10	Dr. Nirupma Gupta	Assistant Professor (Senior Scale)	PhD, M.Phil., PGDBA, MMM, M.Com, B.Ed., B.Sc.	Marketing	7
11	Dr. Priyanka Banerjee	Assistant Professor	PhD	Economics	7
12	Dr. Jhanvi Bansal	Assistant Professor	PhD, MBA	HR	3
13	Dr. Akshat Aditya Rao	Assistant Professor	PhD, MBA, BE, UGC-NET	Marketing	9
14	Dr. Poonam Arora	Assistant Professor	PhD, MBA	HR	7
15	Ms. Aditi Vallabh	Assistant Professor	MA Eco, UGC-NET	Economics	1
16	Ms. Mahima Anand	Assistant Professor	MCom, BCom (H), UGC-NET	HR	2
17	Mr. Vineet Kumar	Assistant Professor	MA Economics	Economics	1

VISITING FACULTY OF SCHOOL OF MANAGEMENT				
S. No	**Name of Faculty**	**Designation**	**Qualification**	**Experience in Years**
1	Dr. Archana Mehra	Visiting Faculty	PhD, M.B.E (Masters in Business Economics) Gold medalist, BA (Eco)	22
2	Mr. Vijayasimha Kasi	Visiting Faculty	MBA	31
3	Ms. Sachi Dwivedi	Visiting Faculty	M.Sc, Pursuing PhD	16
4	Neeharika Garg	University Fellow	M.Com, Pursuing PhD	3
5	Mr. Manish Kumar Gupta	Visiting Faculty	CA	18
7	Ms. Smita Dayal	Visiting Faculty	BCOM (H), MBA (Finance & Marketing), UGC NET Qualified	7
8	Ms. Anshi Goel	Visiting Faculty	PhD (Pursuing) M.Com (Finance)	4

NAAC ACCREDITED

28. CURRICULLA / SYLLABI

Our programs aim at providing a strong foundation in both theoretical and practical aspects of engineering. Our specialized courses in technical domains as well in soft skills, humanities and social sciences aim at producing professionals with a sound knowledge in engineering and technology and a well-groomed personality with a sense of responsibility towards society. Some of the salient features of our UG/PG Programmes curricula are:

- Syllabi are designed in line with the best practices and compare with IITs, NITs, and other leading Universities.
- Curriculum is updated regularly and kept abreast with latest developments in the field through regular feedback from industry and other important stake holders.
- The schemes of studies and syllabi are reviewed periodically by leading academicians from renowned Universities & Institutions as well as industry experts and being dynamic are subject to change.
- The syllabi are in accordance with UGC norms both in terms of content and credit requirements.
- High practical content with state-of-art experiments, creative project work and industrial training/ summer internships.
- Value added specialized and flexible courses for students to develop their communication and soft skills as well as gain command in the industry preferred areas of technology. These courses are conducted by outside expert agencies.
- Outcome Based Education (OBE) which focuses on students achieving outcomes after undergoing the learning process. OBE is implemented through proper establishment of Programme Educational Objectives (PEOs), followed by Programme Outcomes (POs), designing curriculum, teaching and learning (T & L) methods, assessment and monitoring.
- Specialized training in specified domains by industry through MoUs with industry to enhance employability.
- Incorporating Massive Open Online Courses (MOOC), a new online medium for course delivery and learning, in the curriculum. It enables learners to participate in the course with high quality content and interactive tools for learning.
- UG/PG Programmes aim at all round development of a student as a professional with good human values through courses in environment, ethics and humanities and management.
- As a seat of higher learning, students are expected to be available for examination/tests /classes/tutorials/practicals and co-curricular activities all through the week as per the time table and availability of learning resources.
- Rules governing all aspects of academics including but not limited to Credit Regulations, Attendance, Promotion, Examinations, Detention etc. be referred to in the document 'Course Credit Regulations' 2019, and the Course of Study, of the respective schools/ programmes, Rules & regulations as amended from time to time shall be further applicable. This is available on our website www.ncuindia.edu
- Examination Conduct Rules be referred for all examination related issues including minimum requirement of 70% attendance in each course to be allowed to appear in the end semester test.

The University reserves the right to change the content and / or the method of presentation and / or the method of assessment of any unit of study or to withdraw any unit of study or courses or impose limitations on enrolment in any unit or courses and/ or to vary arrangements for any of the courses.

All information given in the booklet is current up to the time of publication. Schemes of all the programmes are given in this booklet and for other details refer to The NorthCap University website www.ncuindia.edu and concerned document are also available with Dean office.

The Orientation Programme to admitted students will take place as per Clause 19 and is mandatory for all admitted students where in all rules and regulations are explained.

NCU THE NORTHCAP UNIVERSITY® NAAC ACCREDITED (Formerly ITM University, Gurgaon)

SCHEMES AND HIGHLIGHTS

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Bachelor of Technology in 'Computer Science and Engineering' (2019-20)

Semester	Course Code Course Name (L-T-P)Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-3)2.5	CLL101 Effective Communica-tion I (2-0-0)2	MEP110 Engineering Graphics & Drawing (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP 1 Credits	390	19.5+1=20.5
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication-II (2-0-0)2	MEL150 Basic of Mechanical Engineering (1-0-3)2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP 1 Credits	410	20.5+1=21.5
Summers	**CST101 Mini Project**									1
3	CSL215 FOCP-III (2-0-6)5	Open Elective-1 (Maths Elective) (2-0-2)3	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering and Project Management (1-0-3)2.5	CLP120 Creative Writing (0-1-0-)1		GP 1 Credits	330	16.5+1=17.5
4	CSL220 Operating Systems (1-0-3)2.5	ECL255 Digital Electronics & Computer Architecture (2-0-3)3.5	CSL223 Web Development Technologies (2-0-6)5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5	Program Elective - I (2-0-4)4	CSV201 Skill Development (1-0-2)2		GP 1 Credits	390	19.5+1=20.5
Summers	**CST201 Practical Training**									2
5	CSL236 Introduction to Artificial Intelligence & Machine Learning (2-0-6)5	CSL334 Internet of Things (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5	Program Elective-2 (2-0-4)4	Open Elective – 2 (2-0-2)3	CSD301 Creativity and Innovation Outcome Lab 1 Credit	CSC301 Seminar 1 Credit	GP 1 Credits	340	19+1=20
6	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	CSL338 Cloud & Fog Computing (2-0-3)3.5	Program Elective-3 (2-0-4)4	Program Elective-4 (2-0-4)4	CLP300 Campus to Corporate (1-0-1)1.5	Management Course (2-0-0)2		GP 1 Credits	350	17.5+1=18.5
Summers	**CST301 Industrial Internship**									3
7	CSD401 Project # 1 (0-0-20)10	Open Elective-3 Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CHL100 Environmental Studies (2-0-0)2	Open Elective -4 (MOOC) (2-0-2)3	CSL421 Principles of Compiler Design (2-0-1)2.5		GP7 1 Credits	430	21.5+1=22.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18+1=19
	Total Credits									**158+8=166**

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

List of Elective courses

• Data Engineering • Machine Learning • Big Data Analytics • Business Analytics • Advance Java • Advance Python
• Android Programming • Soft Computing • Introduction to Robotics • Image Processing • Cyber Security • Introduction to Digital Forensics
• Secure Software Design and Development • Risk Analysis and Techniques • Information Security & Cryptography

New additions will be made time to time

Highlights of B.Tech in Computer Science and Engineering

Computer Science has become a fascinating field and focuses on the theoretical foundation of computing along with state-of-the-art development of computing solutions. It is a combination of programming, hardware administration, software administration, networking and network security. It is a wide field and includes algorithms, distributed computation, parallel computation architecture, machine learning, cryptography, compiler construction, microprocessors, embedded systems, computer architecture and organization, computer graphics, database management systems, digital image processing and operating systems. The objective of the BTech program in Computer Science and Engineering (CSE) is to prepare students to undertake careers involving innovation and problem solving using computational techniques and technologies, or to undertake advanced studies for research careers or to take up Entrepreneurship.

In order to give due importance to applied as well as theoretical aspects of computing, the curriculum for the BTech (CSE) program covers most of the foundational aspects of computing sciences, and also develops in students the engineering skills for problem solving using computing sciences. The curriculum has been designed in a manner that it covers the foundational courses and also gives student an option to explore specialized courses in Data Science, Cyber Security, Internet of Things, Advanced Programming etc.

As a Computer Science student, you will learn how to design, develop and test algorithms, how to design, develop and test software, how to develop effective solutions to computing problems across domains.

Learning outcomes:

- Ability to adapt established models, techniques, algorithms, data structures, etc. for efficiently solving new problems.
- Understanding of computing at different levels of abstraction including circuits and computer architecture, operating systems, algorithms and applications.
- Understanding of computing at different levels of abstraction including circuits and computer architecture, operating systems, algorithms and applications.
- Ability to undertake small research tasks and projects.
- Ability to take an idea and develop into a business plan for an entrepreneurial venture (if desired).

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Career options

- Software Developer
- Database Administrator
- Computer Hardware Engineer
- Web Developer
- Computer Network Analyst
- Information Security Analyst
- Computer and Information Systems Manager
- Computer Programmer
- Project Manager

Bachelor of Technology in Computer Science and Engineering with Specialization in Full Stack Development' (2019-20)

Semester	Course Code Course Name (L-T-P)Credits							GP	Contact Hours per semester	Credits
1	MAL151 Engg Maths-I (3-0-2) 4	CSL106 FOCP-I (2-0-6) 5	CHL150 Engg Chemistry (1-0-3) 2.5	CLL101 Effective Communica-tion I (2-0-0)2	MEP110 Engg Graphics & Drg. (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19.5 + 1 = 20.5
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communica-tion II (2-0-0)2	ME150 Basic of Mechanical Engineering (1-0-3)2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2) 3		GP2 1 Credits	410	20.5 + 1 = 21.5
3	CSL271 UI/UX (1-0-5)3.5	CSL273 Enterprise Web Applications (2-0-6)5	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering & Project Management (1-0-3)2.5			GP3 1 Credits	320	16 + 1 = 17
4	CSL272 Interactive Web Applications (1-0-6)4	CSL274 Middleware Frameworks and ORM (2-0-6)5	CSL276 NoSQL - Part 1 (1-0-4)3	CSL278 SPA -Part 1 (2-0-6)5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5			GP4 1 Credits	390	19.5 + 1= 20.5
Summers	**CST201 Practical Training**									**02**
5	CSL371 SPA -Part 2 (2-0-6)5	CSL373 Devops- Part 1 (1-0-4)3	CSL375 NoSQL - Part 2 (1-0-6)4	CSL377 Monolithic Applications (1-0-6)4	CSL220 Operating Systems (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5		GP5 1 Credits	420	21 + 1 = 22
6	CSL372 DevOps Part 2 (1-0-6)4	CSL374 Microservice Based Application (2-0-8)6	ECL255 Digital Electronics and Computer Architecture (2-0-3) 3.5	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	380	19 + 1= 20
Summers	**CST301 Industrial Internship**									**03**
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credits	390	19.5 +1 =20.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18 + 1= 19
	Total Credits									**166**

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of B.Tech in CSE with specialization in 'Full Stack Development'

Full stack development is rapidly gaining pace as the "must-have" technical role in IT industry. It is ranked the second most popular developer occupation these days and will remain so in the foreseeable future. A Full stack web developer is the expert who works across all layers of software with companies relying on them to build, support and maintain their web applications. The Full Stack Development specialisation at the NorthCap University has been carefully designed to provide a sound foundation for a successful career in this critical role. With our industry partners, we've carefully crafted the ideal curriculum that sets a strong footing for a progressive carrier path in this field.

The specialization is a mastering program which will help you become an expert at Front-end and Back-end technologies by employing the most popular JAM (Java, Angular and MongoDB) Stack. You will get the opportunity to solve non-trivial real time problems and learn to create complex Server and Client side web applications. You will learn to create web applications from the ground-up with the right engineering disciplines and methodologies in a corporate aligned culture with detailed emphasis on Dev-Ops and Agile (SCRUM) principles. Post this program you can start down one of the most in-demand profile and fast growing web development career paths. Number of job profile options will open and empower you to choose the most lucrative opportunities.

Learning out comes of this track:

- Knowledge of essential developers' tools such as Git, Github and SCRUM for collaborative development.
- Strong foundation of both front end and backend programming for designing responsive web applications.
- Build multi-user web applications that employ the right engineering principles of modularity, scalability and maintainability.
- In depth understanding of SQL, No-SQL and Graph databases. Applying the appropriate databases in different real time scenarios.
- Applying the principles of CI/CD (Continuous Integration / Continuous Deployment) using appropriate tool like Jenkins.

Career Options:

- Front end Developer
- UI / UX Developer
- Back-end Developer
- Angular Developer
- Java Developer

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Bachelor of Technology in Computer Science and Engineering with Specialization in 'Cyber Security' (2019-20)

Semester	Course Code Course Name (L-T-P)Credits							GP	Contact Hours per semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-3)2.5	CLL101 Effective Communication I (2-0-0)2	MEP110 Engg Graphics & Drg. (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19.5+1=20.5
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communica-tion-II (2-0-0)2	MEL150 Basic of Mechanical Engineering (1-0-3)2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP2 1 Credits	410	20.5+1=21.5
3	CSL281 Secure Communicati on & Cryptography (3-0-4)5	CSL283 Secure Coding and Vulnerabilities (2-0-3)3.5	CSL235 Scripting Languages (2-0-0)2	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering & Project management (1-0-3)2.5		GP3 1 Credits	360	18+1=19
4	CSL282 Penetration Testing (3-0-4)5	CSL284 Digital Forensics (2-0-6)5	CSL286 Programing for Cyber Security (2-0-6)5	CSL240 Computer Networks (1-0-3) 2.5				GP4 1 Credits	350	17.5+1=18.5
Summers	CST201 Practical Training									02
5	CSL381 Malware Analysis & Reverse Engineering (2-0-6)5	CSL383 Network Security (2-0-5)4.5	CSL385 Risk Analysis & Assessment (2-0-2)3	CSL387 Web and Mobile Security (2-0-3)3.5	CSL220 Operating Systems (1-0-3)2.5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5		GP5 1 Credits	420	21+1=22
6	CSL382 Block chain (2-0-6)5	CSL384 Cloud Security Essentials (2-0-6)5	ECL255 Digital Electronics and Computer Architecture (2-0-3)3.5	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	380	19+1=20
Summers	CST301 Industrial Internship									03
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneurs hip (2-0-0)2	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credits	390	19.5+1=20.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18+1=19
	Total Credits									166

NCU THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of B.Tech in CSE with Specialization in 'Cyber Security'

'Cybersecurity Ventures' projected that the cost of cyber-threats will rise to $6 trillion annually by 2021. It isn't just the number of cyber security attacks that is increasing but the degree of these attacks is also on rise. According a PwC report, these attacks are "becoming progressively destructive and target a broadening array of information and attack vectors."

Increase in the prevalence of cybercrime attacks on business organizations, government infrastructures and individuals, has emphasized the importance of Cyber Security.

In fact Cybersecurity is becoming an increasingly central facet of national security strategy. Both private and public sectors are relying on cyber security professionals to keep personal and professional information safe. A recent CSIS survey of IT decision makers across eight countries found that 82 percent of employers report a shortage of cyber security skills and 71 percent believe this talent gap causes direct and measurable damage to their organizations. Also Global Information Security Workforce Study reveals that the global cybersecurity workforce shortage would reach around 1.8 million unfilled positions.

Specialization in Cyber Security will equip students with right set of skills to combat ever increasing cyber-crimes. Further, this specialization aims to enhance the value of graduate degree in terms of career advancement, higher income and increased job security.

Learning out comes of this track:

By the end of this course, students will develop skills to:

- Design cyber security tools and security applications in the field of Information technology and security analysis
- Apply penetration testing to exploit and investigate vulnerable systems.
- Forensically investigate Linux and Windows systems.
- Carry out in-depth analysis of modern malware samples using Static and Dynamic analysis techniques.
- Perform Quantitative and Qualitative risk assessment on the identified risk.
-

Career Options:

- Web application security analyst
- Network security engineer
- Technical Security Analyst
- Cyber Forensic Investigator
- Information Security Consultant

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Bachelor of Technology in Computer Science and Engineering with Specialization in 'Internet of Things and Cloud Computing' (2019-20)

Semester	Course Code, Course Name (L-T-P)Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2) 4	CSL106 FOCP-I (2-0-6) 5	CHL150 Engg Chemistry (1-0-3) 2.5	CLL101 Effective Communication- I (2-0-0) 2	MEP110 Engg Graphics & Drg. (1-0-3) 2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving & Design Thinking (0-0-4) 2	GP1 1 Credits	390	19.5 +1 = 20.5
2	MAL152 Engg Maths-II (3-0-2) 4	CSL108 FOCP-II (2-0-6) 5	PHY150 Engineering Physics (3-0-2) 4	CLL102 Effective Communication-II (2-0-0) 2	MEL150 Basic of Mechanical Engineering (1-0-3) 2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2) 3		GP2 1 Credits	410	20.5 + 1= 21.5
3	CSL251 Programming I (2-0-5) 4.5	CSL253 Progressive WebApps I (2-0-7) 5.5	CSL214 Database Management Systems (1-0-3) 2.5	CSL209 Data Structures (1-0-3) 2.5	CSL229 Software Engineering & Project Management (1-0-3) 2.5			GP3 1 Credits	350	17.5 +1 = 18.5
4	CSL252 Programming II (2-0-6) 5	CSL254 Progressive WebApps II (2-0-4) 4	ECL252 Micro Controllers & Sensors (2-0-5) 4.5	CSL230 Analysis and Design of Algorithms (1-0-3) 2.5	ECL255 Digital Electronics and Computer Architecture (2-0-3) 3.5			GP4 1 Credits	390	19.5 + 1= 20.5
Summers	CST201 Practical Training									02
5	CSL234 Data Mining and Warehousing (2-0-6) 5	CSL361 Security in IoT (2-0-5) 4.5	CSL237 Introduction to AI and ML & DL (2-0-8) 6	CSL240 Computer Networks (1-0-3) 2.5	CSL220 Operating Systems (1-0-3) 2.5			GP5 1 Credits	410	20.5 +1 = 21.5
6	CSL362 Introduction to Big Data (2-0-6) 5	CSL364 Cloud & Fog Computing (1-0-5) 3.5	CSL358 Introduction to Robotics (1-0-6) 4	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	360	18 + 1= 19
Summers	CST301 Industrial Internship									03
7	CSD401 Project # 1 (0-0-20) 10	Foreign Language (2-0-0) 2	SML300 Entrepreneur-ship (2-0-0) 2	CSL318 Theory of Computation (MOOC) (2-0-1) 2.5	Open Elective (MOOC) (2-0-2) 3			GP7 1 Credits	390	19.5 +1 =20.5
8	CSD402 Project # 2 / Internship (0-0-36) 18	Self-Study Course GATE Audit	CSL426 AI and Ethics (Online) (Audit)					GP8 1 Credits	360	18 + 1= 19
	Total Credits									166

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of B.Tech in CSE with specialization in 'Internet of Things & Cloud Computing'

Internet of Things (IoT) is the future of every-"THING". It can be defined as a network that allows things around us to interconnect and talk to each other. We live in a smart world. Things around us are smart-smart watch, smart T.V, smart mobile and more. The future of IOT is vast. We can experience it from the minute we wake up. A Forbes study predicts the combined markets of the Internet of Things to grow to about $520 Billion in 2021, more than double the $235 Billion spent in 2017. IoT devices are becoming a part of the mainstream electronics culture and people are adopting smart devices into their homes faster than ever. By 2020, it is estimated that there will be up to 21 billion connected devices to the internet. IoT devices will be a huge part of how we interact with basic everyday objects. To accomplish this, what does Industry Need? Specialists who can offer solutions based on IoT. This Specialization covers the development of IoT products and services—including devices for sensing, actuation, processing and communication. This program aims to train students to be equipped with a solid theoretical foundation, systematic professional knowledge and strong practical skills in the fields of Web-technologies, embedded systems, communications protocols and collaborative intelligence which provide the foundations for a wide range of applications in the Internet of Things.

Learning Outcomes of this Track:

Students will have:

1) A solid grounding in the key technologies involved and how they are integrated to form complete IoT systems.
2) An understanding of how the Internet of Things fits within the wider context of the ICT industry.
3) Appreciate the role of big data, cloud computing and data analytics in a typical IoT system.
4) Ability to design simple IoT systems: comprising of sensors, edge devices, wireless network connections and data analytics capabilities.

Career Options:

1) Embedded systems engineers, Field application engineers, Development / Maintenance of IoT based electronic systems/software products.
2) Entrepreneur - Development of electronic gadgets / Solutions, based on IoT applications.
3) IoT Designer – Development of IoT based systems for smart cities, Intelligent transport systems, Intelligent building systems and environment monitoring & controlling

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Bachelor of Technology in Computer Science and Engineering with Specialization in 'Data Science and Artificial Intelligence' (2019-20)

Semester	Course Code, Course Name (L-T-P) Credits							GP	Contact Hours per semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-3)2.5	CLL101 Effective Communication I (2-0-0)2	MEP110 Engg Graphics & Drg. (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19.5 +1=20.5
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication-II (2-0-0)2	MEL150 Basic of Mechanical Engineering (1-0-3)2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP2 1 Credits	410	20.5+1=21.5
3	CSL225 Programming for Data Science (1-0-5)3.5	CSL227 Statistics and Probability (3-0-6)6	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering and Project Management (1-0-3)2.5			GP3 1 Credits	340	17+1=18
4	CSL232 Business Intelligence & Data Visualization (2-0-6)5	CSL234 Data Mining and Warehousing (2-0-6)5	CSL236 Introduction to AI and ML (2-0-6)5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5				GP4 1 Credits	350	17.5+1=18.5
Summers	CST201 Practical Training									2
5	CSL311 Big Data (4-0-8)8	CSL313 Machine Learning (4-0-8)8	CSL220 Operating Systems (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5				GP5 1 Credits	420	21+1=22
6	CSL312 Deep Learning (3-0-5)5.5	CSL316 Introduction to Image Processing and Recognition (3-0-5)5.5	ECL255 Digital Electronics and Computer Architecture (2-0-3)3.5	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	400	20+1=21
Summers	CST301 Industrial Internship									3
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneur-ship (2-0-0)2	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credits	390	19.5+1=20.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit	CSL426 AI and Ethics (Online) (Audit)					GP8 1 Credits	360	18+1=19
	Total Credits									166

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
Formerly ITM University, Gurugram

Highlights of B.Tech in CSE with specialization in 'Data Science & Artificial Intelligence '

Data Science is the future of Artificial Intelligence. As the world entered the era of big data, the need for its storage also grew. It was the main challenge and concern for the enterprise industries until 2010. All the ideas which you see in Hollywood sci-fi movies can actually turn into reality by Data Science. Unlike data in the traditional systems which was mostly structured, today most of the data is unstructured or semi-structured. A Data Scientist, according to Harvard Business Review, "is a high-ranking professional with the training and curiosity to make discoveries in the world of Big Data". Therefore it comes as no surprise that Data Scientists are coveted professionals in the Data Analytics and IT industry. With experts predicting that 40 zettabytes of data will be in existence by 2020, Data Science career opportunities will only shoot through the roof! Shortage of skilled professionals in a world which is increasingly turning to data for decision making has also led to the huge demand for Data Scientists in start-ups as well as well-established companies. A McKinsey Global Institute study states that by 2018, the US alone will face a shortage of about 190,000 professionals with deep analytical skills. This specialization aims towards increasing the employability of the students and caters for the current industry needs.

Learning out comes of this track:

- Student will be able to extract, transform and load data and use visualization techniques to derive actionable insights to positively influence a desirable outcome
- Student will be able to utilize statistical methods in the data driven decision making process
- Students will be able to use statistical methods to develop and maintain predictive models
- Student will be able to process large amounts of data using big data technologies
- Students will be able to leverage BI tools to develop business data processing and visualization pipelines
- Student will be able to create predictive models using AI and Machine Learning techniques

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Career Options:

Data Scientist

Data Analyst

Business Analyst

Machine Learning Engineer

Bachelor of Technology in Computer Science and Engineering with Specialization in 'Game Technology, Augmented Reality and Virtual Reality' (2019-20)

Semester	Course Code, Course Name (L-T-P) Credits							GP	Contact Hours per semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-3)2.5	CLL101 Effective Communication I (2-0-0)2	MEP110 Engg Graphics & Drg. (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19.5 +1=20.5
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication -II (2-0-0)2	MEL150 Basic of Mechanical Engineering (1-0-3)2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP2 1 Credits	410	20.5+1=21.5
3	CSL241 Game Design Essentials (1-0-4)3	CSL243 Digital Asset Creation (1-0-4)3	CSL245 Programming for Games (2-0-6)5	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering and Project Management (1-0-3)2.5		GP3 1 Credits	370	18.5+1=19.5
4	CSL242 Artificial Intelligence for Games (1-0-6)4	CSL244 Advanced Programming for Games (3-0-5)5.5	CSL246 Cross Platform Game Development (2-0-8)6	CSL230 Analysis and Design of Algorithms (1-0-3)2.5				GP4 1 Credits	360	18+1=19
Summers	CST201 Practical Training									2
5	CSL341 AR Development (2-0-6)5	CSL343 Designing Human Computer Interfaces (1-0-6)4	CSL345 VR Development (2-0-8)6	CSL220 Operating Systems (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5			GP5 1 Credits	400	20+1=21
6	CSL342 XR Studio I (2-0-6)5	CSL344 XR Studio II (2-0-6)5	ECL 255 Digital Electronics and Computer Architecture (2-0-3)3.5	CLP 300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	380	19+1=20
Summers	CST301 Industrial Internship									3
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CSL 318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credits	390	19.5+1=20.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18+1=19
	Total Credits									166

NCU NORTHCAP UNIVERSITY NAAC ACCREDITED (Formerly ITM University, Gurugram)

Highlights of B-Tech in CSE with specialization in 'Game Technology, Augmented Reality &Virtual Reality'

In an industry known for constant change and innovation, Emerging Technologies like virtual reality (VR)/Augmented Reality (AR)/Mixed Reality (MR) stands out as a uniquely fascinating way to view content. Because gaming technology and practices have become a part of everyday life, there is a growing emergence of gaming-based technologies and interactions being embraced by mainstream businesses and organizations. What is it about computing/computer technology that excites us? It is the ability to convert an idea from our imagination and make it tangible, make it something with which we can see and interact. This Specialization prepares students to tell stories in a new way by taking design to a whole new level – in a virtual space. This program will provide graduates with a highly relevant skill set in Game Tech & immersive systems (Augmented and Virtual Reality) development and an understanding of how people and technology interact. Through the programme students will gain an understanding of major issues around application development for VR and AR alongside practical skills for creating engaging and immersive interactive experiences. Students will graduate with a portfolio of creative and technical work that has been completed to a professional standard.

Learning Outcomes of this Track:

Students will have:

- Design and produce projects that leverage game mechanics and learning styles to enhance the outcomes of applications such as training, medical, therapeutic, military or learning based environments.
- Prototype and complete original games/simulations for multiple platforms(XR) following the full game production pipeline.
- Effectively articulate game design elements and mechanics across disciplines utilizing written and verbal communication skills that demonstrate visualizations representing data, real world entities, events and interactions.
- Establish collaboration, mentorship, and professional leadership skills by working with other disciplines to deliver highly polished and completed projects.

Career Options:

- Game Programmer
- A.I. Programmer
- Database Designer
- Middleware/ Tools Programmer
- Gameplay Programmer
- Game Developer

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

BTech in Electronics and Communication Engineering Scheme (2019-20)

Sem	Course Code Course Name (L-T-P)C							GP	Contact Hours per semester	Credits
I	MAL151 Engg. Maths I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg. Chem. (1-0-3)2.5	CLL101 Eff Comm. I (2-0-0)2	MEP110 Engg Graphics & Drg (1-0-3) 2.5	CLL120 HVPE (1-0-1)1.5	CSL 110 Problem Solving and Design Thinking (0-0-4)2	GP I 1 Credit	390	19.5+1= 20.5
II	MAL152 Engg.Maths - II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY 150 Engineering Physics (3-0-2)4	CLL102 Eff Comm. II (Creative Writing) (2-0-0)2	MEL 150 Basic of Mechanical Engineering (1-0-3)2.5	ECL 110 Basic of Electronics & Engineering (2-0-2)3		GP II 1 Credit	410	20.5+1= 21.5
In house Training for Minor Projects										
III	FOCP-3 (2-0-6) 5	OE-1 Maths Elective (2-0-2)3	ECL254 Fields, Waves and Antennes (2-0-2)3	ECL 203 Analog Electronics and Integrated Circuits (2-0-2)3	ECL 255 Digital Electronics and Computer Architecture (2-0-3)3.5	CLP220 Creative Wrtg (0-0-2)1	ECP201 Project based learning (0-0-4)2	GP III 1 Credit	410	20.5+1= 21.5
IV	ECL201 NT (2-0-2)3	ECL351 Signal Processing (2-0-2)3	ECL253 Analog and Digital Communication (2-0-2)3	ECL363 Embedded System Design (2-0-4)4	PE-1 (2-0-4)4	ECV201 Skill Development (1-0-2)2		GP IV 1 Credit	380	19+1= 20
ECT 201										**02**
V	ECL264 RTL Design & Synthesis (2-0-5)4.5	ECL266 Control Systems (1-0-3)2.5	ECL302 Data Communications and Networks (1-0-3)2.5	PE-2 (2-0-4)4	ECL316 Wireless and Mobile Communications (2-0-1)2.5	ECC 307 Semir (1-0-0)1	ECD 301 Creativity and Innovation Outcome Lab 1 Credit	GP V 1 Credit	360	18+1= 19
VI	PE-3 (2-0-4)4	PE-4 (2-0-4)4	OE-2 (2-0-2)3	CLP 300 Campus to Corporate (1-0-1)1.5	CHL 100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2	EEV 302 Tech-SD II (0-0-2)1	GP VI 1 Credit	350	17.5+1= 18.5
ECT 301										**03**
VII	PE-5 (2-0-4)4	Foreign Language (2-0-0)2	SML 300 Entrepreneurship (2-0-0)2	OE-3 Open Elective (MOOC) (2-0-2)3	ECD401 Project #1 (0-0-20)10			GP VII 1 Credit	420	21+1= 22
VIII		Self-Study Course GATE Audit	ECL 436 Techology and Ethics (online) (S/NS) Audit		ECD 402 Project#2 / Internship (0-0-36)18			GP VIII 1 Credit	360	18+1= 19
*** In semester VIII, 2 MOOC courses can be conducted and there will be a provision to do industrial internship in place of Major project (B).**								**Total Credits**	**160+8 (GP)**	**168**

NCU THE NORTHCAP UNIVERSITY® NAAC ACCREDITED (Formerly ITM University, Gurugram)

Program Elective Courses

Sem IV	Sem V	Semester VI	Semester VII	
PE-1	**PE-2**	**PE-3**	**PE-4**	**PE-5**
ECL308 Semicond. Devices	ECL314 Telecom Switching	ECL 413 Machine Learning	ECL411 Optical Comm.	ECL428 Mobile Computing
ECL309 Information Theory and Coding	ECL323 Biomedical Electronics	ECL403 Microwave and Radar	ECL416 Image Processing	ECL426 Adv. Wireless Comm. Sys
ECP311 Foundn course in Cloud Comp	ECP322 Fndn in Big Data Analytics	ECL 324 Wireless sensor networks	ECP421 IoT based App dev. (1-0-4)3	ECL401 Satellite & TV
ECL319 Digital Marketing	ECL410 Artificial Neural Networks	ECL420 Fuzzy Sets and Appl.	ECL440 Optimization Techniques	ECL430 Genetic Algorithm
ECL252 Microcontrollers and Sensors	ECL313 Adv. Digital System Design	ECL315 Analog CMOS Circuit Design	ECL366 VLSI CAD & Algorithms	ECL417 Verification using system verilog
Selected Topics in ECE course	Selected Topics in ECE course	Selected Topics in ECE course	Selected Topics in ECE course	Online courses in ECE

Highlights of B.Tech Electronics and Communication Engineering (ECE)

Electronics and Communication Engineering offers the students to delve into a broad range of fields from technology and science. ECE engineers design, analyze, program and supervise in the fields of electronics, communication, robotics, internet of things, embedded systems and VLSI design and many more. It aims to develop the knowledge and skills of the students on the basic concepts and theories that will equip them in their professional work involving analysis, system implementation, operation, production, and maintenance of the various applications in the field of Electronics and Communications Engineering.

All of the applications which make our life easier and enjoyable such as Television, Radio, Computers, Mobiles etc. are designed and developed by Electronics and Communication Engineers. ECE engineers design and maintain satellites and also create advanced communication facilities like video conferencing which bring people together from all over the world.

Learning Outcomes of this program are:

- Ability to understand and apply knowledge of basic sciences which is ensured by including right mix of subjects of mathematics, science and basic engineering.
- Skills to identify, formulate, design and develop solutions for complex engineering problems through in-depth knowledge of core Electronics and Communication engineering subjects
- Practical proficiency in almost all the courses offered as part of their Electronics and Communication engineering program with good hands-on experience through practical experiments, projects and exposure through latest simulation tools, software and systems.
- Proficiency in multidisciplinary domains for devising the solution of real time problems, ability to work with national and international organizations and to understand the impact of engineering solutions on the society and environment.
- Realizing personal, social, professional and ethical responsibilities, ability to work as a team and communicate effectively, desire for life-long learning and exhibiting good behavior in all spheres of life

Career Options:

- Communication Engineer
- Project Design Application engineers
- Embedded System Engineer
- Automation Engineer
- Software Analyst
- Technical Director
- Field Test Engineer
- Senior Sales Manager
- Network Planning Engineer
- Customer Support Engineer
- Electronics and Communications Consultant
- Research & Development Software Engineer

NCU
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Bachelor of Technology in Electronics and Communication Engineering with Specialization in 'Internet of Things' (2019-20)

Semester	Course Code, Course Name (L-T-P)Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2) 4	CSL106 FOCP-I (2-0-6) 5	CHL150 Engg Chemistry (1-0-3) 2.5	CLL101 Effective Communication-I (2-0-0) 2	MEP110 Engg Graphics & Drg. (1-0-3) 2.5	CLL120 Human Values and Professional Ethics (1-0-1) 1.5	CSL110 Problem Solving & Design Thinking (0-0-4) 2	GP1 1 Credits	390	**19.5 +1 = 20.5**
2	MAL152 Engg Maths-II (3-0-2) 4	CSL108 FOCP-II (2-0-6) 5	PHY150 Engineering Physics (3-0-2) 4	CLL102 Effective Communication-II (Creative Writing) (2-0-0) 2	MEL150 Basic of Mechanical Engineering (1-0-3) 2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2) 3		GP2 1 Credits	410	**20.5 + 1= 21.5**
3	CSL251 Programming I (2-0-5) 4.5	CSL253 Progressive WebApps I (2-0-7) 5.5	ECL251 Analog Electronics & Integrated circuits (2-0-2) 3	ECL254 Fields, waves and Antennas (2-0-2) 3	ECL255 Digital Electronics and Computer Architecture (2-0-3) 3.5			GP3 1 Credits	390	**19.5+1 = 20.5**
4	CSL252 Programming II (2-0-6) 5	ECL 363 Embedded System Design (2-0-4) 4	ECL252 Micro Controllers & Sensors (2-0-5) 4.5	ECL253 Analog and Digital Communications (2-0-2) 3	ECL351 Signal processing (2-0-2) 3			GP4 1 Credits	390	**19.5 + 1= 20.5**
Summers	**ECT 201 Practical Training**									**02**
5	CSL234 Data Mining & Data Warehousing (2-0-6) 5	CSL361 Security in IoT (2-0-5) 4.5	CSL236 Introduction to AI and ML (2-0-8) 6	302 Data Communication and Networks (2-0-1) 2.5	ECL316 Wireless and Mobile Communication (2-0-1) 2.5			GP5 1 Credits	410	**20.5 +1 = 21.5**
6	CSL362 Introduction to Big Data (2-0-6) 5	CSL364 Cloud & Fog Computing (1-0-5) 3.5	ECL352 Design for IoT (1-0-6) 4	CLP300 Campus to Corporate (1-0-1) 1.5	CHL100 Environmental Studies (2-0-0) 2	Management Course (2-0-0) 2		GP6 1 Credits	360	**18 + 1= 19**
Summers	**ECT 301 Industrial Internship**									**03**
7	ECD401 Project # 1 (0-0-20) 10	Foreign Language (2-0-0) 2	SML300 Entrepreneurship (2-0-0) 2	ECL451 Image Processing and Computer Vision (1-0-3) 2.5	Open Elective (MOOC) (2-0-2) 3			GP7 1 Credits	390	**19.5 +1 =20.5**
8	ESC402 Project # 2 / Internship (0-0-36) 18	Self-Study Course GATE Audit	CSL436 AI and Ethics (Online) (S/NS) Audit					GP8 1 Credits	360	**18 + 1= 19**
	Total Credits									**166**

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of B.Tech in ECE with specialization in Internet of Things

Internet of Things is among the newest innovations in the field of information technology. It is the network of physical devices, home appliances, vehicles and other items embedded with electronics, software, actuators, sensors connected through network which enable these objects to connect and exchange data. It is set to create a huge wave in the common man's life and change the way we receive information.

Internet of Things specialization is designed to deliver the key aspect of technologies that collectively lead to this new concept. It allows students to explore the enabling technologies such as microcontrollers, instrumentation, sensors and wireless networks. Leading business organizations have started focusing on the opportunities thrown up by Internet of Things like smart cities; therefore, companies are in search of professionals who have strong foundational knowledge in the concepts of Internet of Things. Students with B.Tech. (ECE) with specialization in Internet of Things will get to know the benefits of a connected world and smart cities.

Learning Outcomes of this Track:

- Interpret unique ways of communication between the human world and physical devices.
- Apply practical knowledge on IoT sensors, microcontrollers, networks, cloud computing and machine learning to develop IoT systems.
- Develop latest web application and programming skills including python and applications in machine learning and AI.
- Employ both electronics and computer science engineering technologies with focus on both hardware and software.
- Analyze and interpret the future trends associated with IoT devices and its various components.
- Design real life projects like home automation, smart parking etc. where information can be extracted from devices and used for enhancement of the techniques used in the business.
- Use several tools and techniques that tackle real-world problems and generate suitable solutions.

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Career Options:

- IoT Data analytics
- IoT Hardware engineer
- Embedded Programs Engineer
- IoT Architect
- IoT Developer
- Network Engineer

Bachelor of Technology in Electronics and Communication Engineering with Specialization in 'Embedded Systems and VLSI Design' (2019-20)

Semester	Course Code, Course Name (L-T-P)Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2) 4	CSL106 FOCP-I (2-0-6) 5	CHL150 Engg Chemistry (1-0-3) 2.5	CLL101 Effective Communication- I (2-0-0) 2	MEP110 Engg Graphics & Drg. (1-0-3) 2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving & Design Thinking (0-0-4) 2	GP1 1 Credits	390	19.5 +1 = 20.5
2	MAL152 Engg Maths-II (3-0-2) 4	CSL108 FOCP-II (2-0-6) 5	PHY150 Engineering Physics (3-0-2) 4	CLL102 Effective Communication-II (Creative Writing) (2-0-0) 2	MEL150 Basic of Mechanical Engineering (1-0-3) 2.5	ECL110 Basic of lectrical & Electronics Engineering (2-0-2) 3		GP2 1 Credits	410	20.5 + 1= 21.5
3	CSL251 Programming I (2-0-5) 4.5	ECL261 Linux & Scripting (2-0-8) 6	ECL251 Analog Electronics & Integrated circuits (2-0-2) 3	ECL254 Fields, waves and Antenas (2-0-2) 3	ECL255 Digital Electronics and Computer Architecture (2-0-3) 3.5			GP3 1 Credits	400	20+1 = 21
4	ECL252 Microcontroller s and Sensors (2-0-4) 4	ECL262 Digital CMOS VLSI Design & Layout (2-0-5) 4.5	ECL363 Embedded Systems Design (2-0-4) 4	ECL 253 Analog and Digital Communications (2-0-2) 3	ECL351 Signal processing (2-0-2) 3			GP4 1 Credits	370	18.5 + 1= 19.5
Summers	**ECT 201 Practical Training**									**02**
5	ECL361 Data Structures & OOPs (C++) (2-0-2) 3	ECL264 RTL Design & Systhesis (2-0-5) 4.5	CSL236 Introduction to AI and ML (2-0-8) 6	ECL266 Control Systems (2-0-1) 2.5	ECL365 Analog CMOS VLSI Design & Layouts (2-0-4) 4			GP5 1 Credits	400	20 +1 = 21
6	ECL362 Real Time Operating Systems (2-0-3) 3.5	ECL364 Verification Methodologie s & Bus Architectures (2-0-6) 5	ECL366 VLSI CAD & Algorithms (2-0-4) 4	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0) 2	Management Course (2-0-0) 2		GP6 1 Credits	360	18 + 1= 19
Summers	**ECT 301 Industrial Internship**									**03**
7	ECD401 Project # 1 (0-0-20) 10	Foreign Language (2-0-0) 2	SML300 Entrepreneurship (2-0-0) 2	ECL461 Embedded System and VLSI Industry: Employment & Higher Studies Trends (2-0-3) 3.5	Open Elective (MOOC) (2-0-2) 3			GP7 1 Credits	410	20.5 +1 =21.5
8	ESD402 Project # 2 / Internship (0-0-36) 18	Self-Study Course GATE Audit	CSL436 AI and Ethics (Online) (S/NS) Audit					GP8 1 Credits	360	18 + 1= 19
							Total Credits			**166**

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of B-Tech in ECE with specialization in Embedded Systems & VLSI Design

Embedded and VLSI Industry are the future of Indian and Global Electronics and Computer industry. This world of electronics and computer engineers has tremendous growth opportunities in various sectors as, Domestic Electronics, Medical Science, Automobile, Aircraft, Mobile, Computing, IoT, Entertainment, Banking, Robotics, and many more. The demand for the Embedded and VLSI design engineers is quite high in India to develop Systems, Software, Hardware-Software Co-design Models, SoC, ASIC, Standard Cells, and Verification. This course aims to prepare students to be industry ready for Embedded Systems and Semiconductors Industry segment for the PAN India and Global market. Also, since India is running short in skilled workforce in Embedded Systems and VLSI Design, this course of BTech in ECE with Specialization in Embedded Systems and VLSI Design shall create skilled and productive engineers for these industries in order to fulfill the skills shortage gaps.

Learning Outcomes of this Track:

Students will have:

1. To develop the concepts of automation during the design cycle phase by compiling on Linux OS and using Scripting Languages.
2. To analyze and implement the fundamental concepts of designing of Digital and Analog circuits and systems using CMOS devices and standard cells.
3. To apply the CMOS design rules, static and dynamic logic structures, interconnect analysis, CMOS chip layout, simulation, verification, testing, and low power techniques in the VLSI system and sub-system design.
4. To plan, create and implement the hardware, software, Co-design design test models at the complex embedded systems in our day to day life.
5. To evaluate, describe, validate and optimize embedded electronic systems in different areas of industrial application such as automobile, aircraft, house-hold, communications, robotics, etc.
6. To use the embedded and VLSI tools and technologies to meet the real world challenges and propose suitable solution for them.

Career Options:

- RTL Design Engineer
- Verification Engineer
- Synthesis Engineer
- Software Testing
- DFT Engineer
- Product & Validation Engineer
- FPGA Engineer
- Physical Design Engineer
- Layout Design Engineer
- Analog Design Engineer
- SoC Design Engineer
- EDA Development
- Firmware Developer Engineer-WLAN/CAN/RTOS/FPGA
- Microcontroller/Device Driver Engineer
- System Architecture Engineer
- Android Middleware Validation Engineer
- Software & Automotive Engineers
- Hardware Design Engineer
- System Testing Engineer

BTech in Mechanical Engineering (with option of specialization) (2019-20)

Semester	Course Code Course Name (L-T-P)C							General Proficiency Courses	Software Skill Enhancement/Soft Skill Development/ Competitive Exam Preparation	Lecture Courses	L	T	P	Weekly Contact\ Total	Credits
I	MAL151 Engineering Maths-I (3-0-2) 4	CSL106 FOCP-I (2-0-6) 5	CHL150 Engg Chemistry (1-0-3) 2.5	CLL101 Effective Communica-tion- I (2-0-0) 2	MEP110 Engg Graphics & Drg. (1-0-3) 2.5	CLL120 Human Values and Professional Ethics (1-0-1) 1.5	CSL110 Problem Solving & Design Thinking (0-0-4) 2	MER118 General Proficiency (--) 1		6	10	--	19	29	20.5
II	MAL152 Engineering Maths-II (3-0-2) 4	CSL108 FOCP-II (2-0-6) 5	PHY150 Engg Physics (3-0-2) 4	CLL102 Effective Communica-tion-II (2-0-0) 2	MEL150 Basic of Mechanical Engineering (1-0-3) 2.5	ECL110 Basic of Electrical & Electronics Engineering (2-0-2) 3		MER119 General Proficiency (--) 1		6	13	--	15	28	21.5
	MED 210: Minor Project														**02**
III	MEL215 Production Engineering (3-0-2) 4	MEL203 Mechanics of Solids-I (3-0-2) 4	MEL290 Thermody namics (3-1-0) 4	MEL205 Engg. Mechanics (3-1-0) 4	MEP207 M/c Drawing (0-0-4) 2	OE-1 3 Credits		MER218 General Proficiency (--) 1	MEP200 Special Software Solidworks/ANSYS/ MATLAB/other software packages (0-0-2) 1	5	15	2	10	27	23
IV	MEL 314 Energy Conversion (3-0-2) 4	MEL206 Theory of Machines (3-1-0) 4	MEL208 Fluid Mechanics (3-1-0) 4	MEL209 Materials Science and Engg. (2-0-2) 3	OE-2 3 Credits	CLP120 Creative Writing (0-0-2) 1		MER219 General Proficiency (--) 1	MEP220 Special Software Solidworks/ANSYS/ MATLAB/other software packages (0-0-2) 1	5	14	2	8	24	21
	MET 310: Industrial Training I														**02**
V	MEL202 Heat and Mass Transfer (3-1-2) 5	MEL207 Machine Design I (3-1-0) 4	MEL303 Fluid Machines (2-1-2) 4	OE-3 (Foreign Language) (1-2-0) 3	OE-4 3 Credits	MEC321 Seminar 1 Credit		MER318 General Proficiency (--) 1	MEP300 Special Software Solidworks/ANSYS/ MATLAB/other software packages (0-0-2) 1	5	12	5	6	23	22
VI	MEL 326 Instrumen-tation & Control Eng (3-0-2) 4	MEL 310 Industrial Engg (3-1-0) 4	MEL 328 Machine Design II (2-2-0) 4	CHL100 Environmental Studies (3-0-0) 3	OE-5 3 Credits	MED320 Project Based Learning Tinkering lab. 1 Credit		MER319 General Proficiency (--) 1	CLP300 Campus to Corporate (0-0-2) 1	5	14	3	4	21	21
	MET 410: Industrial Training-II														**03**
VII	MED423 Major Project Part I Credits-4	MEL401 Operations Research (2-1-0) 3	PE-1 3 Credits	PE-2 3 Credits	PE-3 3 Credits	PE-4 3 Credits		MER418 General Proficiency (--) 1		5	14	1		15	20
VIII	MED424 Major Project Part II Credits-6	PE-5 3 Credits	PE-6 3 Credits			Optional pre-placement training (6 credits). Student opting for it is not required to register for PE-5 & PE-6	MER419 General Proficiency (--) 1	SEG400 Self Study Course GATE NC		2	6			6	13
CORE COURSES = 109 (BS=20.5, ESTA=30, HMS=10.5, PC=48); ELECTIVE COURSES = 30 (HMS=3, OE=9, PE=18); SPT = 19 ; VA = 3 ; GP = 8										**TOTAL CREDITS = 169**					

NCU THE NORTHCAP UNIVERSITY ® NAAC ACCREDITED (Formerly ITM University, Gurugram)

Name of Specialization	Set of Programme Electives for Specialization					
	4th year					
	PE-1, PE-2, PE-3,PE-4					
Thermal Engineering	MEL 312 ICE & GT (2-0-2) 3	MEL 402 RAC (2-1-2) 4	MEL 404 Power Plant Engineering (2-1-0) 3	MEL -611-TH Renewable Energy Systems (2-1-0) 3	MEL 410 Design of Thermal Systems (2-1-0) 3	MEL 621-TH Analysis of IC Engine systems (2-1-0) 3
Mechanical Engineering Design	MEL 315 Mechanics of Solids II (2-1-0) 3	MEL 625-MD Vibration and Noise Engineering (2-0-2)3	MEL 627-MD Mechatronics (2-0-2)3	MEL 510 Introduction to FEM (2-1-0) 3	MEL 420 Advanced Theory of Machines (2-0-2) 3	MEL 560 Advanced Machine Design (2-1-0) 3
Industrial & Production Engineering	MEL 318 Modern Manufacturing Processes (3-0-0) 3	MEL 403 Computer Aided Manufacturing (2-0-2)3	MEL 627-MD Mechatronics (2-0-2)3	MEL 408 Quality Assurance and Reliability Engineering (2-1-0) 3	MEL 412 Supply Chain Management (2-1-0) 3	MEL 570 Production & Operations Management (2-1-0) 3
Automobile Engineering	MEL 625-MD Vibration and Noise Engineering (2-0-2)3	MEL 319 Automobile System Engineering (2-1-0) 3	MEL 418 Vehicle Development and Testing (2-1-0) 3	MEL 627-MD Mechatronics (2-0-2)3	MEL 409 Emerging Automotive Technologies (2-1-0) 3	MEL 613-AE Automotive Safety (2-1-0) 3

Minimum and maximum number of registered students in each elective should be 20 and 60 respectively.

Highlights of BTech in Mechanical Engineering with specialization in Industrial/ Production Engineering

Specialization in Industrial and production Engineering caters to the combined knowledge of manufacturing technology and managing industrial processes, and applying that knowledge to produce quality products. An industrial and production engineer is expected to process wide knowledge of preferred engineering practices and awareness about the management challenges related to processes and mass production. The goal is to accomplish the production process in the smoothest, most-judicious and most-economic way. The specialization in this domain opens multiple avenues for the students aspiring to work in manufacturing industry within India and abroad. It prepares the students in gaining specials skills in context of advanced manufacturing system such as 3-D printing and CNC machining centers. The students will graduate with a special skill set and values to achieve professional goal in industrial and mechanical field.

Learning Outcomes of this Track:

- Design feasible project related to production by using various techniques, skills and modern engineering tools necessary for fabrication.
- Ability to identify, formulate and solve industrial engineering problems.
- Design and conduct experiments as well as to analyze and interpret data on completion of yearly based projects.
- Understanding of applications of industrial engineering in context of Social, Global and Economic environment.
- Explore the application of advance manufacturing process in all inter-disciplinary areas.

Career Options:

- Production Engineer
- Project Engineer
- Quality Control Engineer
- Design Engineer
- Industrial Engineer

NCU THE NORTHCAP UNIVERSITY Building the gap between the classroom and the real world (Formerly HTM University, Gurugram)

Highlights of BTech in Mechanical Engineering with specialization in Automobile Engineering

Automobile Engineering gained recognition and importance ever since motor vehicles capable of transporting passengers have been in vogue. The automobile sector has seen a rapid growth of auto component manufacturers and automobile industries, and there is a great demand for Automobile Engineers. This specialization deals with the designing, developing, manufacturing, testing, repairing and servicing automobiles such as cars, trucks, motorcycles, scooters etc; and the related sub-engineering systems. Specialization in automobile engineering will enable the students to work in the automotive industry, or pursue higher studies in this field.

Learning Outcomes of this Track:

Students will:

Design projects that leverage automotive engineering to enhance the outcomes of applications such computer aided drawing, design engineering and analysis.

Plan and design new vehicles or revise existing ones

A typical professional in this field spends a lot of time on researching and designing both systems and machines for automobiles. Research and develop in finding solutions to engineering problems

Automobile engineers generally tend to specialize in a particular area. The most common areas of specialization include exhaust systems, engines and structural designs. No matter what an engineer decides to specialize in, he or she is almost always required to work on all three aspects of the automobile engineering process; research, designing as well as testing.

Establish collaboration, mentorship, and professional leadership skills by working with other disciplines to deliver highly polished and completed projects.

Career Options:

- Automotive Engineer
- Calibration Engineer
- Graduate Engineer Trainee
- Design Engineer
- Quality Engineer

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of BTech in Mechanical Engineering with specialization in Design Engineering

Design Engineers are required in almost every sector be it automobile, aerospace, shipping, construction, IC design, medical equipment's, sports gears and office accessories etc. Industrial designers also carry out extensive research on latest design trends, market values, safety, texture, shape, safety weight and materials to be used before designing a product.

Learning Outcomes of this Track:

- subject specific technical knowledge and expertise
- commercial awareness of your specialist area of engineering
- an eye for detail and a methodical work process
- IT and CAD knowledge
- analytical and numeracy skills
- creative problem solving ability

Career Opportunities:

- aerospace and automotive industries
- computing and software development
- construction and building services
- design and engineering consultancies
- energy utilities, including nuclear
- government agencies, local authorities, hospitals and educational institutions
- industrial and domestic product manufacturers and retailers
- process industries, including pharmaceuticals, food and cosmetics
- oil and gas industries, including petrochemical industries
- transport and highways industries

Higher Education Prospects:

Students can even look at a postgraduate degree in industrial design/tool design/ machine design and automobile engineering. You can explore courses at the Industrial Design Centre at IIT, Powai or IDDC, IIT Delhi; CPMD, IISc Bangalore; design Programme, IIT Kanpur or NID, Ahmedabad, Srishti School of Art, Design and Technology, Bangalore or any reputed design college

---

Highlights of BTech in Mechanical Engineering with specialization in Thermal Engineering

These days development of any nation is directly linked to its energy self sufficiency which is not possible without efficient utilization of the available resources. Specialization in Thermal Engineering provides an edge to the students who want to pursue their career in the energy linked industries viz. power, refrigeration and air conditioning, renewable energy, design of internal engines etc.

Learning Outcomes of this Track:

- Analytical solution of conduction heat transfer problems
- Design and develop of thermal management systems viz. extended surfaces
- Computational analysis of thermal systems
- Optimization of thermal management systems
- Preparation of research articles
- Awareness about current state-of-the-art
- Eye for detail and a methodical work process
- Creative problem solving ability

Career Opportunities:

- Aerospace industry
- Automotive industry
- Defense industry
- HVAC industry
- Power industry
- Engineering education
- Thermal design and engineering consultancy
- Public sector government undertakings
- Process industry
- Oil, gas and petrochemical industry

Higher Education Prospects:

Students can pursue postgraduate degree at various premiere institutes, like IISc's, IIT's, NIT's, BARC etc., in the areas such as Thermal Engineering, Thermo-Fluid Engineering, Power Engineering, Automobile Engineering, Energy systems etc.

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Bachelor of Technology in Civil Engineering with Specialization in
a) Smart Infrastructure Development b) Construction & Project Management (2019-20)

Sem										Lecture Courses	L	T	P	Contact hours per week	Credits
I	MAL151 Engineering Mathematics I 3-0-2(4)	PYL150 Engineering Physics 3-0-2(4)	ECL110 BEEE 3-0-2(4)	MEL150 Basics of Mechanical Engineering 2-0-2(3)	CSL106 FOCP-1 1-0-2(2)	CLL101 Effective Communicati on I 1-0-2(2)			CER101 General Proficiency (1)	6	13	0	12	25	20
II	MAL152 Engineering Mathematics II 3-0-2(4)	CSL108 FOCP-II 1-0-2(2)	CLL 120 Human Values and professional Ethics 2-0-0 (2)	MEP110 Engineering Graphics & Drawing 1-0-3(3)	CHL150 Engineering Chemistry 2-0-2 (3)	CLL102 Effective Communicati on II 1-0-2(2)	CSL110 Problem Solving and design thinking 2-0-2(3)		CER102 General Proficiency (1)	6	12	0	13	25	20
	CET102 Summer Camp (2 weeks)														**02**
III	CEL 201 Mechanics of Solids 3-1-0(4)	CEL203 Fluid Mechanics 3-0-2(4)	CEL205 Surveying 3-0-2(4)	CEL210 Concrete Technology 3-0-0 (3)	CEL215 Building materials and construction 3-0-0(3)	CHL100 Environmental Studies 3-0-0(3)			CER201 General Proficiency (1)	6	18	1	4	23	22
IV	CEL202 Structural Analysis-I 3-1-0(4)	CEL206 Environment al Engineering 3-0-2(4)	CEL212 Transportation Engineering 3-0-0(3)	CEL214 Design of Concrete Structures 3-1-0 (4)	PE-1 (3)	CEP202 Material Testing Lab 0-0-4 (2)		Value Addition Course (1)	CER202 General Proficiency (1)	5	15	2	6	23	22
Summer	**CET212 Survey Camp with Software application (2 weeks) + Practical Training/Software (4 weeks)**														**02**
V	CEL301 Structural Analysis II 3-1-0(4)	CEL311 Soil Mechanics 3-0-2(4)	CEL315 Design of Steel Structures 3-1-0(4)	OE-1 (3)	OE-2 (Foreign Language) (3)	CEP302 Computer Aided Design and Drawing 0-0-2(1)			CER301 General Proficiency (1)	5	15	2	4	21	20
VI	CEL318 Earthquake Resistant Design of Structures 3-1-0 (4)	CEL303 Water Resource Engineering 3-0-0(3)	CEL222 Construction Management 3-0-0(3)	PE 2 (3)	OE-3 (3)	CLP 300 Campus to Corporate 0-0-2(1)	CEP 304 Technical Skills 0-0-2(1)	CEP306 Project Based Learning (Tinkering) (1)	CER302 General Proficiency (1)	5	15	1	4	20	20
Summer	**CET 330 Practical Training-II @ construction site (8-10 weeks)**														**03**
VII	PE 3 (3)	PE 4 (3)	PE 5 (3)	SML300 Entrepreneur-ship (3)	OE-4 (3)		CED304 Major Project(A) 0-0-8(4)	Value Addition Course (1)	CER401 General Proficiency (1)	5	15	0	8	23	21
VIII	*PE 6 (3)	*PE 7 (3)					CED405 Major Project (B) / Pre-Placement Internship 0-0-12(6)	SEG400 Self-Study Course GATE (Audit)	CER402 General Proficiency (1)	2	6	0	12	18	13
TOTAL															**165**
***Blended course(s) equivalent to 6 credits will be offered as MOOCs on platforms like SWAYAM, Coursera, NPTEL, edX etc. with 1 facilitation hour by internal faculty**															
University Level Courses, General Proficiency, Theory Courses, Open Elective courses, Lab Courses, Project based Learning, Program Elective Courses, Skill Development Courses															

NCU THE NORTHCAP UNIVERSITY
Bridging the gap between classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of B-Tech in Civil Engineering with specialization in 'Smart Infrastructure Development'

Change is continuous and every individual is striving to have his or her dream house. Civil industry is continuously upgrading itself towards smart facilities. Everything should be available at the fingertips. Smart home, smart surrounding will contribute to Smartcity, which will help the people for the easy and convenient life.

This specialization will prepare students to understand and implement principles of Smartcity. Smart infrastructure development introduces some key components of smart city infrastructure such as smart buildings, smart mobility, smart energy, smart water and waste management systems and highlights the need for an integrated approach in dealing with such infrastructure.

Learning Outcomes of this Track:

Students will have:

Overall understanding of Smart Infrastructure Development in current scenario.

Planning and Designing of smart city elements.

Effectively produce prototype models related to subject area.

Establish collaboration with other disciplines whenever required to deliver efficient and accurate projects.

Career Option:

Consultancy firm
On Site work
Entrepreneur
Govt. service
Higher Studies

Highlights of B-Tech in Civil Engineering with specialization in 'Construction Project Management'

Civil Engineers work in the heart of the busiest cities, see a skyscrapers, flyovers, metros, more efficient underground transport networks and in the remotest parts of the planet, bringing fresh water and reliable infrastructure to those who need it most. Besides new constructions, as infrastructure continues to age, there is huge to manage projects, rebuild bridges, repair roads, and upgrade levels and dams etc.

This specialization in Construction & Project Management introduces specific project management techniques that oversee the planning, design, and the construction of a project from start to finish. The most important aspects to control in construction are time, cost and quality. Special training on Primavera will be given to students.

Learning Outcomes of this Track:

Students will have:

Knowledge on basics project management for different case studies.

Effectively apply skill acquired in this area on fieldwork.

Effectively produce prototype models related to subject area.

Establish collaboration with other disciplines to deliver efficient and accurate projects.

Career Option:

Project Management
Consultanty firm
On Site work
Entrepreneure
Govt. service
Higher Studies

NCU
THE NORTHCAP UNIVERSITY
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

M.Tech. Computer Science and Engineering Specialization offered in
1.Data Sciences 2. Cyber Security

Sem	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	L	T	P	Weekly Contact Hours	credits
I	CSL501 Mathematical Foundations of Computer Science 3-0-0 (3)	CSL535 Advanced Data Structure 2-0-2 (3)	PE-1 2-0-2 (3)	PE-2 2-0-2 (3)	PE-3 2-0-2 (3)	OE-1 2-0-2 (3)	13	0	10	23	18
II	CSL502 Advanced Algorithms 2-0-2 (3)	PE-4 2-0-2 (3)	PE-5 2-0-2 (3)	CSL534 Programming Course 3-0-2 (4)	OE-2 2-0-2 (3)	MAL606 Research Methodology (2-1-0) 3	13	1	10	24	19
III	PE-6 2-0-2 (3)	CSD601 Dissertation-I 0-0-8 (4)	CSC602 Seminar 0-0-2 (1)				02	0	12	14	8
IV	CSD602 Dissertation-II 0-0-24 (12)						0	0	24	24	12
	Total Credits of the programme: 57										

NCU THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
(Formerly ITM University, Gurugram)

Data Science Specialization	Cyber Security Specialization
• Analytic Databases	• **Applied Cryptography**
• Machine Learning for Data Science	• **Cyber Security**
• Cloud Computing	• **Intrusion Detection and Prevention System**
• Text and Web Intelligence Analytics	• **Risk Management Policies and Principles**
• Big Data Analytics	• **Digital Forensics**
• Media Analytics	• **Security in Distributed System**
• Spatial and Temporal Data Analytics	• **Secure Coding and Software Vulnerability Lab**
• Social Media Analytics	• **Reverse Engineering and Malware Analysis**

M.Tech. Computer Science and Engineering with Specialization in Data Science:

The explosive growth of data coupled with the increasing demand on data management systems has made effective data science a necessity in several important and diverse application domains such as geographic information systems, healthcare, fundamental sciences, business and finance. The main objective of the program is to develop manpower for data and information management related jobs.

M.Tech. Computer Science and Engineering with Specialization in Cyber Security:

The technological evolution, internet and sharing of information have tremendously increased information threats to organizations and individuals making it a challenge for users and system administrators to ensure security. Due to the requirement of sophisticated knowledge and tools to keep systems secure, there is a big need in India and around the world for information security professionals who are well educated about the various aspects of Cyber Security. The main objective of this program is to develop students to become Cyber Security professionals in the IT industry.

Department of EECE M. Tech Electronics and Communication Engineering With specialization in i) Communication Engineering ii) VLSI Design

Sem	Course Code & Name						Modular Course	Lecture	L	T	P	Week Cont.	Credits
I	ECL501 Digital Signal Processing 3-0-2(4)	ECL503 Advanced Processors 3-0-2(4)	ECL505 Adv. Digital Communica-tion 3-0-2(4)	ECL523 Digital VLSI Design 3-0-2(4)		ECC509 Seminar 0-0-4(2)	ECV529 Linux/Scripting / Emerging Technologies/PDP 0-0-2(1)	4	12	0	10	22	19
II	ECL582 Data structures & algorithms using C++ 3-0-2(4)	Program Elective Elective-1 2-0-2(3)	Program Elective Elective-2 2-0-2(3)	Open Elective-I 2-0-2(3)	MAL606 Introduction to Research Methodology 2-1-0(3)	ECD512 Minor Project 0-0-4(2)	ECV539 Project Management 0-0-2(1)	5	11	1	10	22	19
III	Program Elective Elective-3 2-0-2(3)	Open Elective-2 2-0-2(3)				ECD605 Dissertation (Phase-1) 0-0-8(4)	ECV 609 Special software Package/Emerging Technologies 0-0-2(1)	2	4	0	6	10	11
IV	ECD602 Dissertation (Phase-2) 0-0-24(12)					ECV604 Laboratory* Teaching Training 4hrs/week		0	0	0	24	0	12
												54	**61**

* Laboratory teaching training is included in fourth semester where students will be associated with faculty in the lab.

NCU THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Department of EECE MTech Electives

TRACK I: Communication Engineering			TRACK II: VLSI Design		
Sem II		Sem III	Sem II		Sem III
PE-1	PE-2	PE-3	PE-1	PE-2	PE-3
ECL506 Optical Communication	ECL502 Digital Image Processing	ECL564 Soft Computing	ECL525 Semiconductor device modeling and Technology	ECL534 CMOS RF Circuit Design	ECL629 Cryptography and Crypto Chip Design
ECL517 Information Theory and Coding	ECL504 Modern Telecom Switching	ECL576 Network Security	ECL527 Digital System Design with Verilog HDL	ECL530 Computer Aided VLSI Design	ECL631 Design of VLSI systems
ECL535 Microwave Theory and Circuits	ECL508 Wireless Mobile communication	ECL578 Broadband Communication	ECL531 Design and Analysis of Computer Architecture	ECL538 Hardware Software CoDesign	ECL633 Mixed Signal Design
ECL537 Detection and Estimation Theory	ECL562 Millimeter Wave Integrated Circuits	ECL621 Statistical Signal Procesing	ECL536 VLSI Fabrication and Technology	ECL540 Real Time Systems and Software	ECL635 Microwave and Optoelectronic Devices
ECL539 Speech Communication	ECL570 Internet of Things	ECL623 Network Management	ECL532 Embedded System Design	ECL542 Designing with ASICs	ECL637 VLSI Test and Testability
ECL532 Embedded System Design	ECL572 Modern Antennas and Arrays	ECL611 Mobile Computing	ECL542 Special Topics in VLSI Design	ECL528 Analog VLSI Design	ECL524 Low Power VLSI Design
ECL516 Special Topics in Electronics and Communication	ECL555 Special Toics in Electronics and Communication	ECL653 Telecom Systems and Technologies		ECL570 Internet of Things	ECL625 ASIC Design and Verification with SV
		ECL655 Access Networks			ECL627 MEMS
		ECL657 Wireless Sensor Networks			

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

MTech:

1) MTech in Electronics & Communication Engineering with specialization in Communication Engineering
   The specialization in Communication Engineering has been designed to meet the present and future skills in demand in electronics and communication industry and research. It involves advanced and state of the art courses of study such as Signal Processing, Digital & Analog Communications, Data Communications, Optical communications, Image Processing, Data Structures, Digital VLSI Design, Soft Computing, Broadband Communications, Mobile Computing, IoT, etc.

2) M.Tech in Electronics & Communication Engineering with specialization in VLSI Design
   The specialization in VLSI Design has been designed to meet the present and future skills in demand in Electronics and VLSI Design industry and research. It involves advanced and state of the art courses of study such as Linux and Scripting, Analog and Digital VLSI Design, RTL Design and Synthesis, VerilogHDL, Layouts Design, Data Structures and Algorithms, RTL Verification, Signal Processing, IoT, etc.

MTech in Mechanical Engineering with specialization offered in 1. Thermal Engineering 2. Mechanical Engineering Design

Semester/ Subject	Course-1	Course-2	Course-3	Course-4	Course-5	Lecture Courses	L	T	P	Class Contact Hour per Week	Credits
Sem-1	MEL-570 Production and Operation Management (2-0-2) 3	MEL-510 Introduction to FEM (2-0-2) 3	MEL-613-IP Project Management (2-0-2) 3	MEL-530 Advanced Manufacturing Processes (2-0-2) 3	MEL-580 Advanced Fluid Dynamics (2-0-2) 3	5	10	--	10	20	15
Sem-2	MEL-550 Advanced Heat and Mass Transfer (2-0-2) 3	MEL-560 Advanced Machine Design (2-0-2) 3	Open Elective-1 (2-0-2) 3	Programme Elective-1 (2-0-2) 3	MAL616 Intro. To Research Methodology (2-1-0) 3	5	10	1	8	19	15
Sem-3	MED-600 Dissertation Part -1 (--) 4	MEC-620 Seminar (2-0-0) 2	Open Elective-2 (2-0-2) 3	Programme Elective-2 (2-0-2) 3	Programme Elective-3 (2-0-2) 3	4	8	--	6	14	15
Sem-4	MED-610 Dissertation Part -2 (--) 12					0	0	--	0	0	12
Programme Core Course Credits: 21; Programme Elective Credits : 9; Open Elective Credits: 6; Common Core Course Credits for all M.Tech programmes: 3; Major Project Credits : 16; Seminar Credits : 2; Total Credits = 57											

NCU THE NORTHCAP UNIVERSITY®
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

List of Programme Elective Courses

PROGRAMME ELECTIVE-1, 2 & 3 (For Specialization in Mechanical Engineering Design)	**PROGRAMME ELECTIVE-1, 2 & 3 (For Specialization in Thermal Engineering)**
MEL603-MD Design for manufacturing Assembly	MEL601-TH Computational Fluid Dynamics and Heat Transfer
MEL607-MD Advanced Mechanics of Solids	MEL609-TH Modern Power Plants
MEL617-MD Composite Materials	MEL-611-TH Renewable Energy Resources
MEL625-MD Vibration & Noise Engineering	MEL621-TH Analysis of IC Engine
MEL627-MD Mechatronics	MEL520-Advanced Thermodynamics
OTHER PROGRAMME ELECTIVE	
MEL590 Selected Topics in Mechanical Engineering	

About Specializations

1. In this Programme there are two options available to the students:

   a. Either student can opt for M.Tech in Mechanical Engineering

   b. Or he/she can opt for M.Tech in Mechanical Engineering (with specialization).

2. If the student wants to get M.Tech in Mechanical engineering (with specialization), then areas in which he/she can do specialization are as follows:

   a. Thermal Engineering

   b. Mechanical Engineering Design

3. If the student is willing to do M.Tech in Mechanical Engineering (without specialization), then he/she is free to take all the three electives (ProgrammeElective - 1, 2, 3) from any of the streams or from other programme elective courses and the student will be free to do Major Project in any of the streams pertaining to mechanical engineering.

4. If the student is willing to do M.Tech in Mechanical Engineering (with specialization), then he/she will have to take all the three electives (Programme Elective - 1, 2, 3) from any one of the streams mentioned above in which he/she is willing to pursue specialization. The student who opts for the option of specialization will have to do Major Project in the same stream in which he/she is willing to do specialization.

   (E.g. – If the student is willing to do M.Tech in Mechanical Engineering with specialization in Mechanical Engineering Design,then the student will have to take Programme Elective - 1, 2, 3 from the courses mentioned under Mechanical Engineering Design.

5. If the student is willing to do M.Tech in Mechanical Engineering (with specialization) then he/she will be issued a separate certificate of specialization on completion of the Programme along with the degree of M.Tech in Mechanical Engineering.

MTech in Civil Engineering
(with specialization in Structural Engineering / Environmental Engineering / Construction Engineering & Management)

Sem	Course Name						Skill Development Program/Module courses	Lecture Courses	L	T	P	Contact hours per week	Credits
I	CEL513 Civil Engineering Materials & Composites 2-0-2(3)	CEL515 Construc-tion Methods & Equipment 2-0-2(3)	CEL505 Green Building Design and Rating 2-0-2 (3)	CEL507 Rehabilita-tion & retrofitting of structures 2-0-2 (3)	CEL509 Safety and Reliability Analysis 2-0-2 (3)	CEC501 Seminar & General Proficiency 0-0-2(1)	Soft-skill developmen t program 0-0-4(2)	5	10	0	16	26	18
II	OE-I 2-0-2(3)	PE-1 2-0-2(3)	PE-2 2-0-2(3)	PE-3 2-0-2 (3)	PE-4 2-0-2 (3)	MAL616 Introduction to Research Methodology 2-1-0 (3)		6	12	1	10	23	18
Summer Internship/Software training/Mini-Project													**02**
III	OE-II 2-0-2(3)	PE-5 2-0-2 (3)				CED601 Dissertation Part-I 0-0-8(4)	Laboratory Teaching Training 4hrs/week 0-0-4(2)	2	4	0	16	20	12
IV						CED602 Dissertation Part-II 0-0-16(8)		0	0	0	16	8	08
						Total							**58**

NCU THE NORTHCAP UNIVERSITY ®
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Highlights of MTech in Civil Engineering with specialization in 'Structural Engineering'

Specialization in Structural Engineering involves advanced study of the course's components such as Structural Mechanics, Finite Element Analysis, Structural Dynamics, Structural Reliability and Optimization, Reinforced and Pre-Stressed Concrete, Steel Structures, Design for Wind and Earthquake, Tall Buildings And Towers, Computer Applications In Structural Engineering, etc. Structural engineers are concerned with the conception, analysis, design and construction of components or assemblies to resist loads arising from internal and external forces. Solid mechanics 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. 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

Learning Outcomes of this Track:

- Students will have a holistic approach emphasizing on structural engineering & building on the commonality of engineering structures at the levels of materials, mechanics, analysis and design.
- Students will be able to consistently and successfully apply fundamental Structural Engineering principles within their chosen engineering application area and use appropriate tools to solve problems in structural engineering
- Design and evaluate structural components and systems to meet the desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, constructability, and sustainability.
- 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.

Career Options:

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

Highlights of M-Tech in C&EE with specialization in 'Environmental Engineering'

M.Tech in Environmental Engineering (2 yrs Full-Time/ 3 yrs Part-Time) program is need of the hour program that focuses on effort to contain this menace and is a relatively new discipline emerged which provides excellent career opportunities. Environmental engineering is a multidisciplinary subject that borrows ideas from a number of different sciences as well as fields of engineering to understand environmental issues and designing engineered solutions for these issues. Typically, a program in this discipline includes concepts from physics, chemistry, and biology as well as civil, mechanical, electrical and chemical engineering. Apart from this, students will also learn about impact assessment, environmental management, and audit. However, most modules will be geared towards developing a comprehensive understanding of different forms of pollution, managing environmental resources and controlling waste.

Learning Outcomes of this Track:

- Will be able to apply the knowledge, techniques, skills and modern tools in the field of Energy and Environmental Engineering.
- Distinguish the different energy generation systems and learn about environmental impact assessment and mitigation methods.
- Understand the emerging challenges with sustainable technological solutions in the field of energy and environment.
- Understand the importance of energy efficiency and formulate energy conservation strategy for sustainable environment.
- Identify major factors that affect the atmosphere and the climate change, recognize the need to engage in lifelong learning through continuing education and research.

Career Options:

- Research & PhD
- Energy Managers/ Auditors
- Prospects in private & public sectors
- Project Manager

NCU
NOIDA CAMPUS
(Formerly ITM University, Gurugram)

Highlights of MTech in C&EE with specialization in 'Construction Engineering & Management'

M.Tech in Construction Engineering and Management program is an interdisciplinary program that focuses on the knowledge & skills required for several domains. It included planning, coordination and successful implementation of large Projects such as design and construction of structures and buildings, ship structures, aircraft, dams, roads, and bridges etc. It is a fusion of engineering and management. The M. Tech. program in Construction Engineering and Management gives the students an insight into scientific principles involved in the successful execution and management of construction projects. Latest technological trends and hands on software training in construction management are integral part of the program. All the courses offered as part of the programmer are designed with professional outlook towards the development of engineering and managerial skills of the graduates.

Learning Outcomes of this Track:

Students will:

- Understand the role of civil engineers in the Construction management industry and project life cycle.
- Effectively plan for a construction projects incorporating the constraints.
- Become efficient contract managers and draft contractual conditions and tenders.
- Understand the role of a HR Manager and effectively manage resources in an organization.
- Understand the need for quality management and inspections.
- Effectively carry out financial analysis for construction projects using different techniques.

Career Options:

- Construction Planning Engineer
- Project Manager
- Designers of Infrastructure Projects
- Planning Managers
- Quality Control Managers

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

BSc (Hons) Physics (2019-22)

Sem	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	GP	Cont hrs	Credits
I	Waves & Oscillations PYL 101 (3-0-0)3	Mathematical Physics I PYL 104 (3-1-0)4	Applied Mechanics PYL 103 (3-1-0)4	Electricity and Magnetism PYL 105 (3-0-2)4	Effective Communication-I CLL 101 (1-0-2) 2	Foreign Language Elective (1 2 0)3	PYR100 1	22	21
II	Optics PYL 102 (3-1-2) 5	Leadership SML150 (2 1 0) 3	Solid State Physics PYL 106 (3-0-2) 4	Quantum Mechanics PYL 108 (3-0-0)3	Effective Comm.-II CLL 102 (1-0-2)2	CLL 120 Human Values (2-0-0)2	PYR110 1	22	20
III	Electromagnetic Theory PYL 201 (3-0-2) 4	Thermal Physics PYL203 (3-0-2) 4	Statistical Mechanics PYL 205 (3-1-0) 4	Prog . Elec. I Lasers/ Nuclear, Particle and Astro physics/ Fundamentals of Electronic Communication PYL110 (3-1-0)4	EVS CH100 (3-0-0) 3	Open Elective I (3) 3	PYR200 1	24	23
IV	Atomic and Molecular Physics PYL204 (3-1-2) 5	Entrepreneurship SML300 (2 1 0) 3	Prog .Elec. II Non Linear Optics/Biophysics/ Polymer Composites ASL 310 (3-0-2)4	Open Elective II (3)3	Engg. Chemistry CHL150 (2-0-2)3		PYR220 1	20	19
V	Numerical h Analysis MAL310 (3-0-2) 4	Digital Electronics PYL 301 (3-1-2) 5	Prog .Elec.III (MOOC) Experimental and analytical Techniques/Fiber Optics/Microprocess or PYL303 (3-0-2)4	Open Elective III (3)3	Mathematical Physics II PYL202 (3-1-0) 4		PYR300 1	23	21
VI	Nuclear and Particle Physics PYL 302 (3-1-0)4	Electronic Devices PYL 304 (3-1-0)4	Prog . Elec. IV (MOOC) Optical Communication/ Thin films and Nanomaterials (3-0-2)4	Open Elective IV (3)3	Project (0-0-6)3	Creativity and innovation outcome (1) PYL 310	PYR330 1	16	20
Total								127	124

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Bsc (Hons) Mathematics (2019-22)

Sem	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	GP	Cont hrs	Credits
I	MAL 101 Calculus and Geometry 3-1-0(4)	MAL 103 Intro to Probability 3-1-0(4)	MAL 105 Algebra I 3-1-0(4)	CLL 101 Effective Comm.-I 1-0-2 (2)	CHL100 EVS 3-0-0 (3)	Foreign Language Elective (1-2-0)3	MAR 100 (1)	21	21
II	MAL 102 Analysis I 3-1-0(4)	MAL 104 Differential Equations I 3-1-0(4)	MAL 108 Algebra II 3-1-0(4)	SML 150 Leadership 2-1-0(3)	CLL 102 Effective Comm.-II 1-0-2 (2)	CLL 120 Human Values (2-0-0)2	MAR 110 (1)	20	20
III	MAL 201 Analysis II 3-1-0(4)	MAL 203 Differential Equations II 3-1-0(4)	MAL 205 Algebra III (3-1-0) 4	MAL 207 Operations Research (3-1-0) 4	Open Elective I 3 (3)		MAR 200 (1)	19	20
IV	SML300 Entrepreneurship 2-1-0 (3)	MAL 206 Mathematical Statistics 3-1-0(4)	MAL 308 Linear Algebra (3-1-0) 4	Prog.Elective II 3-0-2 (4) (Image Processing./ DBMS. / Data Visual.Tech.)	Prog. Elective I 3-0-2 (4) (Lin. Prog/ Math. Modelling/ Data Struc.Algos	Open Elective II 3 (3)	MAR 210 (1)	24	23
V	MAL 321 Mathematical Methods 3-1-0(4)	MAL 310 Numerical Analysis 2-1-2 (4)	MAL301 Data Analysis (3-0-2) 4	Prog.Elective III (MOOC) 3-0-2 (4) (Mechanics/ Statis. Modeling./ Number theory)	Open Elective III 3 (3)		MAR 300 (1)	22	20
VI	MAL 311 Intro. to Complex Analysis 3-1-0(4)	MAL 313 Integral & Vector Calculus 3-1-0(4)	Prog. Elective IV (MOOC) 3-0-2 (4) (Financial Maths/ Metric Space./ Predictive Analytics	Open Elective IV 3 (3)	Project (0-0-6)3	Creativity and innovation outcome (1) MAL 320	MAR 310 (1)	16	20
	Total							**122**	**124**

NCU
THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

MSc (Mathematics) (2019-21)

Sem	Course Code - Course Name- L-T-P(C)						GPA	Contact Hours Per Week	Credits
	Course 1	Course 2	Course 3	Course 4	Course 5				
I	MAL501 Advanced Linear Algebra 3-0-2(4)	MAL503 Ordinary Differential Equations 3-1-0(4)	MAL515 Computing and Programming 3-0-2(4)	MAL507 Complex Analysis 3-1-0(4)	MAL509 Statistical Inferences 3-0-2(4)		1	23	21
II	MAL502 Functional Analysis 3-1-0(4)	MAL504 Partial Differential Eq. 3-1-0(4)	MAL506 Numerical Analysis& Methods 3-0-2(4)	MAL508 Topology 3-1-0(4)	Programme Elective -1 3-0-2(4)	MAL 512 Creativity and innovation outcome (1)	1	22	22
III	MAL601 Discrete Mathematics & Automata Theory 3-1-0(4)	MAL 603 Methods of Applied Mathematics 3-1-0(4)	MAL 605 Fluid Mechanics 3-1-0(4)	Programme Elective -2 3-0-2(4) (MOOC)	Open Elective - 1 3(3)	MAD 609 Project 1 0-0-4(2)	1	20	22
IV	MAL602 Mathematical Programming 3-1-0(4)	MAL614 Measure Theory 3-1-0(4)	Programme Elective-3 3-0-2 (4) (MOOC)	Open Elective-2 3 (3)	MAL 616 Research Methodology 2-1-0 (3)	MAD 610 Project & Dissertation 0-0-8(4)	1	19	23
Total								**84**	**84**

NCU
NEHRU CAPITAL UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

ANNEXURES & FORMS

THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Application Fee Rs. 1000/-
(One Thousand Only)
(Non Refundable)

(To be filled by NCU)
Receipt No _____
Date ___/____/_____

NCU
THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

2ND CLEANEST UNIVERSITY in India
SWACHHATA AWARD - 2018
FROM GOVT OF INDIA

Established by the Haryana State Legislature under the Haryana Private Universities (Third Amendment) Act No. 25 of 2009, as amended vide Haryana Act No. 1 of 2016. Recognized by UGC u/s 2(f) of the UGC Act, 1956 with a right to confer degrees and included by UGC in their select list of approved Universities, available at www.ugc.ac.in (The NorthCap University, Gurugram has no other Centers/Campus in India or Abroad).

APPLICATION FORM FOR ADMISSION OF INDIAN NATIONALS TO

B.TECH PROGRAMMES FOR ACADEMIC SESSION 2019-2020

Write NA wherever not applicable. All fields are mandatory.

(All columns need to be filled in Capital letters with black ball point pen only)

PASTE FIRMLY YOUR RECENT COLOR PHOTOGRAPH OF GOOD QUALITY (SIZE 3.5 x 4.5 CMS)

1. Name of the Applicant (in English): .....
   Name of the Applicant (in Hindi): .....
2. Father's Name (in English): ..... (in Hindi) : .....
3. Mother's Name (in English): ..... (in Hindi) : .....
4. Local Guardian if any (Delhi/NCR) Name: ..... Mobile No. .....

5. CORRESPONDENCE ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

6. PERMANENT ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

7. Student Mobile No ..... 8. Parents Mobile No .....
9. Student E-mail ID ..... 10. Parents E-mail ID .....
11. Student's Aadhaar Card No. ☐☐☐☐☐☐☐☐☐☐☐☐ 12. PAN No. ☐☐☐☐☐☐☐☐☐☐
13. Date of Birth ..... Age as on 31/12/2019 .....
14. Gender: Male ☐ Female ☐ Transgender ☐ 15. Divyang ☐
16. Qualifying Exams (10th)
    HSB ☐ CBSE ☐ Other Indian Boards ☐ Foreign Board ☐
17. Name and Address of the School (10th) .....
    .....
    School Code ☐☐☐☐☐ Examination Centre Code ☐☐☐ Govt School ☐ Private School ☐
    Aggregate marks obtain in Class X ☐☐☐ 10th Roll No. ☐☐☐☐☐☐ CGPA/% of marks ☐

NCU THE NORTHCAP UNIVERSITY® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

18. **Qualifying Exams (10+2)**

HSB ☐ CBSE ☐ Other Indian Boards ☐ Foreign Board ☐

19. Name and Address of the School (10+2) .....

.....

School Code ☐ Examination Centre Code ☐ Govt School ☐ Private School ☐

20. **Aggregate Marks obtained in Class 10+2 or equivalent Results**

10+2 Roll No. ☐ **Year of Passing** ☐ **Maximum possible Marks in 10+2** ☐

Total Marks obtained in 10+2 ☐ Marks in Fifth Subject ☐ Aggregate % marks in 10+2 ☐

Subject	**Maths**	**Physics**	**English**	**Chemistry**	**Total of 4 Subjects**
Maximum Marks					
Marks Obtained					

21. **JEE Main 2019 (paper-1) Details**

	Roll No.	Application No.	Percentile Score	Maximum Marks	Marks obtained in (Paper-1)
Jan 2019				360	

	Roll No.	Application No.	Percentile Score	Maximum Marks	Marks obtained in (Paper -1)
April 2019				360	

22. **Domicile Details** (Application for Haryana Resident or Kashmiri Migrant students only) (Tick one only)

(a) Haryana General ☐ (b) SC ☐ (c) ST ☐ (d) OBC ☐ (e) Kashmiri Migrant ☐ (f) BCM ☐

23. **Total Annual Family Income from all sources** (in Rs. Lakhs only)**:** .....

24. Father's Occupation: Self Employed ☐ Govt. Job ☐ Private Job ☐ Farmer ☐ Others ☐

25. Mother's Occupation: Self Employed ☐ Govt. Job ☐ Private Job ☐ Farmer ☐ Others ☐

26. **How did you get information about The NorthCap University, Gurugram?**

Newspaper ☐ NCU Website ☐ Current Student of NCU ☐ Counselor ☐

Internet/Social Media ☐ Friends/relatives ☐ Alumni ☐ Other ☐

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

27. **A) BRANCH PREFERENCE** (Write your preference as First, Second, Third and Four against each programme. (DO NOT write your preference numerically). Applicant must fill all the choices with their order of preferences and if a preference is left blank, it will be presumed the applicant is not interested in the said branch. **However, to increase their chances of securing a seat, candidates are advised to fill in all the preferences for all branches and not to leave anyone blank.** No change of preference will be entertained later.

Programme Offered	**Orderwise Branch Preference Write only e.g. one, two three, four (in words only)**
B.Tech Computer Science & Engineering **(CSE)**	
B.Tech Electronics & Communication Engineering **(ECE)**	
B.Tech Mechanical Engineering **(ME)**	
B.Tech Civil Engineering **(CIVIL)**	

B. Specialization Options within a Branch

Computer Science and Engineering	**Orderwise Specialization Preference Write only e.g. one, two three, four, five, six (in words only)**
Full Stack Development	
Cyber Security	
Internet of Things (IOT) & Cloud Computing	
Data Science and Artificial Intelligence (AI)	
Game Technology, Augmented Reality (AR) and Virtual Reality (VR)	
No specialization Required	

Electronics & Communication Engineering	**Orderwise Specialization Preference Write only e.g. one, two, three (in words only)**
Internet of Things (IOT)	
Embedded Systems and VLSI Design'	
No specialization Required	

Mechanical Engineering	**Orderwise Specialization Preference Write only e.g. one, two three, four, five (in words only)**
Thermal Engineering	
Mechanical Engineering Design	
Industrial and Production Engineering	
Automobile Engineering	
No specialization Required	

Civil Engineering	**Orderwise Specialization Preference Write only e.g. one, two three(in words only)**
Smart Infrastructure Development	
Construction & Project Management	
No specialization Required	

Students have an option to change their specialization after 1st Semester.

27. Have you ever been convicted for any Criminal Offence? Yes ☐ No ☐

28. Is there any case pending against you before a Court/Police/ School/ University? Yes ☐ No ☐
(If yes, provide full details on a separate sheet of paper)

_____
SIGNATURE OF THE APPLICANT

DECLARATION BY THE PARENTS AND CANDIDATE

I, hereby declare that all the particulars stated in this Application Form are true to the best of my knowledge and belief. I also affirm that I have read in detail the University Admission Brochure 2019-20 of The NorthCap University, Gurugram including its fee structure and refund & cancellation policy before submitting this application and agree to unconditionally abide by the same. I understand that the decision of the University is final with regard to my admission. I promise to abide by the rules and regulations of the University as existing and as would be amended from time to time. If it is proved that I was admitted on false particulars and / or documents provided by me or my antecedents prove that my continuance in this University is not desirable, the University shall have the right to expel me from the University, besides being liable for legal action against me, at my cost. I agree that all disputes are subject to the jurisdiction of the court at Gurugram only. I also understand that a student from a University / Board not recognized by CBSE/AICTE/UGC/AIU/MHRD or any other statutory body of Government of India shall not be eligible for admission.

Place: _____ Signature of the Applicant _____

I have fully read the information furnished by my son / daughter / ward and affirm that it is true and correct. If any of the information or certificates provided to the University are false, I shall abide by the actions and decisions taken by the University, including termination of his/her admission besides, liable for legal action at my cost. Under the circumstances, all fees paid for whatsoever purpose shall stand fully forfeited. I have also read the contents of the declaration cum Undertaking signed by my son / daughter / ward and agree to abide by the same.

Dated: _____ Signature of the Parent(s) _____

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
(Formerly ITM University, Gurugram)

LIST OF ENCLOSURES (Self Attested)
TO BE SUBMITTED WITH THE APPLICATION FORM

1. Copy of Class X mark sheet (as proof of date of birth).
2. Copy of 10+2 (or equivalent) mark sheet.
3. Copy of JEE Main – 2019 Score Card.
4. Copy of Haryana Domicile/Haryana SC or Kashmiri Migrant Certificate (if applicable)
5. Copy of Student Aadhaar Card.

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Documents to be submitted and verified at the time of admission for B.Tech programmes

In addition to the fees, to secure their admission, students will be required to produce for verification/submission the following certificates in original:

SR. NO.	DOCUMENTS	ORIGINAL DOCUMENT REQUIRED	SELF ATTESTED PHOTOCOPY REQUIRED	DOCUMENTS TO BE RETURNED ON THE SPOT AFTER VERIFICATION & DEPOSIT OF FEES
1	Class X mark sheet (as proof of date of birth)	Yes	Yes	Yes
2	10+2 or equivalent mark sheet	Yes	Yes	Yes
3	JEE – 2019 Main (Paper-1) Roll Number (Admit Card)	Yes	Yes	Yes
4	JEE – 2019 Main (Paper-1) Score card (Result Card)	Yes	Yes	Yes
5	Character Certificate from school last attended	Yes	Yes	Yes
6	Certificate of Medical fitness from a registered medical practitioner	Yes	Yes	Yes
7	Passport (only if passed Class X from a foreign board)	Yes	Yes	Yes
8	Equivalence certificate from AIU (only if passed class XII from a foreign board)	Yes	Yes	Yes
9	Copy of Student Aadhaar Card	Yes	Yes	Yes
10	Migration Certificate for Class 10+2	Yes	Yes	No
11	Two copies of recent colour good quality photographs (Size 3.5 X 4.5 cms)	Yes	Yes	No
12	**Forms 1 to 4, as applicable**	Available as part of Application Form		

NCU THE NORTHCAP UNIVERSITY® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Application Fee Rs. 1000/-
(One Thousand Only)
(Non Refundable)

(*To be filled by NCU*)
Receipt No _____
Date ___/____/_____

NCU
THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

2ND CLEANEST UNIVERSITY in India
SWACHHATA AWARD - 2018
FROM GOVT OF INDIA

Established by the Haryana State Legislature under the Haryana Private Universities (Third Amendment) Act No. 25 of 2009, as amended vide Haryana Act No. 1 of 2016. Recognized by UGC u/s 2(f) of the UGC Act, 1956 with a right to confer degrees and included by UGC in their select list of approved Universities, available at www.ugc.ac.in (The NorthCap University, Gurugram has no other Centers/Campus in India or Abroad).

APPLICATION FORM FOR ADMISSION OF INDIAN NATIONALS TO

M.TECH PROGRAMMES FOR ACADEMIC SESSION 2019-2020

Write NA wherever not applicable. All fields are mandatory.

Programme Applied for M.Tech. in:

1st choice .....
2nd choice .....
3rd choice .....
4th choice .....

PASTE FIRMLY YOUR RECENT COLOR PHOTOGRAPH OF GOOD QUALITY (SIZE 3.5 x 4.5 CMS)

Whether applying for Full Time ☐ Part Time (Working Professionals) ☐

(All columns need to be filled in Capital letters with ball point pen only)

1. Name of the Applicant (in English): .....
   Name of the Applicant (in Hindi): .....
2. Father's Name (in English): ..... (in Hindi): .....
3. Mother's Name (in English): ..... (in Hindi): .....
4. Local Guardian if any (Delhi/NCR) Name: ..... Mobile No. .....

5. CORRESPONDENCE ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

PERMANENT ADDRESS (if different from correspondence address)

Address .....
.....
Town/City .....
State ..... Pin Code .....

6. Contact Details

Student Mobile No .....
Student E-mail ID .....
Landline no. with STD Code .....

Parents Mobile No .....
Parents E-mail ID .....
Landline no. with STD Code .....

NCU THE NORTHCAP UNIVERSITY® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

7. Student's Aadhaar Card No. ☐ 8. PAN No. ☐

9. Gender: Male ☐ Female ☐ Transgender ☐ 10 Divyang ☐

11. Date of Birth …… Nationality …….....…… Blood Group ……

12. Domicile Details - Applicable for Haryana Residents or Kashmiri Migrant only (Tick one only)

(a) Haryana General ☐ (b) SC ☐ (c) ST (d) OBC ☐ (e) Kashmiri Migrant ☐ (f) BCM ☐

13. Total Annual Family Income from all sources (in)……

Father's Occupation: Self Employed ☐ Govt. Job ☐ Private Job ☐ Farmer ☐ Others ☐

Mother's Occupation: Self Employed ☐ Govt. Job ☐ Private Job ☐ Farmer ☐ Others ☐

14. How did you get information about The NorthCap University, Gurugram?

Newspaper ☐ NCU website ☐ Current NCU Student ☐ Counselor /Faculty ☐ Internet ☐

Friend/Relative ☐ Alumni ☐

15. Qualifying Exams (10th)

HSB ☐ CBSE ☐ Other Indian Boards ☐ Foreign Board ☐

Name and Address of the School (10th) .....

.....

School Code ☐ Examination Centre Code ☐ Govt School ☐ Private School ☐

Aggregate marks obtain in Class X 10th Roll No. ☐ CGPA/% of marks ☐

16. Qualifying Exams (12th)

HSB ☐ CBSE ☐ Other Indian Boards ☐ Foreign Board ☐

Name and Address of the School (12th) .....

.....

School Code ☐ Examination Centre Code ☐ Govt School ☐ Private School ☐

Aggregate marks obtain in Class XII 12th Roll No. ☐ CGPA/% of marks ☐

NCU THE NORTHCAP UNIVERSITY © Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

17. Highest Qualification (Highest Qualification on the basis of which admission is sought):

(a) B.E./B. Tech./MCA/ M.Sc. degree; specify whether completed or appeared in the final exam: Appearing/Completed

Qualifying Degree Examination Passed	Name & Address of University	Whether Govt. or Private	Discipline	Year of Passing	%age of Marks/ CGPA	Qualifying Degree through Full-time/ Part-time/ distance mode (Please mention clearly)

Note: For candidates awaiting the final result of the qualifying degree, the admission will be provisional and at the time of provisional admission, the candidates should have cleared all the courses upto the pre final semester.

18. Whether a valid GATE score holder? (If yes, mention the percentile score, discipline and year):

GATE Percentile	Rank & Total number of candidates appeared	Discipline	Year

19. Have you ever been convicted for any Criminal Offence? Yes ☐ No ☐

20. Is there any case pending against you before a Court/Police/ School/ University?

Yes ☐ No ☐ *(If yes, provide full details on a separate sheet of paper)*

For working professionals desirous of enrolling in six semesters (3 years) MTech Programme

21. Designation .....

22. Organization .....

23. Official Address .....

Office Phone No. .....

SIGNATURE OF THE APPLICANT

DECLARATION BY THE PARENTS AND CANDIDATE

I, hereby declare that all the particulars stated in this Application Form are true to the best of my knowledge and belief. I also affirm that I have read in detail the University Admission Brochure 2019-20 of The NorthCap University, Gurugram including its fee structure and refund & cancellation policy before submitting this application and agree to unconditionally abide by the same. I understand that the decision of the University is final with regard to my admission. I promise to abide by the rules and regulations of the University as existing and as would be amended from time to time. If it is proved that I was admitted on false particulars and / or documents provided by me or my antecedents prove that my continuance in this University is not desirable, the University shall have the right to expel me from the University, besides being liable for legal action against me, at my cost. I agree that all disputes are subject to the jurisdiction of the court at Gurugram only. I also understand that a student from a University / Board not recognized by CBSE/AICTE/UGC/AIU/MHRD or any other statutory body of Government of India shall not be eligible for admission.

Dated: _____ Signature of the Applicant _____

I have fully read the information furnished by my son / daughter / ward and affirm that it is true and correct. If any of the information or certificates provided to the University are false, I shall abide by the actions and decisions taken by the University, including termination of his/her admission besides, liable for legal action at my cost. Under the circumstances, all fees paid for whatsoever purpose shall stand fully forfeited. I have also read the contents of the declaration cum Undertaking signed by my son / daughter / ward and agree to abide by the same.

Dated: _____ Signature of the Parent (s) _____

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Documents to be submitted and verified at the time of admission for M.Tech programmes

In addition to the fees, to secure their admission, candidates will be required to produce the following certificates in original unless otherwise specified, and/or verification/submission as mentioned below.

True copy of the statement of marks showing that the applicant has passed the qualifying examination. In case, the result of the final semester examination has not been declared the admission to M.Tech. course would be provisional, based on the marks obtained up to pre-final examination. However, proof of having passed the qualifying examination is necessary and must be submitted on or before 15 August 2018. After which the admission will stand confirmed / cancelled as the case may be. In the event, the Provisional Admission is cancelled due to noncompliance of the admission criteria; **refund of fee other than the application fee will be permissible as per rules.** Students are cautioned to accept provisional admission keeping this in mind.

SR. NO.	DOCUMENTS	ORIGINAL DOCUMENT REQUIRED	SELF ATTESTED PHOTOCOPY REQUIRED	DOCUMENTS TO BE RETURNED ON THE SPOT AFTER VERIFICATION/ DEPOSIT OF FEE
1.	Class 10th mark sheet (as proof of date of birth)	Yes	Yes	Yes
2.	Class 12th Marksheet	Yes	Yes	Yes
3.	Degree Certificate/ Mark sheet of B. Tech./ B.E./ MCA/ M.Sc./ others (equivalent)/ latest available grades/ marks	Yes	Yes	Yes
4.	Valid GATE score card, if applicable	Yes	Yes	Yes
5.	Certificate of medical fitness from a registered medical practitioner	Yes	Yes	Yes
6.	Character certificate from the College/ University last attended	Yes	Yes	Yes
7.	Copy of Student Aadhaar Card	Yes	Yes	Yes
8.	NOC from the employers for working professionals	Yes	Yes	No
9.	Certificate of migration and transfer certificate	Yes	Yes	No
10.	Two copies of recent colour good quality photographs (Size 3.5 X 4.5 cms)	Yes	Yes	No
11.	**Forms 1 to 4, as applicable**	Available as part of Application Form		

NCU THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Application Fee Rs. 1000/-
(One Thousand Only)
(Non Refundable)

(*To be filled by NCU*)
Receipt No _____
Date ___/____/_____

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

2ND CLEANEST UNIVERSITY in India
SWACHHATA AWARD - 2018
FROM GOVT OF INDIA

Established by the Haryana State Legislature under the Haryana Private Universities (Third Amendment) Act No. 25 of 2009, as amended vide Haryana Act No. 1 of 2016. Recognized by UGC u/s 2(f) of the UGC Act, 1956 with a right to confer degrees and included by UGC in their select list of approved Universities, available at www.ugc.ac.in (The NorthCap University, Gurugram has no other Centers/Campus in India or Abroad).

APPLICATION FORM FOR ADMISSION OF INDIAN NATIONALS TO

BSc (Hons) MATHEMATICS FOR ACADEMIC SESSION 2019–2020

Write NA wherever not applicable. All fields are mandatory.

1. Name of the Applicant (IN CAPITAL LETTERS) .....
   Name of the Applicant (in Hindi) .....
2. Father's Name (in English) ..... (in Hindi) .....
3. Mother's Name (in English) ..... (in Hindi) .....
4. Local Guardian if any (Delhi/NCR) Name: ..... Mobile No. .....

PASTE FIRMLY YOUR RECENT COLOR PHOTOGRAPH OF GOOD QUALITY (SIZE 3.5 x 4.5 CMS)

5. CORRESPONDENCE ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

6. PERMANENT ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

7. Student Mobile No .....
8. Parents Mobile No .....
9. Student E-mail ID .....
10. Parents E-mail ID .....
11. Student's Aadhaar Card No. [ ]
12. Date of Birth ..... Age as on 31/12/2019 .....
13. Gender: Male [ ] Female [ ] Transgender [ ]
14. Divyang [ ]
15. PAN No. [ ]
16. Qualifying Exams (10th)
    HSB [ ] CBSE [ ] Other Indian Boards [ ] Foreign Board [ ]
17. Name and Address of the School (10th) .....
    .....
    School Code [ ] Examination Centre Code [ ] Govt School [ ] Private School [ ]
    Aggregate marks obtain in Class X 10th Roll No. [ ] CGPA/% of marks [ ]

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

18. **QUALIFYING EXAM (10+2)**

HSB ☐ CBSE ☐ Other Indian Board ☐ Foreign Board ☐

19. Name and Address of the School (10+2).....

.....

School Code ☐ Examination Centre ☐ CodeGovt ☐ School Private School ☐

20. **AGGREGATE MARKS OBTAINED IN 10+2**

10+2 Roll No. ☐ Year of Passing ☐ Maximum possible marks in 10+2 ☐

Marks obtained in 10+2 ☐ Aggregate % Marks in 10+2 ☐ Marks in other subjects ☐

SUBJECT / **SUBJECT NAME**	**SUB 1** / **MATHS**	**SUB 2** / **ENGLISH**	**SUB 3**	**SUB 4**	**SUB 5**	**TOTAL OF 5 SUBJECTS**
Maximum Marks						
Marks Obtained						

21. **Domicile Details** (Application for Haryana Resident or Kashmiri Migrant students only) (Tick one only)

(a) Haryana General ☐ (b) SC ☐ (c) ST ☐ (d) OBC ☐ (e) Kashmiri Migrant ☐ (f) BCM ☐

22. **Total Annual Family Income from all sources** (in ₹ Lakhs only)**:** .....

23. **Father's Occupation:** Self Employed ☐ Govt Job ☐ Private Job ☐ Farmer ☐ Others ☐

24. **Mother's Occupation:** Self Employed ☐ Govt Job ☐ Private Job ☐ Farmer ☐ Others ☐

25 **How did you get information about NCU University, Gurugram?**

Newspaper ☐ NCU Website ☐ Current Student of NCU ☐ Counselor ☐

Internet ☐ Friends/relatives ☐ Alumni ☐ Other ☐

26. Have you ever been convicted for any Criminal offence? Yes ☐ No ☐

27. Is there any case pending against you before a Court/Police/ School/ University: Yes ☐ No ☐

(If yes, provide full details on a separate sheet of paper)

SIGNATURE OF THE APPLICANT

NCU THE NORTHCAP UNIVERSITY® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

DECLARATION BY THE PARENTS AND CANDIDATE

I, hereby declare that all the particulars stated in this Application Form are true to the best of my knowledge and belief. I also affirm that I have read in detail the University Admission Brochure 2019-20 of The NorthCap University, Gurugram including its fee structure and refund & cancellation policy before submitting this application and agree to unconditionally abide by the same. I understand that the decision of the University is final with regard to my admission. I promise to abide by the rules and regulations of the University as existing and as would be amended from time to time. If it is proved that I was admitted on false particulars and / or documents provided by me or my antecedents prove that my continuance in this University is not desirable, the University shall have the right to expel me from the University, besides being liable for legal action against me, at my cost. I agree that all disputes are subject to the jurisdiction of the court at Gurugram only. I also understand that a student from a University / Board not recognized by CBSE/AICTE/UGC/AIU/MHRD or any other statutory body of Government of India shall not be eligible for admission.

Place: _____ Signature of The Applicant _____

I have fully read the information furnished by my son / daughter / ward and affirm that it is true and correct. If any of the information or certificates provided to the University are false, I shall abide by the actions and decisions taken by the University, including termination of his/her admission besides, liable for legal action at my cost. Under the circumstances, all fees paid for whatsoever purpose shall stand fully forfeited. I have also read the contents of the declaration cum Undertaking signed by my son / daughter / ward and agree to abide by the same.

Dated: _____ Signature of The Parent(s) _____

NCU
THE NORTHCAP UNIVERSITY ®
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

LIST OF ENCLOSURES (Self Attested) TO BE SUBMITTED WITH THE APPLICATION FORM

1. Copy of Class X mark sheet/ certificate (as proof of date of birth).
2. Copy of 10+2 mark sheet (or equivalent)
3. Copy of Haryana Domicile/Haryana SC or Kashmiri Migrant Certificate (if applicable)
4. Copy of Student's Aadhaar Card.

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Documents to be submitted and verified at the time of admission for BSc (H) (Maths) programme

In addition to the fees, to secure their admission, students will be required to produce the following certificates in original for verification/submission:

Sr. No.	DOCUMENTS	ORIGINAL DOCUMENT REQUIRED	SELF ATTESTED PHOTOCOPY REQUIRED	DOCUMENTS TO BE RETURNED ON THE SPOT AFTER VERIFICATION & DEPOSIT OF FEES
1.	Class X mark sheet/ Certificate (as proof of date of birth)	Yes	Yes	Yes
2.	10+2 or equivalent mark sheet - for admission in BSc (Hons) Mathematics	Yes	Yes	Yes
3.	Certificate of Migration	Yes	Yes	No
4.	Character certificate from School/ College last attended	Yes	Yes	Yes
5.	Certificate of Medical fitness from a registered medical practitioner.	Yes	Yes	Yes
6.	Two copies of good quality recent colour photographs (Size 3.5 X 4.5 cms)	Yes	Yes	Yes
7.	Copy of Student Aadhaar Card	Yes	Yes	Yes
8.	**Forms 1 to 4, as applicable**	Available as part of Application Form		

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Application Fee Rs. 1000/-
(One Thousand Only)
(Non Refundable)

(*To be filled by NCU*)
Receipt No _____
Date ___/____/_____

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

2ND CLEANEST UNIVERSITY in India
SWACHHATA AWARD - 2018
FROM GOVT OF INDIA

Established by the Haryana State Legislature under the Haryana Private Universities (Third Amendment) Act No. 25 of 2009, as amended vide Haryana Act No. 1 of 2016. Recognized by UGC u/s 2(f) of the UGC Act, 1956 with a right to confer degrees and included by UGC in their select list of approved Universities, available at www.ugc.ac.in (The NorthCap University, Gurugram has no other Centers/Campus in India or Abroad).

APPLICATION FORM FOR ADMISSION OF INDIAN NATIONALS TO

BSc (Hons) PHYSICS FOR ACADEMIC SESSION 2019–2020

Write NA wherever not applicable. All fields are mandatory.

1. Name of the Applicant (IN CAPITAL LETTERS) .....
   Name of the Applicant (in Hindi) .....
2. Father's Name (in English) ..... (in Hindi) .....
3. Mother's Name (in English) ..... (in Hindi) .....
4. Local Guardian if any (Delhi/NCR) Name: ..... Mobile No. .....

PASTE FIRMLY YOUR RECENT COLOR PHOTOGRAPH OF GOOD QUALITY (SIZE 3.5 x 4.5 CMS)

5. CORRESPONDENCE ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

6. PERMANENT ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

7. Student Mobile No .....
8. Parents Mobile No .....
9. Student E-mail ID .....
10. Parents E-mail ID .....
11. Student's Aadhaar Card No. [ ]
12. Date of Birth ..... Age as on 31/12/2019 .....
13. Gender: Male [ ] Female [ ] Transgender [ ]
14. Divyang [ ]
15. PAN No. [ ]
16. Qualifying Exams (10th)
    HSB [ ] CBSE [ ] Other Indian Boards [ ] Foreign Board [ ]
17. Name and Address of the School (10th) .....
    .....
    School Code [ ] Examination Centre Code [ ] Govt School [ ] Private School [ ]
    Aggregate marks obtain in Class X 10th Roll No. [ ] CGPA/% of marks [ ]

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

18. **QUALIFYING EXAM (10+2)**

HSB ☐ CBSE ☐ Other Indian Board ☐ Foreign Board ☐

19. Name and Address of the School (10+2).....

.....

School Code ☐ Examination Centre Code ☐ Govt School ☐ Private School ☐

20. **AGGREGATE MARKS OBTAINED IN 10+2**

10+2 Roll No. ☐ Year of Passing ☐ Maximum possible marks in 10+2 ☐

Marks obtained in 10+2 ☐ Aggregate % Marks in 10+2 ☐ Marks in other subjects ☐

SUBJECT / **SUBJECT NAME**	**SUB 1** / **PHYSICS**	**SUB 2**	**SUB 3**	**SUB 4**	**SUB 5**	**TOTAL OF 5 SUBJECTS**
Maximum Marks						
Marks Obtained						

21. **Domicile Details** (Application for Haryana Resident or Kashmiri Migrant students only) (Tick one only)

(a) Haryana General ☐ (b) SC ☐ (c) ST ☐ (d) OBC ☐ (e) Kashmiri Migrant ☐ (f) BCM ☐

22. **Total Annual Family Income from all sources** (in ₹ Lakhs only)**:** .....

23. **Father's Occupation:** Self Employed ☐ Govt Job ☐ Private Job ☐ Farmer ☐ Others ☐

24. **Mother's Occupation:** Self Employed ☐ Govt Job ☐ Private Job ☐ Farmer ☐ Others ☐

25. **How did you get information about NCU University, Gurugram?**

Newspaper ☐ NCU Website ☐ Current Student of NCU ☐ Counselor ☐

Internet ☐ Friends/relatives ☐ Alumni ☐ Other ☐

26. Have you ever been convicted for any Criminal offence? Yes ☐ No ☐

27. Is there any case pending against you before a Court/Police/ School/ University: Yes ☐ No ☐

(If yes, provide full details on a separate sheet of paper)

SIGNATURE OF THE APPLICANT

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

DECLARATION BY THE PARENTS AND CANDIDATE

I, hereby declare that all the particulars stated in this Application Form are true to the best of my knowledge and belief. I also affirm that I have read in detail the University Admission Brochure 2019-20 of The NorthCap University, Gurugram including its fee structure and refund & cancellation policy before submitting this application and agree to unconditionally abide by the same. I understand that the decision of the University is final with regard to my admission. I promise to abide by the rules and regulations of the University as existing and as would be amended from time to time. If it is proved that I was admitted on false particulars and / or documents provided by me or my antecedents prove that my continuance in this University is not desirable, the University shall have the right to expel me from the University, besides being liable for legal action against me, at my cost. I agree that all disputes are subject to the jurisdiction of the court at Gurugram only. I also understand that a student from a University / Board not recognized by CBSE/AICTE/UGC/AIU/MHRD or any other statutory body of Government of India shall not be eligible for admission.

Place: _____ Signature of The Applicant _____

I have fully read the information furnished by my son / daughter / ward and affirm that it is true and correct. If any of the information or certificates provided to the University are false, I shall abide by the actions and decisions taken by the University, including termination of his/her admission besides, liable for legal action at my cost. Under the circumstances, all fees paid for whatsoever purpose shall stand fully forfeited. I have also read the contents of the declaration cum Undertaking signed by my son / daughter / ward and agree to abide by the same.

Dated: _____ Signature of The Parent(s) _____

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
(Formerly ITM University, Gurugram)

LIST OF ENCLOSURES (Self Attested) TO BE SUBMITTED WITH THE APPLICATION FORM

1. Copy of Class X mark sheet/ certificate (as proof of date of birth).
2. Copy of 10+2 mark sheet (or equivalent)
3. Copy of Haryana Domicile/Haryana SC or Kashmiri Migrant Certificate (if applicable)
4. Copy of Student's Aadhaar Card.

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Documents to be submitted and verified at the time of admission for BSc (H) (Physics) programme

In addition to the fees, to secure their admission, students will be required to produce the following certificates in original for verification/submission:

Sr. No.	DOCUMENTS	ORIGINAL DOCUMENT REQUIRED	SELF ATTESTED PHOTOCOPY REQUIRED	DOCUMENTS TO BE RETURNED ON THE SPOT AFTER VERIFICATION & DEPOSIT OF FEES
1.	Class X mark sheet/ Certificate (as proof of date of birth)	Yes	Yes	Yes
2.	10+2 or equivalent mark sheet - for admission in BSc (Hons) Mathematics	Yes	Yes	Yes
3.	Certificate of Migration	Yes	Yes	No
4.	Character certificate from School/ College last attended	Yes	Yes	Yes
5.	Certificate of Medical fitness from a registered medical practitioner.	Yes	Yes	Yes
6.	Two copies of good quality recent colour photographs (Size 3.5 X 4.5 cms)	Yes	Yes	Yes
7.	Copy of Student Aadhaar Card	Yes	Yes	Yes
8.	**Forms 1 to 4, as applicable**	Available as part of Application Form		

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Application Fee Rs. 1000/-
(One Thousand Only)
(Non Refundable)

(To be filled by NCU)
Receipt No _____
Date ___/____/_____

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

2ND CLEANEST UNIVERSITY in India
SWACHHATA AWARD - 2018
FROM GOVT OF INDIA

Established by the Haryana State Legislature under the Haryana Private Universities (Third Amendment) Act No. 25 of 2009, as amended vide Haryana Act No. 1 of 2016. Recognized by UGC u/s 2(f) of the UGC Act, 1956 with a right to confer degrees and included by UGC in their select list of approved Universities, available at www.ugc.ac.in (The NorthCap University, Gurugram has no other Centers/Campus in India or Abroad).

APPLICATION FORM FOR ADMISSION OF INDIAN NATIONALS TO

MSc MATHEMATICS FOR ACADEMIC SESSION 2019–2020

Write NA wherever not applicable. All fields are mandatory.

1. Name of the Applicant (IN CAPITAL LETTERS) .....
   Name of the Applicant (in Hindi) .....
2. Father's Name (in English) ..... (in Hindi) .....
3. Mother's Name (in English) ..... (in Hindi) .....
4. Local Guardian if any (Delhi/NCR) Name: ..... Mobile No. .....

PASTE FIRMLY YOUR RECENT COLOR PHOTOGRAPH OF GOOD QUALITY (SIZE 3.5 x 4.5 CMS)

5. CORRESPONDENCE ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

6. PERMANENT ADDRESS

Address .....
.....
Town/City .....
State ..... Pin Code .....

7. Student Mobile No .....
8. Parents Mobile No .....
9. Student E-mail ID .....
10. Parents E-mail ID .....
11. Student's Aadhaar Card No. [ ]
12. Date of Birth ..... Age as on 31/12/2019 .....
13. Gender: Male [ ] Female [ ] Transgender [ ]
14. Divyang [ ]
15. PAN No. [ ]
16. Qualifying Exams (10th)
    HSB [ ] CBSE [ ] Other Indian Boards [ ] Foreign Board [ ]
17. Name and Address of the School (10th) .....
    .....
    School Code [ ] Examination Centre Code [ ] Govt School [ ] Private School [ ]
    Aggregate marks obtain in Class X 10th Roll No. [ ] CGPA/% of marks [ ]

NCU THE NORTHCAP UNIVERSITY Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

18. Qualifying Exams (12th)

HSB ☐ CBSE ☐ Other Indian Boards ☐ Foreign Board ☐

Name and Address of the School (12th) .....

.....

School Code ☐ Examination Centre Code ☐ Govt School ☐ Private School ☐

Aggregate marks obtain in Class XII ☐ 12th Roll No. ☐ CGPA/% of marks ☐

19. Date of Birth ..... Age as on 31/12/2019 .....

20. Gender: Male ☐ Female ☐ Transgender ☐ 21. Divyang ☐

22. **QUALIFYING EXAM (BSc OR EQUIVALENT)**

Bsc ☐ BA ☐ BTech/BE ☐ Foreign University ☐

Name and address of the College ☐

Name and address of the University ☐

Year of Passing ☐ Govt College ☐ Private College ☐

23. **MARKS OBTAINED IN BSc OR EQUIVALENT**

SUBJECT	**MATHS**	**OVER ALL**
Maximum Marks		
Marks Obtained		

24. **Domicile Details** (Application for Haryana Resident or Kashmiri Migrant students only) (Tick one only)

(a) Haryana General ☐ (b) SC ☐ (c) ST ☐ (d) OBC ☐ (e) Kashmiri Migrant ☐ (f) BCM ☐

25. **Total Annual Family Income from all sources** (in ₹ Lakhs only): .....

26. **Father's Occupation:** Self Employed ☐ Govt Job ☐ Private Job ☐ Farmer ☐ Others ☐

27. **Mother's Occupation:** Self Employed ☐ Govt Job ☐ Private Job ☐ Farmer ☐ Others ☐

28. **How did you get information about The NorthCap University, Gurugram?**

Newspaper ☐ NCU Website ☐ Current Student of NCU ☐ Counselor ☐

Internet ☐ Friends/relatives ☐ Alumni ☐ Other ☐

29. Have you ever been convicted for any Criminal offence? Yes ☐ No ☐

30. Is there any case pending against you before a Court/Police/ School/ University: Yes ☐ No ☐
(If yes, provide full details on a separate sheet of paper)

SIGNATURE OF THE APPLICANT

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

DECLARATION BY THE PARENTS AND CANDIDATE

I, hereby declare that all the particulars stated in this Application Form are true to the best of my knowledge and belief. I also affirm that I have read in detail the University Admission Brochure 2019-20 of The NorthCap University, Gurugram including its fee structure and refund & cancellation policy before submitting this application and agree to unconditionally abide by the same. I understand that the decision of the University is final with regard to my admission. I promise to abide by the rules and regulations of the University as existing and as would be amended from time to time. If it is proved that I was admitted on false particulars and / or documents provided by me or my antecedents prove that my continuance in this University is not desirable, the University shall have the right to expel me from the University, besides being liable for legal action against me, at my cost. I agree that all disputes are subject to the jurisdiction of the court at Gurugram only. I also understand that a student from a University / Board not recognized by CBSE/AICTE/UGC/AIU/MHRD or any other statutory body of Government of India shall not be eligible for admission.

Place: ..... Signature of the Applicant .....

I have fully read the information furnished by my son / daughter / ward and affirm that it is true and correct. If any of the information or certificates provided to the University are false, I shall abide by the actions and decisions taken by the University, including termination of his/her admission besides, liable for legal action at my cost. Under the circumstances, all fees paid for whatsoever purpose shall stand fully forfeited. I have also read the contents of the declaration cum Undertaking signed by my son / daughter / ward and agree to abide by the same.

Date: ..... Signature of the Parent(s) .....

NCU
THE NORTHCAP UNIVERSITY ®
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

LIST OF ENCLOSURES (Self Attested) TO BE SUBMITTED WITH THE APPLICATION FORM

1. Copy of Class X mark sheet/ certificate (as proof of date of birth).
2. Copy of Class XII mark sheet
3. Copy of BSc (or equivalent) mark sheet.
4. Copy of Haryana Domicile/Haryana SC or Kashmiri Migrant Certificate (if applicable)
5. Copy of Student's Aadhaar Card.

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

Documents to be submitted and verified at the time of admission for MSc Maths programme

In addition to the fees, to secure their admission, students will be required to produce the following certificates in original for verification/submission:

Sr. No.	DOCUMENTS	ORIGINAL DOCUMENT REQUIRED	SELF ATTESTED PHOTOCOPY REQUIRED	DOCUMENTS TO BE RETURNED ON THE SPOT AFTER VERIFICATION & DEPOSIT OF FEES
1.	Class X mark sheet/Certificate (as proof of date of birth)	Yes	Yes	Yes
2.	Class XII mark sheet	Yes	Yes	Yes
2.	BSc or equivalent mark sheet - for admission in MSc (Mathematics)	Yes	Yes	Yes
3.	Certificate of Migration	Yes	Yes	No
4.	Character certificate from School/ College last attended	Yes	Yes	Yes
5.	Certificate of Medical fitness from a registered medical practitioner	Yes	Yes	Yes
6.	Two copies of good quality recent colour photographs (Size 3.5 X 4.5 cms)	Yes	Yes	No
7.	Copy of Student Aadhaar Card	Yes	Yes	Yes
8.	**Forms 1 to 4, as applicable**	Available as part of Application Form		

NCU THE NORTHCAP UNIVERSITY Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

FOR ALL PROGRAMMES
DECLARATION CUM UNDERTAKING

I have read and understood that The NorthCap University, GURUGRAM has been established by the Haryana State Legislature under The Haryana Private Universities (Third amendment) Act, 2009 and The NorthCap University is a Private Self Financed University recognized by UGC and has the right to confer degrees under Section 22(1) of the UGC Act, 1956. The NorthCap University has been included by UGC in their select list of approved Universities and also by the Bar Council of India for its Law courses. This list of recognized Universities can be obtained from the UGC website www.ugc.ac.in

I have clearly understood that the functions of Admission, Course Design, Curriculum Structures, Teaching Methodologies, Examinations/ Evaluation System (Internal and External) and all other issues related thereto including but not limited to the credit/ grading system, promotion system etc. shall be performed entirely by the university in accordance with the guidelines prescribed in the Statute/ Ordinances as approved by The NorthCap University from time to time.

I hereby agree and undertake that if admitted, my child / ward shall abide by all the rules and regulations of The NorthCap University from time to time including but not limited to attendance, course work, examinations, evaluation all academic and administrative issue, matters of discipline, timely payment of fee etc. etc.

I understand that my admission to The NorthCap University if at all, is provisional and subject to confirmation by Chancellor.

I hereby affirm that the information furnished in the Application Form is true and no material information has been concealed. If any information is found to be false, incorrect or misleading, The NorthCap University shall have the authority to cancel my candidature/admission without any further enquiry or notice. Under the circumstances, all fee paid for whatsoever purpose shall stand fully forfeited.

I understand and agree that Ragging, Smoking and Consuming Liquor within the premises of the University and/or its hostels is illegal and strictly prohibited. I understand that the University has a ZERO Tolerance policy for indulging in any such act and that, if I am found engaging in any such act(s) or any other unlawful act(s) directly or indirectly, besides Police/Legal Action against me, I shall be expelled from the University. In such an event my fee shall also be forfeited.

I also affirm that I have read in detail the 'University Admission Brochure 2019-20' of The NorthCap University including its fee structure and the refund and cancellation policy before submitting this application and agree to unconditionally abide by the same.

Only applicable to B.Tech programme: I further undertake that the programme preferences where applicable and the categories which I belong to as indicated by me in the Application Form shall be irrevocable. I understand and agree that the branch allotted to me in the first/ second list will automatically change in the event of my higher preference becoming available before filling up vacant/ dropout seats, unless I relinquish this right in writing at the time of payment of semester/ admission fees. I also undertake and agree that no change of Branch will be permitted after display of final sliding list under any circumstances whatsoever.

I have clearly understood that if I withdraw my admission, after the last date of withdrawal, but before the last date of admission, the fee deposited by me, can only be refunded in case the seat/programme so vacated by me is filled up as per the University Admission Brochure 2019-20 before the last date of admission.

I have clearly understood the refund and cancellation policy of the University and the financial impact of a mid-course withdrawal on an unaided self financed University like NCU. Therefore, in the event my child/ward withdraws his/her admission after the last date of admission clearly specified in the University Admission Procedure or mid-course before the completion of the course, I agree to pay the balance years fee since the seat cannot be filled by the University mid-course and shall therefore remain vacant. Being an unaided self financed University, I am aware that the University is entitled to claim the said amounts in view of the Constitution Bench judgment of the Hon'ble Supreme Court of India in the case titled "Islamic Academy of Education vs. State of Karnataka" bearing CWP No. 350 of 1993 as I am neither submitting a bond / bank guarantee. This declaration is in lieu of bond/bank guarantee as required by the said Supreme Court ruling.

I undertake to pay the university the fee as stated herein above on the basis of a written demand made by the university at my aforesaid address and the same shall be a conclusive proof of the seat and programme remaining unfilled at the university after the withdrawal of admission by my child.

That the demand for the balance year's fee by the university shall be final and acceptable to me and I undertake not to object / express surprise on the same and undertake to pay the same within the period stated in the demand letter. In case I fail to do so, besides withholding my no dues clearance/Migration, the University shall be entitled to take legal recourse to recover the same at my risk and peril as to costs and consequences.

That the contents of this undertaking have been read over and explained to me in vernacular and I am executing the same after understanding the contents thereof.

_____
SIGNATURE OF PARENT/GUARDIAN

DATE _____ PLACE _____

_____
SIGNATURE OF APPLICANT

DATE _____ PLACE _____

NCU
Bridging the gap between the classroom and the real world
NAAC ACCREDITED

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

FORM – 2

FOR ALL PROGRAMMES

HARYANA RESIDENT CERTIFICATE

(For bonafide Residents of Haryana only)

Certified that Sh/Km _____ son/daughter of

Sh/Smt _____

R/o _____

_____ (complete address) since _____ and applicant for admission to Engineering/Technical Courses at The NorthCap University Gurugram, Haryana, is a bonafide resident of Haryana State in terms of Chief Secretary, Haryana letter No. 62/17/95 – 6GSI dated 3.10.96, letter No. 62/32/2000 – 6GSI dated 23.05.2003, letter No. 62/27/2003/6 GSI dated 29.7.2003, letter No. 22/28/2003 – 3GS – III dated 30.1.2004.

No. _____ (Signature of the attesting authority)

Date: _____ Name _____

Place: _____ Designation _____
(with legible office seal)

NOTE :

I) The competent authorities to issue Haryana Resident Certificate will be as per State Govt. letter No. 22/28/2003 – 3 GS – III dated 30.01.2004.

ii) The candidates, who have passed their qualifying examinations from the Universities / Board / Institutes located in Haryana, are not required to produce Certificate of Haryana Resident.

iii) The certificate must have been issued on or after 31.01.2005.

NCU THE NORTHCAP UNIVERSITY Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

FORM – 3

FOR ALL PROGRAMMES

HARYANA SCHEDULED CASTE CERTIFICATE

Certified that Sh/Km _____ _____ _____son/daughter of

Sh/Smt _____ R/o _____

_____

(complete address) belongs to _____ Caste which has been notified as Scheduled Caste by the Haryana Government.

This certificate is being issued to him/her according to the Haryana Govt. Circular Letter No. 333(I) – 97, dated 25-2-97, No. 22/28/2003 – 3 GS – III dated 30.01.2004 and letter dated 21-6-2004.

No. _____ (Signature of the issuing authority)

Date: _____ Name _____

Place: _____ Designation _____
(with legible office seal

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

FORM-4

FOR ALL PROGRAMMES

ANTI RAGGING

SELF DECLARATION BY THE STUDENT

1. I, ……(full name of student with admission/registration/enrolment number) S/o, D/o Mr/Mrs/Ms……, having been admitted to The NorthCap University, Gurugram have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Education Institutions, 2009, (hereinafter called the "Regulations") carefully read and fully understood the provisions contained in the said Regulations.
2. I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
3. I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
4. I hereby solemnly aver and undertake that:

a. I will not indulge in any behavior or act that may be constituted as ragging under clause 3 of the Regulations.

b. I will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.

5. I hereby affirm that, if found guilty of ragging, I am liable for punishment according to the clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against me under any penal law or any law for the time being in force.
6. I hereby declare that I have not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, I am aware that my admission is liable to be cancelled.

Declared this ..... day of ..... month of .....year.

.....
Signature of Student

Name: .....

Address .....

Telephone/Mobile No.: .....

Email ID: .....

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

FORM-4 (contd.)

FOR ALL PROGRAMMES
ANTI RAGGING
SELF-DECLARATION BY PARENT/GUARDIAN

1. I, Mr/Mrs/Ms/ ..... (full name of parent/guardian) father/mother/guardian of ..... (full name of student with University Roll Number), having been admitted to The NorthCap University, Gurugram have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Education Institutions, 2009, (hereinafter called the "Regulations") carefully read and fully understood the provisions contained in the said Regulations.
2. I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
3. I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against my ward in case he/she is found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
4. I hereby solemnly aver and undertake that:

a. My ward will not indulge in any behavior or act that may be constituted as ragging under clause 3 of the Regulations.

b. My ward will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.

5. I hereby affirm that, if found guilty of ragging, my ward is liable for punishment according to the clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against my ward under any penal law or any law for the time being in force.
6. I hereby declare that my ward has not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, the admission of my ward is liable to be cancelled.

Declared this ..... day of ..... month of ..... year.

.....

Signature of Parent/Guardian

Name: .....

Address .....

Telephone/Mobile No.: .....

Email ID: .....

NCU THE NORTHCAP UNIVERSITY Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

FORM- 5

FOR ALL PROGRAMMES
AFFIDAVIT

(Only for authorizing parent in lieu of student to receive refund after withdrawal of Admission)

(To be executed only on leaving, by the student, on a stamp paper of ₹ 10 duly attested by a First Class Magistrate or Notary Public)

I, _____, D/O, S/O _____ aged about _____ years

R/O _____, do hereby solemnly affirm and declare as under:

1. That the deponent had appeared in the 10+2 having Roll No. _____ and got admission at The NorthCap University in BTech (_____) / MTech (_____)/BSc (H) Maths/BSc (H) Physics/MSc Maths Any other.

2. That the deponent has withdrawn his/her admission from the University and as per the refund policy of the University, I am entitled to the refund of fees after deducting ₹ _____, since the admission has been withdrawn before the last date of withdrawal. Since I do not have a bank A/c, therefore the cheque towards refund of fees may be issued in the name of my father/mother, Mr/Mrs _____ _____.

3. I accept and acknowledge that neither me nor my parents shall have any right or claim subsisting against The NorthCap University, its Management or its employees after the refund of fees in name of my father/mother instead of my name from the University.

4. I state that I have read over and understood the rules of the University and have executed an Undertaking/Declaration on my own free will and consent and without any force, fraud and coercion. Similarly, my parent/s have also executed an undertaking which is also acceptable to me.

DEPONENT

VERIFICATION:

Verified at (_____) on this_____day of (_____) 2019 that the contents of paras 1 to 4 of the above affidavit are true and correct to my knowledge and no part of it is false and nothing has been concealed there from.

DEPONENT

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

PART-III

Admission Procedure for Children/ward of NRI/International Students for the year 2019-20

THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

ADMISSION PROCEDURE FOR CHILDREN/WARDS OF NRI/INTERNATIONAL STUDENTS FOR THE YEAR 2019-20

General

1 The NorthCap University, Gurugram is a multi-disciplinary unaided, self-financed private university established in 2009 duly recognized by the University Grants Commission New Delhi and the Bar Council of India New Delhi. Besides accreditations by National Assessment and Accreditations Council (NAAC), it is also accredited as "Premier University" by International Accreditation Body Accreditation Service for International Colleges (ASIC) from United Kingdom.

Who can Apply?

1.1 Child/ Wards of NRI / International students : The following are eligible under this category:

a. The applicant may be a child/ward of a Non Resident Indian (NRI)/ as defined under Income Tax Act and should be from a university / board recognized by CBSE / AICTE / UGC /AIU/ MHRD or any other statutory body of Government of India. He must also comply with the minimum eligibility criteria to be eligible under this category.

b. International students can also apply under this category and their admission will be based on the aggregate marks secured in Class XII /Graduation or equivalent of their qualification. A student who has obtained a foreign qualification at the 10+2 or equivalent level would be required to submit a certificate of equivalence from AIU (Association of Indian Universities). International students will have to get all clearances, including but not limited to visa requirements etc. from all statutory bodies of their respective countries and India.

c International Boards

All the students of the IB Board are eligible to apply

d SAT/TOEFL/IELTS score or equivalent, as applicable to a particular country should be submitted at the time of admission.

e Transcripts in languages other than English are not acceptable.

1.2 Students under NRI/International category will be admitted on 'first – come – first – served' basis subject to the minimum eligibility criteria and availability of seats. Since admissions in this category shall be made on first come first served basis, no refund will be permissible in case of withdrawal before or after the last date of admission. A candidate granted admission under this category will not be eligible to change his/her branch / discipline once he/she is admitted. Also, a candidate who applies under this category cannot apply for admission under any other category thereafter.

1.3 Unfilled seats in this category will be transferred to the resident Indian category and shall be filled on merit.

1.4 Application fee of Rs 2,000/- (Rupees Two thousand only) in cash must be submitted at the time of purchasing the application form. Applicants are cautioned that this fee is non refundable. Therefore, they should only purchase this form if they are sure that they are eligible to apply under this category.

1.5 Candidates seeking admission under this category should apply on the application form available in the 'Admission Brochure 2019-20' Part-III available at the University only. International students can however apply by downloading the NRI/International student form (Form-N1 enclosed) and submitting it with the Application fee.

Applicants must only apply after having fully read and understood the terms and conditions of Admissions applicable for academic session 2019-20 for the course in which the student is seeking admission, particularly the fee structure and the refund/cancellation/withdrawal policy of the University applicable to children/wards of NRI/International students.

These details are clearly provided in the admission brochure/application form/website www.ncuindia.edu.

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

2. Programme offered by the University and their intake, minimum eligibility and selection criteria for the Year 2019-20 (for children/wards of NRI/International students

DESCRIPTION OF BRANCH	NO. OF SEATS FOR CHILD / WARD OF NRI's / INTERNATIONAL SEATS	FEE STRUCTURE (ANNUAL)	ELIGIBILITY CRITERIA	SELECTION CRITERIA
Computer Science & Engineering (CSE) Specialization options 1) Full Stack Development 2) Cyber Security 3) Internet of Things (IOT) & Cloud Computing 4) Data Science and Artificial Intelligence (AI) 5) Game Technology, Augmented Reality (AR) and Virtual Reality (VR)	45	Rs. 3,50,000/- or equivalent foreign exchange	10+2 (English Medium) examination conducted by Central Board of Secondary Education or equivalent examination from a recognized board in Science stream with an overall aggregate of minimum 60% in 12th. (Rounding of marks is not permitted. Therefore, a student with 59.9% marks or less than 60% (in aggregate) will NOT be eligible to apply)	Children / ward of NRI's / International Students will be admitted on the basis of merit in Class XII or equivalent on "first – come – first – served" basis subject to availability of seats and compliance with the formalities with respect to sponsorship etc.
Electronics & Communication Engineering Specialization Options 1) Internet of Things (IOT) 2) Embedded Systems and VLSI Design'	7			
Mechanical Engineering Specialization Options 1) Thermal Engineering 2) Mechanical Engineering Design 3) Industrial and Production Engineering 5) Automobile Engineering	7			
Civil Engineering Specialization options 1) Smart Infrastructure Development 2) Construction & Project Management	4			

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

DESCRIPTION OF BRANCH	NO. OF SEATS FOR CHILD / WARD OF NRI's / INTERNATIONAL SEATS	FEE STRUCTURE (ANNUAL)	ELIGIBILITY CRITERIA	SELECTION CRITERIA
B.Sc (H) Maths	4	Rs. 1,50,000/- or equivalent foreign exchange	Minimum 50% marks in aggregate (with English and Mathematics as compulsory subjects) at the 12th level from any recognized Board with at least 50% marks in Mathematics.	On merit basis as per eligibility criteria
BSc (H) Physics	3	Rs. 1,50,000/- or equivalent foreign exchange	Minimum 50% marks in aggregate (with Physics and English as compulsory subjects) at the 12th level from any recognized Board with at least 50% marks in Physics.	
MSc Mathematics	3	Rs. 1,34,000/- or equivalent foreign exchange	Minimum 50% marks (or equivalent CGPA) in the aggregate in BSc or equivalent degree (with compulsory 3 papers of Mathematics in annual system or atleast four papers of Mathematics in semester system)	

2	POST GRADUATE			MINIMUM ELIGIBILITY CRITERIA	SELECTION CRITERIA
A	**M.Tech Degree (2 years)**				
	Branch	**Seats**			
	Degree in Computer Science & Engineering (CSE) **Specialization offered** (i) Cyber Security (ii) Data Science	2	Rs. 2,00,000/- or equivalent foreign exchange	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in i) BE/ B.Tech. in Computer Science and Engineering/ information Technology/ Computer Technology/ Computer Science and Applications/Computing in Software/Computer Networking/ Electronics & Communication Engineering OR ii) MCA OR iii) MSc (Computer Science/ IT/ Electronics/ Software Engineering/ Mathematics/ Statistics/ Physics) OR iv) any other relevant equivalent qualifying degree.	On merit basis as per eligibility criteria
	Degree in Electronics & Communication Engineering (ECE) **Specialization offered** (i) Communication Engineering (ii) VLSI Design	2	Rs. 2,00,000/- or equivalent foreign exchange	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in I) BE/ BTech in Electrical Engg/ Electronics Engg/ Electronics & Communication Engg./ Electronics & Instrumentation Engg/Communication Engg/Computer and Communication Engg/Electrical and computer Engg/Electrical and Electronics Engg/Electrical Instrumentation & Control Engg/Computer Science Engg/Information Technology OR ii) MSc (Electronics / Physics/Computer Science) OR iii) any other relevant equivalent qualifying degree.	

NCU ORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly IFM University, Gurugram)

S. No.	PROGRAMME			MINIMUM ELIGIBILITY CRITERIA	SELECTION CRITERIA
2	POST GRADUATE				
A	M.Tech Degree (2 years)				
	Branch	Seats			
	Degree in Mechanical Engineering (ME) **Specialization offered** (i) Mechanical Engineering (ii) Thermal Engineering	2	Rs. 2,00,000/- or equivalent foreign exchange	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in the relevant qualifying degree, BE/BTech in I) BE/BTech in Mechanical Engineering, Automobile Engineering, Aero space/Aeronautical Engineering, Production/ Manufacturing Engineering, Mechatronics, Industrial Engineering, Material Science and Technology, Production and Industrial Engineering, Marine Engineering, Tool Engineering OR ii) any other relevant equivalent qualifying degree.	On merit basis as per eligibility criteria
	Degree in Civil Engineering (CV) **Specialization offered** (I) Structural Engineering (ii) Construction Engineering & Management (iii) Environmental engineering	2	Rs. 2,00,000/- or equivalent foreign exchange	Applicant must have obtained minimum 55% marks in aggregate or equivalent CGPA in i) BE/ B.Tech. in Civil and Environmental Engineering/Civil and Rural Engineering/Civil and Water management Engineering/Civil Engineering/Civil Engineering and Planning/Civil Engineering(Construction Technology)/Civil Engineering (Environmental Engineering)/Civil and Infrastructure Engineering/Civil Technology/Construction Engineering/ Construction Engineering and Management/ Construction Technology/ Construction Technology and Management OR ii) any other relevant equivalent qualifying degree.	On merit basis as per eligibility criteria
				M.Tech Full Time: The duration of Full Time M.Tech degree is 2 years covering 4 semesters. **M.Tech Part Time:** Working professionals can pursue M.Tech degree programme part time. However, the part time degree will be awarded on satisfactory completion of 6 semesters taken over 3 years. Classes for part time students may be held in the morning / evening and / or on weekends as may be specified by the department / time-table. In case adequate students are not available in a discipline(s) a higher number can be filled in the programme / specialization which have a greater demand. **Note:** GATE score is not mandatory, but candidates with valid GATE score will get preference in selection. For M.Tech minimum number is 10 in each course. (Minimum 60% aggregate in 10th and 12th is compulsory.)	

3. IMPORTANT DATES

APPLICATIONS AVAILABLE AT THE NORTHCAP UNIVERSITY CAMPUS WITH EFFECT FROM	**15.02.2019**
LAST DATE FOR ACCEPTING OF APPLICATIONS AND CLOSE OF ADMISSIONS	**19.07.2019**
COMMENCEMENT OF ACADEMIC SESSION	**22.07.2019**

3.1 Dates are subject to change solely at the discretion of the University. Change(s), if any, shall be notified in the press or website for the information of all concerned.

4. Documents to be verified/submitted with the application form for children/wards of NRI/International Students

SR. NO.	DOCUMENTS	ORIGINAL DOCUMENT REQUIRED	SELF ATTESTED PHOTOCOPY REQUIRED	DOCUMENTS TO BE RETURNED ON THE SPOT AFTER VERIFICATION & DEPOSIT OF FEES
1	Application form for Admission of Children / Ward of NRI's (Form –N1)	Yes	No	No
2	NRI Certificate (Form-N2)	Yes	No	No
3	NRI Student Certificate (Form-N3)	Yes	No	No
4	NRI Student Certificate (Form-N4)	Yes	No	No
5	Copy of Address proof of NRI sponsor	Yes	Yes	Yes
6	Copy of Passport of NRI sponsor	No	Yes	No
7	Class X mark sheet (as proof of date of birth).	Yes	Yes	Yes
8	10+2 / Graduation or equivalent mark sheet.	Yes	Yes	Yes
9	Certificate of Migration (only in case class XII passed from any other board / university other than Haryana board).	Yes	Yes	No
10	Character Certificate from school/ Institution/ University last attended.	Yes	Yes	No
11	Passport (only if passed class X from a foreign board).	Yes	Yes	Yes
12	Copy of Student's Aadhaar Card	No	Yes	Yes
13	Equivalence certificate from AIU (Only if passed class XII from a foreign board).	Yes	Yes	No
14	Two copies of recent color good quality photographs (Size 3.5 X 4.5 cms)	Yes	Yes	No
15	Form 1 to 4, as applicable	Available as part of Application form		

4.1 All original academic and personal certificates and testimonials like mark-sheets, school leaving certificates and other such documents (other than migration certificate) shall be returned by the University after their due verification and receipt of balance years fees (See Para 5 & 6 below).

NCU THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

5. REFUND / CANCELLATION POLICY

Since children/wards of NRI's/International students are admitted on 'First-come-first-served' basis and not on the basis of merit of a common entrance test marks, in case of withdrawal at any stage, either before or after the last date of admission, no fee / fund by whatsoever name called is refundable.

6. MID COURSE WITHDRAWALS

6.1 Since no mid-course admissions can be made by the University to fill a vacancy caused by a mid-course withdrawal, No Objection Certificate (NOC) for a mid-course withdrawal to any student including children/ward of NRI/International students shall only be given by the University to a student after he/she has deposited the balance years fees and any other dues outstanding to the University as per Declaration cum Undertaking submitted at the time of admission.

7. HELPLINE

Queries if any, regarding the admissions process and or any aspect thereof may please be addressed to:

Helpline	8448495100
Admissions Enquiry	9821314507 9821314508 0124-4195224
Email	internationaladmissions@ncuindia.edu
Email	ncu@ncuindia.edu
Website	www.ncuindia.edu

NAAC ACCREDITED
(Formerly ITM University, Gurugram)

Date: 15 January 2019
Place : Gurugram

Vice Chancellor
The NorthCap University,
GURUGRAM

APPLICATION FORM FOR ADMISSION OF CHILDREN/ WARDS OF NRI'S / INTERNATIONAL STUDENTS 2019-20

NGI
THE GLOBAL ACADEMY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

(Form-N1)

_____ **2019**

THE VICE CHANCELLOR,
THE NORTHCAP UNIVERSITY
SECTOR – 23A
GURUGRAM

SUBJECT:- APPLICATION FORM FOR ADMISSION OF CHILDREN/ WARDS OF NRI'S/INTERNATIONAL STUDENTS 2019-20

Dear Sir,

In response to your Admission Notice uploaded on website, I submit as under:

1) I Mr/Ms _____ am a Non Resident Indian as defined under the Income Tax Act and presently resident of _____

2) After personally scanning your website, and being satisfied with the reputation enjoyed by your University including its approvals, infrastructure, faculty and other facilities, I hereby wish to apply for admission w.e.f. 2019-2020 under the 15% category allocated at your University for children/wards of Non Resident Indians/International students for my child/ward Mr/Ms _____ as per the under mentioned preference : (Indicate your preference numerically in the box. In case the box remains unfilled, it will be assumed that you are not interested in the programme.

a)	B.Tech Computer Sc. & Engineering	☐	g)	M.Tech Computer Sc. & Engineering	☐
b)	B.Tech Electronics & Communication Engineering	☐	h)	M.Tech Electronics & Communication Engineering	☐
c)	B.Tech Mechanical Engineering	☐	i)	M.Tech Mechanical Engineering	☐
d)	B.Tech Civil Engineering	☐	j)	M.Tech Civil Engineering	☐
e)	BSc (H) Mathematics	☐	k)	MSc Mathematics	☐
f)	BSc (H) Physics	☐			

3) I have read and understood that The NorthCap University has been established by the Haryana State Legislature under The Haryana Private Universities (Third amendment) Act, 2009.

4) I have read and understood that The NorthCap University is a Private Self Financed multi disciplinary University recognized and has the right to confer degrees under Section 22(1) of the UGC Act, 1956. I also find that The NorthCap University has been included by UGC in their select list of approved Universities. This list of recognized Universities can be obtained from the UGC website www.ugc.ac.in.

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

5) I hereby agree and undertake that if admitted, my child/ward shall abide by all the rules and regulations of The NorthCap University from time to time including but not limited to attendance, course work, Internal / External Examination and evaluation, matters of discipline, timely payment of fee etc.

6) I hereby confirm that I have read the rules & regulations governing these admissions including the minimum eligibility criteria and programme wise Annual fee as per clause 2 above which is subject to a year on year increase of 3%.

7) If admitted, I confirm that I shall continue to pay the fee annually in advance, failing which, the admission of my child/ward is liable to be cancelled as per the rules of the University.

8) I understand and agree to submit within 10 days from the date of submission of the application a certificate of equivalence from the Association of Indian Universities (AIU) / Foreign cell of the Parent University in the event the admission is sought on the basis of an equivalent qualification obtained overseas. I fully understand and agree that the application would be rendered ineligible for consideration in the absence of this certificate of equivalence.

9) I understand and agree that Ragging and/or Smoking and/or use of Mobile Phone within the premises of the University and/or its hostels is illegal and strictly prohibited unless otherwise stated. I understand that the University has a ZERO Tolerance policy for indulging in any such act and that, if my son/daughter/ ward found engaging in any such act(s) or any other unlawful act(s) directly or indirectly, besides Police/Legal Action against him/her, he/she shall be expelled from the University. In such an event no fee by whatsoever name called shall be refundable.

10) I understand and agree that if admitted, the fee paid by me by whatsoever name called shall be non-refundable in part or whole under any circumstances.

11) I am aware that having applied/secured a seat under NRI category on 'first-come-first-served' basis, I cannot apply for a seat in the Resident Indian category for my son/daughter/ward and the latter shall automatically stand cancelled, if applied.

12) I also understand and agree once I have accepted the offer of admission for my child/ward, and deposited the fee to secure his/her admission, he/she will not be eligible to change his/her course /discipline under any circumstances whatsoever.

13) I also understand and agree that if I withdraw /cancel the admission of my son/daughter/ward after depositing the first year fee, I shall also be liable to pay the balance years fee to the University.

Thanking You,

Yours faithfully,

NAME OF NRI WITH SIGNATURE

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

(Form-N2)

BY HAND

_____ **2019**

THE VICE CHANCELLOR,
THE NORTHCAP UNIVERSITY
SECTOR – 23A
GURUGRAM

NRI CERTIFICATE

Dear Sir,

Further to my application dated _____ received by you vide your receipt no. _____

I Mr/Ms _____ resident of _____

_____ enclose herewith non refundable Cash/Draft/Cheque No _____ dated _____ drawn on _____ amounting to Rs _____/- towards the first years Annual Fee to secure the admission of my child/ward Mr/Ms _____ in the course/discipline/programme _____.

Since I am securing my admission on 'first-come-first -served' basis, I understand and agree that this fee deposited by me is non–refundable under any circumstances whatsoever and change of branch/discipline/programme is also not possible under any circumstances hereafter.

I also understand and appreciate that no mid-course admissions can be made by the University to fill a dropout seat. Under the circumstances, I unambiguously agree that, since I am not furnishing a Bank Guarantee/Bond for the balance year's fees, in case my child/ward withdraws his/her admission mid-course i.e. before the completion of the degree, I shall have to pay the balance years fee to the University since the seat shall remain vacant as per the decision of the Hon'ble Supreme Court of India.

I am aware that having taken a seat under NRI category on 'first-come-first-served' basis, I cannot apply for a seat in the Resident Indian category for my son/daughter/ward and the latter shall automatically stand cancelled, if applied. Lastly, I am also aware that I can withdraw or cancel my wards NRI seat only after paying the balance years fees.

Yours faithfully,

NAME OF NRI WITH SIGNATURE

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY ®
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

(Form-N3)

BY HAND

_____ 2019

THE VICE CHANCELLOR,
THE NORTHCAP UNIVERSITY
SECTOR – 23A
GURUGRAM

NRI STUDENT CERTIFICATE

Dear Sir,

I Mr/Ms _____ hereby confirm that I am seeking and accepting admission at The NorthCap University under the NRI category as the child / wards of Mr/Ms _____ who is a Non Resident Indian in the course/discipline/programme _____.

I hereby declare that, as per the rules, my full fee shall be paid by him/her for all years of the degree annually in advance each year. I understand and agree that my admission and continuation thereof shall be automatically cancelled if I fail to deposit the Annual fee on time to the University for any reason whatsoever and/or if I fail to comply with any other rules and regulations of the University from time to time.

I am aware that having taken a seat under NRI category on 'first-come-first-served' basis, I cannot apply for a seat in the Resident Indian category and the latter shall automatically stand cancelled, if applied. I am also aware that the course/ discipline cannot be changed by me hereafter under any circumstances. Lastly, I am also aware that I can withdraw or cancel my NRI seat only after paying the balance years fees.

NAME OF STUDENT WITH SIGNATURE

NCU THE NORTHCAP UNIVERSITY ® Bridging the gap between the classroom and the real world NAAC ACCREDITED (Formerly ITM University, Gurugram)

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

NCU
THE NORTHCAP UNIVERSITY
Bridging the gap between the classroom and the real world
NAAC ACCREDITED
(Formerly ITM University, Gurugram)

(Form-N4)

BY HAND

_____ 2019

THE VICE CHANCELLOR,
THE NORTHCAP UNIVERSITY
SECTOR – 23A
GURUGRAM

PARENT CERTIFICATE

Dear Sir,

I Mr/Ms. _____ father/mother of Mr./Ms _____ hereby confirm that I have appointed Mr./Ms. _____ who is a Non-Resident Indian as the guardian / sponsor of my son/daughter Mr./Ms._____ _____.

Mr./Ms. _____ shall be paying the Annual fee of my son/daughter for all four years. I understand and agree that the admission of my son/daughter shall be automatically cancelled in the event his/her aforesaid appointed guardian / sponsor fails to deposit the full fee on time to the University as may be applicable.

Also, I agree that since I nor the guardian /sponsor is furnishing a Bank Guarantee/Bond for the balance years fees as per decision of the Hon'ble Supreme Court of India, in case my child/ward withdraws his/her admission before the completion of the degree, his / her appointed guardian /sponsor shall have to pay the balance years fees to the University since the seat shall remain vacant. In the event he / she does not, I shall be liable to pay the same.

I am aware that having taken a seat under NRI category on 'first- come- first – served' basis, I cannot apply for a seat in the Resident Indian category for my son / daughter / ward and the latter shall automatically stand cancelled, if applied. Lastly, I am also aware that I can withdraw or cancel my Child / Wards NRI/ International students seat only after paying the balance three years fees.

Yours faithfully,

NAME OF FATHER / MOTHER OF THE STUDENT
WITH SIGNATURE

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

OPEN DAYS

Book a place on our Open Days, where you can meet the Faculty and know about the academic structure of the University, explore our Campus and discover more about the courses that have ignited your interest. We shall also take you around the campus, which will give you an insight to explore our facilities and services.

Virtual Tour

Take a virtual tour, giving you a panoramic view of the whole campus and facilities available - please visit

http://www.ncuindia.edu/virtual_tour

Connect and explore

Thank you for your interest in The NorthCap University. We expect our students to have the motivation to go through a rigorous programme and realize their full potential. We offer an extraordinary educational environment - a place to define your aspirations and prepare to achieve them.

NCU
THE NORTHCAP UNIVERSITY®
Bridging the gap between the classroom and the real world

NAAC ACCREDITED

(Formerly ITM University, Gurugram)

The NorthCap University
HUDA Sector 23 A, Gurugram 122017, India
Tel : + 91 124 2365811 to 13, Fax : + 91 124 2367488
Email : ncu@ncuindia.edu
www.ncuindia.edu