

Indian Institute of Technology (BHU), Varanasi

Placement Brochure 2022-23
Engineering Physics (Department of Physics)



About IIT BHU, Varanasi

- ❑ The Indian Institute of Technology, Banaras Hindu University (IIT-BHU) is one of the leading institutes of engineering in India. It has been consistently ranked in the top engineering colleges by reputable surveys such as NIRF, India Today, Outlook etc.
- ❑ The institute was earlier known as Institute of Technology, BHU and was formed in 1971 by the merger of three colleges of BHU, namely, Banaras Engineering College (BENCO – founded in 1919), College of Mining and Metallurgy (MIN-MET – founded in 1923) and College of Technology (TECHNO – founded in 1932). With the Institutes of Technology (Amendment) Act 2012, Institute of Technology, BHU became Indian Institute of Technology (Banaras Hindu University) w.e.f. 29th June 2012.
- ❑ The admissions to the institute are made through Indian Institute of Technology- Joint Entrance Examination (IIT-JEE) conducted by IITs and widely considered as the most difficult engineering entrance exam.



About Engineering Physics



- ☑ The Department of Physics offers an Integrated Dual Degree (IDD), an M. Sc. Program and a Ph.D. program in Engineering Physics.
- ☑ The 5-year M. Tech. programme in Engineering Physics was started in 2005 to impart knowledge of various core technical disciplines. The aim of the course is at bringing research into technology. Thus the course gives an insight to the disciplines of engineering as well as science.
- ☑ The course majorly consists of Physics, Mathematics, Electronics Engineering, Electrical Engineering and Material Science along with labs in Programming, Communication, CAD, Electrical Machines, Power Systems, etc.
- ☑ As a part of the course curriculum, it is compulsory for the students to undergo industrial training / summer internship and gain practical working experience. This allows the students to develop working skills.
- ☑ Electives in the final year allow students to focus on specific areas of interest. The final semester is entirely dedicated to project work.

Our Course Structure

Computer Science and Mathematics

- Programming in C/C++
- Data Structures
- Mathematical Methods
- Numerical Analysis
- Linear Algebra
- Statistics and Stochastic Processes
- Computer Aided Designing

Material Science and Technology

- Physics of Materials
- Condensed Matter Physics
- Crystallography and Crystal Structure
- Diffraction Techniques in Material Sciences
- Nano Materials and Nano Structures

Electrical Engineering

- Basic Electrical Engineering
- Power Transmission and Distribution
- Digital Control Systems
- Instrumentation, Measurement and Analysis

Electronics and Communication Engineering

- Electronic Devices and Components
- Analog Circuits and Systems
- Digital Electronics and Microprocessors
- Semiconductor Physics and Devices
- Elements of Fiber Optics
- Quantum Electronics and Lasers
- Optical Communication
- Optoelectronics and Photonics
- Fiber and Integrated Optics
- Microwave and Radar Engineering
- Elements of Microwave Remote Sensing

Our Course Structure

Physics

- Statistical Mechanics
- Solid State Physics
- Thermal Physics
- Quantum Physics
- Fundamental Astronomy and Astrophysics
- Atomic Physics and Nuclear Engineering
- Solar and Space Physics
- Alternative Energy Resources
- Electromagnetic Theory and Waveguides
- Advanced Electromagnetic Theory
- Classical and Relativistic Mechanics
- Fluid Dynamics
- Magneto Hydrodynamics
- Fluids and Plasma
- Seismology and Helioseismology
- Physics of Atmospheric Sciences
- Atmospheric Sciences and Meteorology
- Biophysics
- Fuel Cell

Laboratory Coursework

- Numerical Methods using C/C++
- Data Structures – Power Systems
- Digital Electronics and Microprocessors
- Electrical Machines
- Optics
- Communication Lab
- Optical Communication
- Microwave Engineering
- Digital Design and VLSI
- Nano Physics Lab
- Physics of Materials
- Polymer Science and Technology

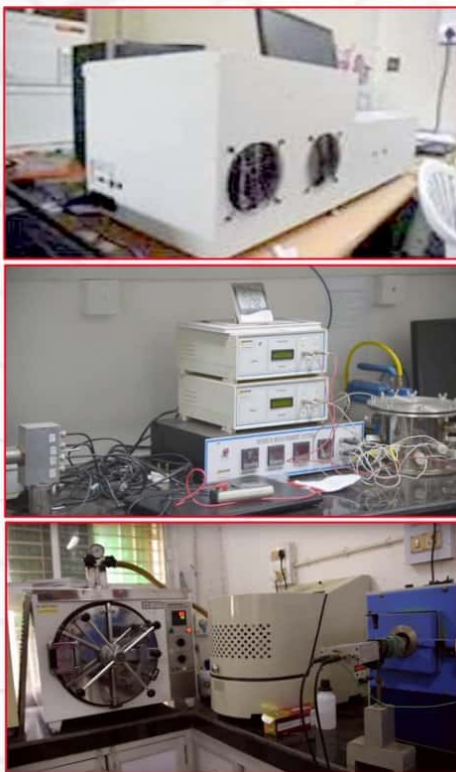
Other Courses

- Engineering Drawing
- Engineering Mechanics
- Engineering Thermodynamics
- Chemistry of Polymers
- Chemical Thermodynamics

Our Projects

- ✔ Computational Physics
- ✔ Gender and Age detection using Deep Learning
- ✔ AI for Optics
- ✔ Machine learning for Optics
- ✔ Computational Imaging
- ✔ Deep Learning Holography
- ✔ Artificial Intelligence for Optics
- ✔ Reinforcement Learning in Flocking
- ✔ Detecting COVID19 in X-Ray images using Deep Learning
- ✔ Optical Microscopy
- ✔ Modes in the Fiber
- ✔ Classifying images using Deep Learning
- ✔ Search Process Using Reinforcement Learning
- ✔ Optical Reconstruction of Holograms Using Diffractive Networks
- ✔ Soil moisture retrieval using satellite data and Machine Learning techniques

Why us?



- Engineering Physics at IIT BHU is a unique inter-disciplinary programme with a blend of courses in Physics and Mathematics, Electrical and Electronics Engineering supplemented by practical laboratories in Programming, Communication, Digital Design, Electrical Machines etc.
- Our students, thus, explore the best of both worlds- Research and Technology.
- All our students have had multiple experiences of internships in companies and research projects in laboratories where they are exposed to real world problems.
- Our students have actively pursued and excelled in a wide range of extra-curricular activities that are held in the institute and outside, and their personality and soft-skills are honed to perfection.
- Students have been admitted to this programme through the prestigious IIT-JEE which is widely regarded as the toughest engineering entrance examination.
- IIT-BHU is among the very few IITs that offers an Integrated M.Tech in Engineering Physics.

Internship Experience



Major Past Recruiters



Contact us

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