

भारतीय
प्रौद्योगिकी
संस्थान
काशी हिन्दू विश्वविद्यालय



INDIAN
INSTITUTE OF
TECHNOLOGY
BANARAS HINDU UNIVERSITY



Information Brochure (2020-2021)

M.Tech. Programme
in

Machine Design



About Us:

The aim of the Machine Design program is to produce engineers who are ready to contribute to the success of companies through effective problem solving while designing, developing, implementing and improving integrated systems that include people, materials, information, equipment and environment. Our students are specifically skilled to apply knowledge of mathematics, science, and engineering, as well as to analyse and interpret data. To embrace innovation through intellectual diversity and creative problem solving; and continue to develop holistically as a learner to become leaders of tomorrow.



Dr. Virendra Pratap Singh (Ph. D IIT BHU) Professor

Former Head of mechanical department 2011-2013

Areas of Interest:

Theory of machines, vibration and shock analysis, mechanism of deformable solids, system dynamics



Dr. Vijay Kumar Srivastava (Ph. D IIT BHU)

PhD, PDF (Univ. of Bath, QMW, UK, MPA, Stuttgart, Germany), FIE (India), DFREng. (UK), Professor

Areas of Interest:

Polymer Fibre Composites, Metal-Matrix Composites, Ceramic Fibre Composites, Biocomposites and NanoComposites



Dr. Arakere Puttaswamy Harsha (Ph.D. IIT Delhi)

HAG, Head of mechanical department

Professor

Areas of Interest:

Materials Tribology and Bio-Tribology



Dr. Sandeep Kumar (Ph.D.)

Professor

Areas of Interest:

Computational Mechanics (Wavelets, FEM, Meshless)



Dr. Kripa Sanker Tripathi (Ph. D IIT Madras)

Professor

Areas of Interest:

Mechanisms, Vibrations



Dr. Debashis Khan (Ph. D IIT Kharagpur)

Associate Professor

Areas of Interest:

Mechanics of Deformable Solids, Fracture Mechanics, Strength of Materials

Chinese space station:



The Indian Institute of Technology (IIT) Varanasi and the Indian Institute of Astrophysics (IIA) Bangalore are the two Indian institutes selected to conduct experiments in one of the nine broad areas chosen by the China Manned Space Agency (CMSA) and the United Nations Office for Outer Space Affairs (UNOOSA).

A total of 20 experiments were announced at the 62nd session of the Committee on the Peaceful Uses of Outer Space held at Vienna on June 13, 2019. These experiments will be conducted by the institutes across 17 countries including India and China, on the proposed Chinese Space Station (CSS) funded by China and the UN.

While the IIA experiment will study the area between stars, the one from IIT (IIT) Varanasi will study the behavior of partially visible fluids in microgravity. Prof. Pradyumna Ghosh from the Dept. of Mechanical Engineering is leading the IIT BHU project.

COURSE

STRUCTURE

The main objective of Machine Design branch is to educate young engineers & to conduct research in the wider field of organisation and discover new ways to make life better for the general public. Our branch is mainly active in following disciplines:

1. Vibration and Shock Analysis
2. Mechanisms
3. Fracture Mechanics
4. Tribology
5. Finite Element Method
6. Theory of Elasticity
7. Theory of Plasticity
8. Composites
9. Non Destructable Testing
10. Probability and Statistical Applications



We aim to provide valuable resources for industry and society through excellence in technical education and research.



Lab Facilities: Being Practical

1. COMPUTER AIDED DESIGN

At CAD laboratory, students learn the professional 2D and 3D drafting of mechanical engineering drawing using latest version of Autocad, Solid works, Ansys, Matlab, Mathematica and Comsol softwares.

2. DYNAMICS OF MACHINERY

The laboratory is well-equipped with the sophisticated equipment for balancing of machine parts statically and dynamically. The objective of this laboratory is to impart practical knowledge to the students on design and analysis of mechanisms for the specified type of motion in a machine.

3. TRIBOLOGY

The research focus of the laboratory is on the interfacial interactions of materials and energy dissipation of interacting materials. The research activities in tribology are focused on the fundamental origins of friction, materials deformation (contact mechanics), adhesion, wetting behaviors, and wear on complex surfaces ranging from cells to nanocomposites in environments ranging from space to thousands of feet under the water.

4. EXPERIMENTAL MECHANICS & MATERIALS

The lab is designed to learn the behavior of composite and nano materials. It involves the polarised light wave passing through different materials and sensors installed fixed to material for the analysis.



Message from Prof. Incharge:

It gives me immense pleasure to extend you a most cordial invitation to participate in the Campus Recruitment Programme of the Indian Institute of Technology (BHU), Varanasi. With an increasing thrust being placed on Institute-Industry Interaction, it is my sincere belief that your esteemed organization and IIT (BHU) Varanasi will stand to gain immensely from this symbiotic relationship.

Our Institute holds the pride of place being pioneer in the field of engineering and technical education in this country and has a glorious heritage. We have been continuously ranked amongst the elite by all peers and stakeholders. Our constant pursuit of excellence has made our institute a focal point in technical education for students and faculty members alike. Admissions to the institute take place through the reputed Joint Entrance Examination (JEE) and Graduate Aptitude Test in Engineering (GATE).

At this institute, we take utmost care to groom our students according to the needs of the industry. We seek to open frontiers of knowledge and reveal new horizons of change to broaden mindset and to create positive attitude in our students. Our students receive industrial exposure by their frequent industrial visits. Besides, our undergraduate students undergo an eight-week training during summer vacation in reputed industries/institutions/organizations (in India as well as abroad) as part of their academic requirements.

We would be most delighted to host you for campus recruitment and beyond.



Professor Anil Kumar Agrawal
Training & Placement Officer, IIT (BHU) Varanasi

Past Recruiters:



Placement Team:

Dr. Anil Kumar Agrawal

Professor In-charge

Training & Placement cell

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