विद्याधनं सर्वधन प्रधानम्

IIT JAMMU

Bachelor of Technology

Engineering Physics

DEPARTMENT OF PHYSICS

WELCOMES THE BATCH OF 2025

- Semiconductor Technologies
- Quantum Technologies

DEPARTMENT OF

PhYSICS

Bachelor of Technology in

Engineering Physics

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Program Overview

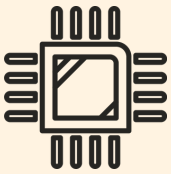
As semiconductor and quantum technologies evolve, India will play a major role in world change. The Indian Institute of Technology (IIT) Jammu offers a B.Tech. in Engineering Physics to meet demand for these skills. Our timely efforts align to Indian government's initiative to lead the semiconductor and quantum technology based industry.

The curriculum covers semiconductors, quantum sensors, quantum computers, batteries, and solar cells. A complete education includes theoretical, experimental, and computational coursework including nano-microfabrication and computational materials design.

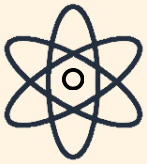
The B.Tech. in Engineering Physics at IIT Jammu develops talent and meets semiconductor and quantum technology needs. It should give students the skills to boost the nation's industry.

Bachelor of Technology

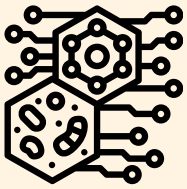
Engineering Physics



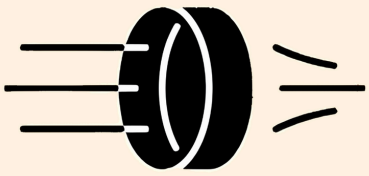
SEMICONDUCTOR TECHNOLOGIES



QUANTUM TECHNOLOGIES

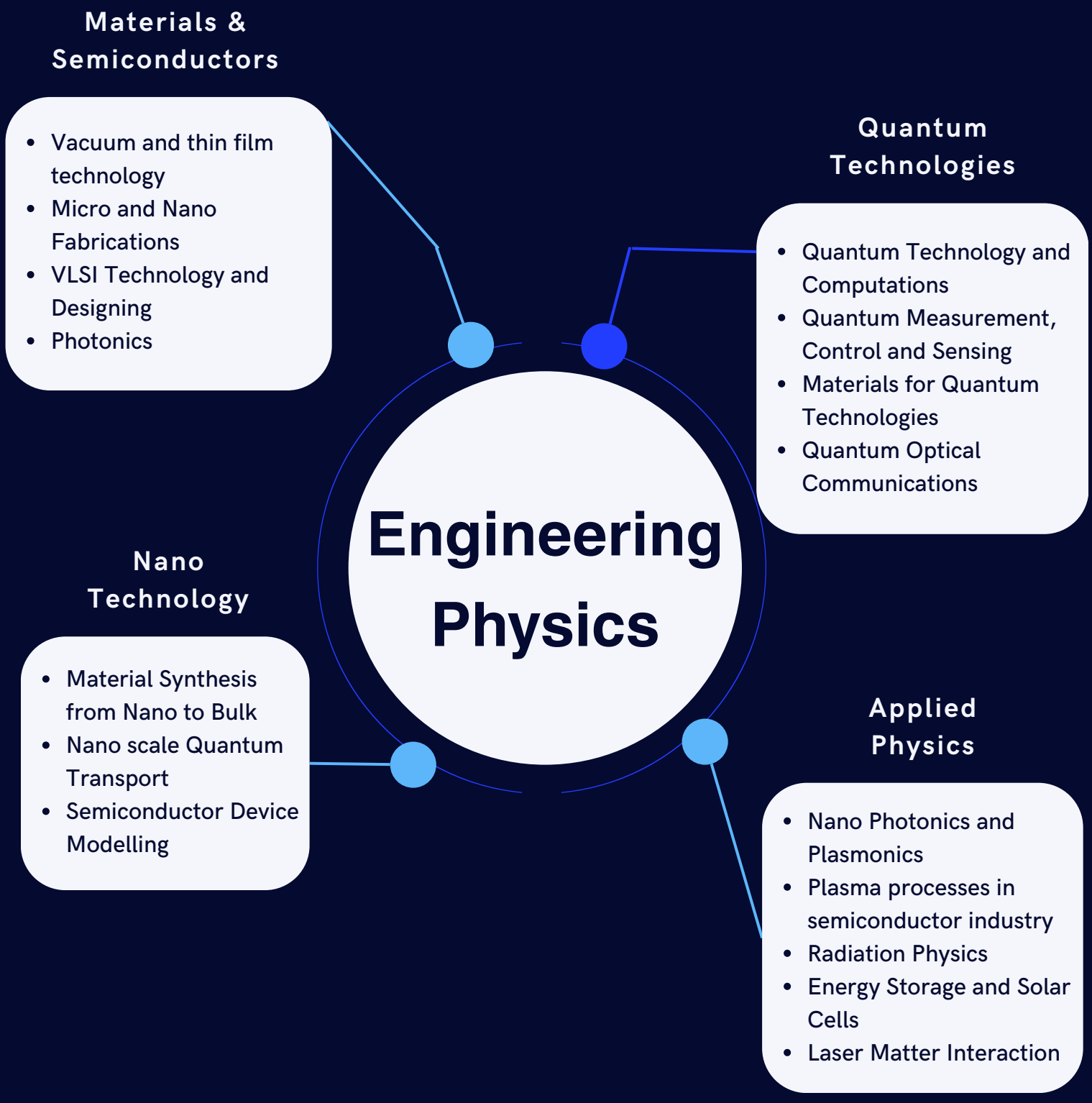


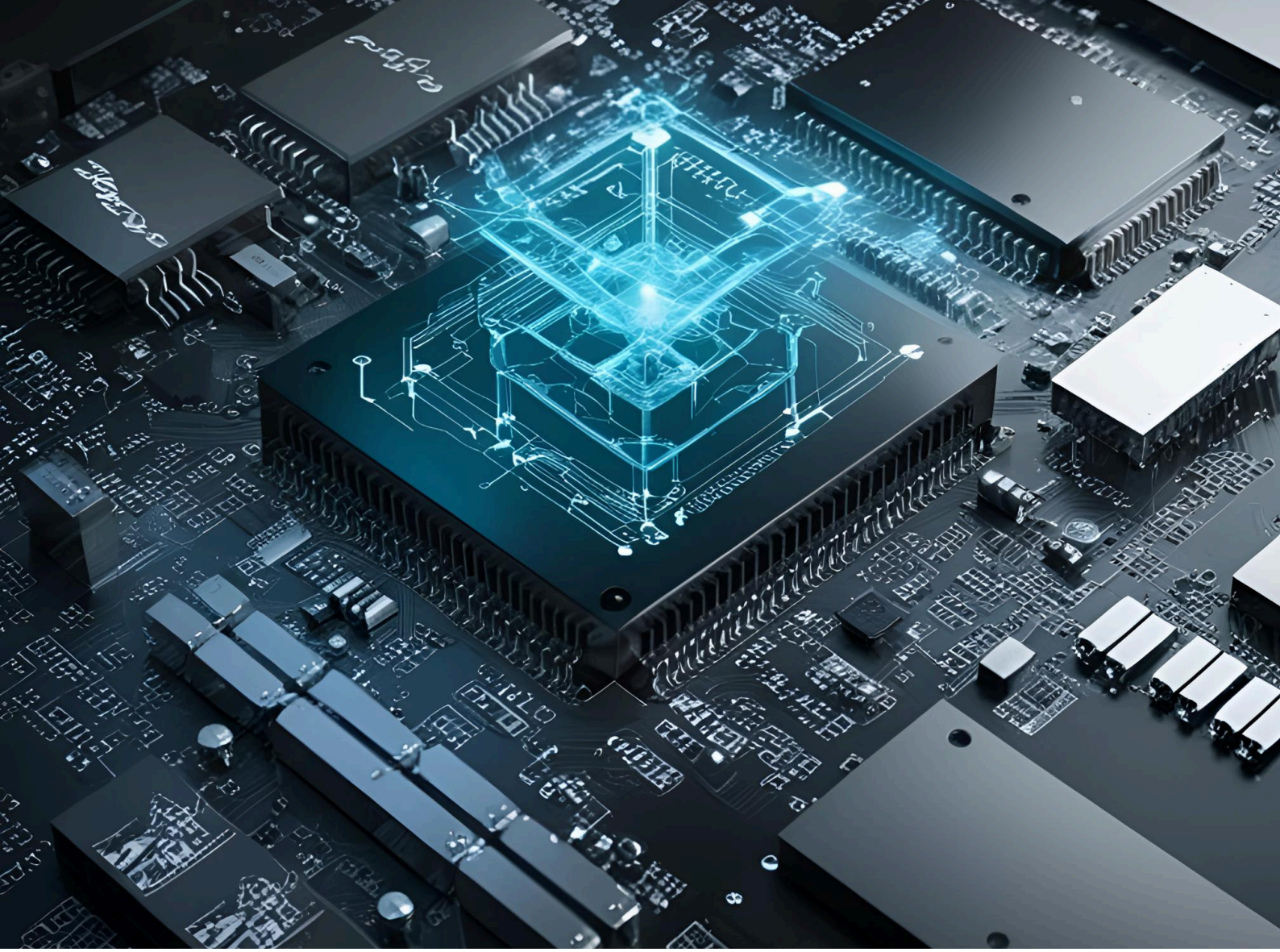
NANO TECHNOLOGIES



APPLIED PHYSICS

Courses


Materials & Semiconductors
Vacuum and thin film technology
Micro and Nano Fabrications
VLSI Technology and Designing
Photonics
Quantum Technologies
Quantum Technology and Computations
Quantum Measurement, Control and Sensing
Materials for Quantum Technologies
Quantum Optical Communications
Engineering Physics
Nano Technology
Material Synthesis from Nano to Bulk
Nano scale Quantum Transport
Semiconductor Device Modelling
Applied Physics
Nano Photonics and Plasmonics
Plasma processes in semiconductor industry
Radiation Physics
Energy Storage and Solar Cells
Laser Matter Interaction



Career Prospects

The program offers many work prospects in existing and new sectors. With a focus on semiconductor and quantum technologies, graduates can work in semiconductor manufacturing, chip design, quantum computing, renewable energy, telecommunications, and advanced materials research. Technology leaders, R&D organisations, and government agencies focusing on innovation and industrial growth may hire. The program's emphasis on practical skills like nano-microfabrication and computational materials design boosts graduates' employability, making them sought after by cutting-edge technology businesses. This broad skill set allows graduates to contribute to the country's technical and industrial growth through academics, research, and entrepreneurship.

www.iitjammu.ac.in/physics

- Admission through JEE Advanced (Register via JoSAA Counselling)
- Total 25 seats available (Engineering Physics)
- Ample opportunities and support is extended to deserving students

https://josaa.nic.in

https://iitjammu.ac.in/ug-admissions

Admission Process

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Department of Physics

The IIT Jammu Physics Department fosters academic and research excellence. With an emphasis on teaching and research, the department promotes physics-wide cooperation. The Material Research Laboratory, Optical Chip Design Laboratory, Theoretical Condense Matter Group, Computational Biology and Biophysics Laboratory, Solar Research Lab, Shivalik Plasma Laboratory, and Optoelectronics and Device Physics Laboratory are well-equipped. Material science, advanced solar energy, and quantum physics research are supported by these institutions.

Department faculty researches varied and cutting-edge topics. Light-matter interactions and improved optoelectronic devices using 2D materials like graphene are the focus of optoelectronics and device physics research. The solar research lab develops efficient solar cells and energy solutions for solar energy harvesting. The department's quantum physics research also examines fundamental quantum mechanics for quantum computing and other developing technologies. These study topics demonstrate the department's dedication to basic and applied physics.

Campus Life

Contact Us

We’re here to support you as you explore the journey of joining IIT Jammu and the Department of Physics.

Whether you’re a prospective student, a parent, or an academic collaborator, we welcome your questions and are happy to guide you through the process.
Feel free to reach out to us — we’re here to help.

Dr. Ajeet Sharma

Head, Department of Physics

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