

SPECIALIZATION

Students can choose their specialization in low-temperature Plasma Physics, Material Science, Environmental Physics, or Computational Physics, each offering unique opportunities for impactful contributions in their field of study.

CAREER OPPORTUNITES

Physics offers a wide range of career opportunities, from cutting-edge research and academia to engineering, data science, renewable energy, high-tech industries, government services, and consulting. The possibilities are endless.

ELIGIBILITY OF ADMISSION

The candidates must have successfully completed a 10 + 2 level (or equivalent) qualification with a minimum aggregate of 50% and 50% in PCM (Physics, Chemistry, and Mathematics) or Physics, Mathematics, and Computer Science.

COST OF THE PROGRAM

From this academic year on, the university is offering a generous partial scholarship of 25% of the total fee to all enrolled students. **The total subsidized cost of the program is Rs. 6,20,000/-**. The payment can be made in 16 convenient installments, making it a feasible and manageable option for all prospective students.

FINANCIAL AID AND SCHOLARSHIP

KU offers loan scholarship, need-based and merit-based partial tuition fee waivers. Some other scholarships are also available.

OTHER PROGRAM AND ACADEMIC ACTIVITIES

The Department of Physics at the School of Science offers various exciting programs, including M. Sc., M. Phil. and Ph. D. Engaging in both national and international-level workshops, seminars, summer schools, and conferences, the department focuses on plasma physics, material science, computational physics, and particle physics, often collaborating with the Central Department of Physics at Tribhuvan University. As pioneers in Nepal, the department possesses a state-of-the-art research laboratory for low temperature plasma and its applications, alongside high-performance computing resources. Moreover, it actively promotes knowledge exchange by hosting international workshops on active learning in physics and training physics teachers from developing countries. The department ensures a well-rounded academic experience for students and scholars alike by providing valuable internship opportunities and facilitating short-term visits for students to international forums.



For detail information:

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Program Information 2023



DEPARTMENT OF PHYSICS

School of Science

B.Sc. in APPLIED PHYSICS

(Physics for Research and Innovation)



KATHMANDU UNIVERSITY

“Quality Education for Leadership”

INTRODUCTION

Kathmandu University (KU) is an autonomous, not-for-profit, self-funding public institution. The University was established in 1991 by an act of Parliament. KU aims to provide quality education for leadership, becoming an excellent university devoted to serving humankind with knowledge and technology.

With the motto of taking knowledge and skills from the campus to the community, KU strives to meet the needs of society and serve the nation. Known for its autonomous administration, financial self-sustenance, and regular academic calendar, the university maintains the trust of the international academic community and fosters a student-friendly environment.

The university started a B. Sc. in Applied Physics (a four-year program) in August 2009 for the first time in Nepal. Physics, endowed with a long and venerable history, continues to be a dynamic discipline with a wealth of new problems to tackle. This subject continues to occupy central roles in the study of the natural sciences, engineering, industrial applications, and various technical courses.

This program offers a strong foundation in physics and its applications, preparing graduates for M. Sc. studies or thriving careers in science and technology. It explores limitless horizons in academia, cutting-edge research, engineering, high-tech industries, government services, entrepreneurship, data science, consulting, energy, and the environment. Graduates' become adaptable individuals in applied physics and other domains of applied sciences, contributing to technological advancements and innovation alongside engineers and researchers.

OBJECTIVES

The objectives of the Applied Physics program are:

- Provide a solid foundation in physics principles and theories with practical applications.
- Develop analytical and problem-solving skills for real-world challenges in industries and research.
- Offer hands-on experience in well-equipped laboratories and research projects.
- Encourage interdisciplinary approaches with other disciplines like engineering, computer science, environmental science and data science.
- Promote critical thinking and innovation for scientific advancements.
- Prepare graduates for successful careers in academia, industry, and research institutions.
- Cultivate effective communication and teamwork skills for diverse professional settings.
- Nurture a spirit of inquiry and curiosity for lifelong learning and contributions to science and technology.

Overall, it aims to produce skilled and adaptable professionals who can contribute significantly to the advancements and applications of physics in a wide range of fields.

FEATURES OF THE PROGRAM

Kathmandu University's Applied Physics program offers the following special features:

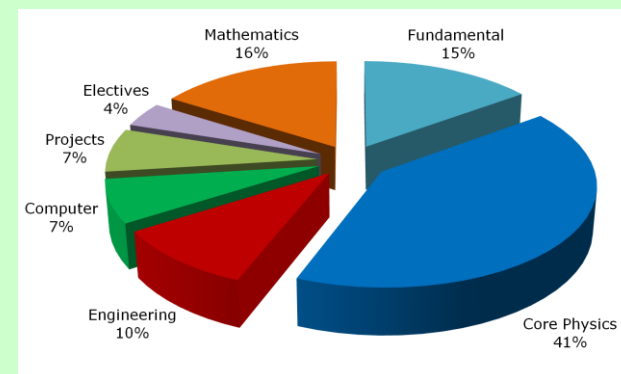
- A four-year program adhering to international standards with subsidized fees
- Emphasis on practical and problem-solving learning, fostering a strong foundation for further study and research
- Well-equipped laboratories, high-performance computing facility, and internship opportunities for real-world experience
- Global exposure through collaboration and networking
- Graduates possess professional competence, scientific methodology, and computing skills, making them desirable to both industry and government sectors

FACILITIES

Kathmandu University offers exceptional facilities for studying Applied Physics:

- Well-equipped and modern laboratories
- Extensive library resources with 24-hour internet access throughout the university
- Renowned faculty and an interdisciplinary approach
- Strong collaborations and networking with leading research institutions and industry
- Comfortable and smart classrooms equipped with digital boards and PowerPoint capabilities
- High-performance computing resources for complex simulations and data analysis
- Abundant research opportunities to work on groundbreaking projects
- Vibrant campus with modern amenities, sports facilities, canteens, and hostel facilities

COURSE STRUCTURE



DURATION OF THE PROGRAM

The program has eight-semester duration. Each year is divided into two semesters. Classes are held from 9:00 a.m. to 4:00 p.m., Sunday through Friday.

TEACHING METHODOLOGY

- **Learner-centered approach:** Classes are designed with a learner-centered philosophy, where teachers act as facilitators and the focus is on students' active participation in learning activities.
- **Individual progress profiles:** Teachers closely monitor each student's progress, ensuring personalized attention and tailored support to address their specific needs and challenges.
- **Tutorial classes:** Tutorial sessions include group work, discussions, problem-solving activities, and other text-based practices. These interactive sessions foster collaborative learning and critical thinking skills.
- **Assignments and practical work:** Assignments and practical are integral parts of the program, promoting hands-on learning and the practical application of theoretical knowledge. Regular assignments help reinforce learning and provide opportunities for self-assessment.
- **Consultations:** Teachers offer consultation sessions to address students' doubts and clarify concepts, ensuring a clear understanding of the subject matter.
- **Additional activities:** The teaching methodology can incorporate seminars, talks, role-plays, presentations, and discussions to enhance students' communication skills, critical thinking, and subject knowledge.