



Department of Physics

Khatra Adibasi Mahavidyalaya

Perspective Plan

The Physics Department of this College was established in the year 2008 as a part of the two year Physics Pass Course for Mathematics Honours students as well as students opting for the three year Physics Pass Course under Burdwan University. The department has been an integral part of the College since then. The upgradation to include Physics Honours course, with student intake strength of 20, was in the 2017-18 academic session. This occurred simultaneously while the College was shifting its affiliation to the newly established Bankura University. Department of Physics at Khatra Adibasi Mahavidyalaya involves envisioning long-term goals and objectives that align with the institution's mission and vision in spite of being the youngest department with the honours course (2017, under CBCS, Bankura University) among the sixteen departments. The department involves only two faculties (Assistant Professor) and is currently facing a significant challenge due to a shortage of faculty members. Here, only two faculty members are managing the entire department, with the more than doubled workload; overcoming all the challenges to arrange full facilities for the students. We also have improvised on some experimental set-ups, keeping in mind the limited fund allocated to the department and the excessive prices of the set-ups prescribed in the syllabus. Some experimental set-ups are yet to be acquired for the same reason as above.

However, the department is still in a mission to achieve excellence in physics education and research oriented-minds through innovative teaching methods, collaborative efforts utilizing optimal resources even under such faculty-resource shortage constraint.

Here is a comprehensive perspective plan:

Vision Statement

The Department of Physics is to be recognized as a leading department known for excellence in teaching in spite of least number of faculties, in creating innovative young minds & active community engagement.

Mission Statement

To provide high-quality physics education, foster a mind of positive critical thinking, and contribute to the scientific community and society at large through knowledge dissemination and application.

Goals and Objectives

1. Enhancing Academic Excellence

- ✓ **Curriculum Development:** The Department regularly updates and enhances the curriculum delivery to include the latest advancements in physics.
- ✓ **Innovative Teaching Methods:** The Department incorporates modern teaching methods and technologies [e.g. **Projectors, pen tablets (XP-Pen Star G640/ XP-Pen Star G960), Worldwide OER links, College ERP** as

LMS, Edmodo LMS, Google Meet video conferencing platform, etc.] to make learning more engaging and effective.

- ✓ **Continuous Evaluation:** The Department implements a continuous assessments (via home assignment after each class).
2. **Research and Development**
 - ✓ **Research Culture:** It is difficult for the overloaded faculties in pursuing cutting-edge research.
 - ✓ **Funding and Grants:** The Department actively seeks funding for running the newly prescribed experimental set-ups under the existing curriculum (for NEP Courses) to reach towards an academic excellence.
 3. **Faculty Development**
 - ✓ **Professional Growth:** The college encourages faculty to pursue professional development opportunities such as FDP, FIP, Orientation Programme, Webinars, Seminars, Workshops, Conferences, and advanced developments.
 4. **Student Development**
 - ✓ **Holistic Education:** The department provides a well-rounded education that includes academic/cocurricular activities. (Annexure)
 - ✓ **Research Opportunities:** The department is thinking about offering students opportunities to participate in cocurricular projects beyond syllabus and internships.
 - ✓ **Career Guidance:** The department provides career counselling webinars to help students achieve their higher educational & professional goals. (Annexure)
 5. **Infrastructure and Facilities**
 - ✓ **Modern Laboratories:** The Department continuously upgrades laboratory facilities to cover up the NEP curriculum. Aim: yet to reach the data acquisition with state-of-the-art equipments and technologies.
 - ✓ **Library Resources:** The Department has no Departmental Library. However there is a small collection of books consisting of sample copies. These are lended to the students for their immediate reference. The Department sends requisition regularly to the Librarian (Central Library) to enhance library resources with the latest books, journals, OERs.
 - ✓ **Learning Environment:** The Department tries to create a conducive learning environment with available classroom and study spaces.
 6. **Community and Industry Engagement (Future Plan)**
 - ✓ **Outreach Programs:** To conduct outreach programs to promote science education in the community.
 - ✓ **Industry Partnerships:** To establish partnerships with industries for student internships.
 - ✓ **Alumni Network:** To strengthen the alumni network to engage former students in department activities and development.

Implementation Strategy

Short-term/Long-term

- ✓ **Centre of Excellence:** Aim to establish the department as a centre of excellence in specific areas of Applied Physics via student-seminars, project works beyond existing curriculum.

- ✓ **Curriculum Update:** to include project works and new practical components for running the newly introduced NEP curriculum.
- ✓ **Workshop and Seminars:** To organize seminars for faculty and students & at least one seminar related to the progression to higher studies.
- ✓ **Infrastructure Expansion:** The Department wants to plan and execute the expansion of infrastructure to support growing academic needs (NEP Courses).
- ✓ **Faculty Exchange Programs:** Initiate faculty & Student exchange programs with reputed institutions under MoU and other higher education institutes.
- ✓ **Requirement of Faculty:** The Department seeks approval to hire part-time or adjunct faculty to share the teaching load.
- ✓ **Performance Metrics:** To establish clear performance metrics to evaluate the success of various initiatives and make necessary adjustments.
- ✓ **Annual Review:** Conduct an annual academic audit for future academic sessions.

Sustainability and Scalability

- **Sustainable Practices:** Department incorporates sustainable practices in all departmental activities, including energy-efficient infrastructure and green initiatives under Eco-Clubs.

This perspective plan aims to provide a strategic roadmap for the Department of Physics at Khatra Adibasi Mahavidyalaya, ensuring sustained growth and excellence in all areas of academic endeavours.