Field Project SOP

Date: 26th July 2024

To

The Head of Departments/ Incharge, Internship Coordinators

Bajaj College of Science

Wardha

Subject: SOP of the field project course in Sem IV as per NEP 2020

Respected Colleagues,

As part of our ongoing commitment to enhancing the educational experience of our undergraduate students, I am writing to introduce the implementation of a Field Project program aligned with the National Education Policy (NEP) 2020.

The NEP 2020 emphasizes bridging the gap between current learning outcomes and societal requirements. It has come to our attention that many of our students lack essential societal experience and graduate attributes such as measurement, observation, and documentation skills. To address this, we propose a field project initiative that will enable students to engage with their surroundings and develop critical skills including scientific reasoning, interdisciplinary thinking, communication, teamwork, and cooperation.

This program will provide students with data collection experience, allowing them to systematically study, document, and analyze region-specific realities and challenges. The studies can be conducted individually or in groups and focused on real-life situations, emphasizing the measurement and quantification of various societal phenomena.

During the fourth semester of the B.Sc. program, we will organize these field projects within the respective major subject departments. Students or groups will be assigned to faculty members who will act as project guides or mentors throughout this process.

I kindly request your attention in implementing this program within your departments. Your timely action is crucial to ensure the successful execution of the initiative, which aims to enrich our students' educational journey and better prepare them for future challenges.

Warm regards,

Dr. Pradip Tekade

Principal

Cc: Internship Cell Coordinator, IQAC Coordinator

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)
Standard Operating Procedures (SOPs) for the Case Study
Field Project SOP

The National Education Policy (NEP) 2020 aims to fill the gaps between the current state of learning outcomes and what is required by society for its development. Most of our undergraduate students lack societal experience, graduate attributes of measurements, observation, and documentation. The case study will provide an opportunity for students to study their surroundings and acquire skills such as scientific reasoning, interdisciplinary thinking, communication, teamwork, and cooperation.

The case study offers hands-on experience for participating students to systematically study, document, and analyze their own region-specific realities (and problems). The case study can be done in groups by students, should be multidisciplinary, and fieldwork-based study of any real-life situation with a focus on measurement and quantification of the phenomenon/process/system/problem in society.

The case study can be offered under the verticals like Community Engagement Projects (CEP), Field Projects (FP), internships and On the Job Training (OJT), research projects, which are categorized under the basket of experiential learning in NEP 2020. In the fourth semester of the B.Sc. program, we will implement field projects for students, organized within their major subject departments. Students or groups will be assigned to faculty members who will serve as project guides or mentors throughout this initiative.

Timeline:

    – Topic selection and allotment: First week of December

    – Case study design: Second Week of Design

    – Survey plan: December-January

    – Data Analysis and corrections: January-February

    – Presentation: February

    – Report writing and Evaluation: March

Role of Faculty Mentors

1. Help students in topic selection from the basket of 25 topics given below. Students and mentors can also opt for other topics of their choice, preferably science-related.

2. Guide students in designing the study as per the timeline.

3. Assist in making a survey plan for the study.

4. Help students prepare the questionnaire for data collection.

5. Plan and assign fieldwork activities to the students.

6. Provide support in data collection, compilation, and analysis.

7. Guide students in report writing.

8. Monitor students' progress and provide mentorship throughout the process.

9. Evaluate the final case study report as per the template.

10. Prepare the evaluation report for assigning credits.

Report Template

The case study report should include the following sections:

1. Title page

2. Abstract (In 50-100 words)

3. Introduction: Background and rationale (2-5 pages), Objectives (3-5 Objectives)

4. Methodology: Study design, Data collection method, Data analysis techniques

5. Results: Quantitative and qualitative findings, Visualizations (charts, graphs, etc.)

6. Discussion: Interpretation of results, Limitations of the study, Implications and

1. recommendations

7. Conclusion

8. References

9. Appendices (if any)

Topics:

1. **Water Conservation Practices:**

    a. Investigate the water usage patterns and conservation efforts in the local community.

    b. Collect data on water consumption, water-saving techniques, and community awareness about water conservation.

2. **Renewable Energy Adoption:**

    a. Analyze the adoption of renewable energy sources (e.g., solar, wind) in the local area.

    b. Gather data on the number of households or businesses using renewable energy, their motivations, and the challenges faced.

3. **Waste Management and Recycling:**

    a. Examine the waste management and recycling practices in the community.

    b. Collect data on the types of waste generated, recycling rates, and community participation in waste segregation and recycling initiatives.

4. **Air Quality and Pollution:**
   a. Investigate the air quality and pollution levels in the local area.
   b. Gather data on air pollutants, sources of pollution, and the community's awareness and response to air quality issues.

5. **Gardening and Food Security:**
   a. Explore the prevalence and practices of gardening and food production in the local community.
   b. Collect data on the types of gardens, the motivations of gardeners, and the impact on food security.

6. **Biodiversity and Ecosystem Conservation:**
   a. Assess the biodiversity and ecosystem conservation efforts in the local area.
   b. Gather data on the presence and diversity of flora and fauna, community initiatives for conservation, and the challenges faced.

7. **Environmental Education and Awareness:**
   a. Investigate the availability and effectiveness of environmental education programs in the community.
   b. Collect data on the community's level of awareness, participation, and attitudes towards environmental issues.

8. **Transportation and Sustainability:**
   a. Analyze the transportation patterns and sustainable mobility options in the local area.
   b. Gather data on the usage of public transportation, alternative modes of transport (e.g., cycling, walking), and the community's perceptions and preferences.

9. **Energy-Efficient Building Practices:**
   a. Investigate the adoption of energy-efficient building practices in the local community.
   b. Collect data on the use of energy-efficient materials, insulation, renewable energy integration, and community awareness about sustainable construction.

10. **Citizen Science Initiatives:**
    a. Explore the participation of the local community in citizen science projects.
    b. Gather data on the types of citizen science initiatives, the level of community engagement, and the impact of these projects on scientific understanding and environmental stewardship.

11. **Sustainable Agriculture and Food Production:**

a. Analyze the local food production and distribution systems, including farming, community gardens, and sustainable agricultural practices.

b. Collect data on the challenges, benefits, and community perceptions of sustainable food systems.

12. Disaster Preparedness and Climate Resilience:

a. Investigate the community's awareness and preparedness for natural disasters and climate-related events.

b. Gather data on emergency response plans, community-based disaster risk reduction initiatives, and the local population's understanding of climate change impacts.

13. Sustainable Consumption and Lifestyle Choices:

a. Explore the community's adoption of sustainable consumption habits and lifestyle choices.

b. Gather data on the use of eco-friendly products, reduction in single-use plastics, and the community's motivations and challenges in transitioning to sustainable lifestyles.

14. Innovative Environmental Technologies:

a. Investigate the implementation and community acceptance of innovative environmental technologies in the local area.

b. Collect data on the types of technologies, their impacts, and the community's perceptions and willingness to adopt them.

15. Environmental Health and Wellbeing:

a. Investigate the community's awareness and practices related to environmental health and wellbeing.

b. Gather data on the prevalence of environmentally-related health issues, access to green spaces, and the community's engagement in outdoor activities.

16. Circular Economy Initiatives:

a. Explore the implementation of circular economy principles, such as recycling, reuse, and waste reduction, in the local community.

b. Collect data on the community's participation in circular economy initiatives, their perceptions, and the challenges faced.

17. Sustainable Mobility and Transportation Equity:

a. Analyze the accessibility and equity of sustainable transportation options in the local community.

b. Gather data on the availability and usage of public transportation, bike-sharing programs, and the community's access to these sustainable mobility solutions.

18. Community-Based Environmental Monitoring:

a. Investigate the community's involvement in environmental monitoring and data collection efforts.

b. Collect data on the types of community-based monitoring initiatives, the level of participation, and the impact on environmental decision-making.

19. Sustainable Energy Cooperatives and Community-Owned Renewable Projects:

a. Explore the development and operation of community-based sustainable energy initiatives, such as renewable energy cooperatives.

b. Gather data on the community's engagement, the benefits and challenges of these projects, and their impact on local energy resilience.

20. Sustainable Forestry and Urban Greening:

a. Analyze the community's efforts in sustainable forestry management and urban greening initiatives.

b. Collect data on the preservation and expansion of urban forests, community-based tree planting programs, and the environmental and social benefits.

21. Biodiversity Preservation and Urban Ecosystems:

a. Explore the community's involvement in preserving biodiversity and supporting urban ecosystems.

b. Gather data on the protection of natural habitats, urban gardening for pollinator species, and community-driven biodiversity conservation initiatives.

22. Sustainable Waste Management and Circular Economy:

a. Analyze the community's adoption of sustainable waste management practices, such as recycling, composting, and waste-to-energy initiatives.

b. Collect data on community participation, the challenges faced, and the overall impact on waste reduction and the transition to a circular economy.

23. Community-Based Renewable Energy Projects:

a. Explore the development and operation of community-owned or community-led renewable energy projects, such as solar cooperatives or community wind farms.

b. Collect data on the community's participation, the benefits and challenges of these projects, and their contribution to local energy resilience.

24. Sustainable Food Systems and Agriculture:

a. Analyze the community's engagement in sustainable food production, including farming, community gardens, and local food distribution networks.

b. Gather data on the social, economic, and environmental impacts of these initiatives, as well as the community's perceptions and barriers to adoption.

25. Citizen Science for Environmental Monitoring:

a. Investigate the community's involvement in citizen science initiatives focused on environmental monitoring and data collection.

b. Collect data on the types of projects, the level of community participation, and the impact on environmental decision-making and awareness.