CIVIL ENGINEERING DEPARTMENT

Alumni Feedback Analysis on POs, PSOs, and PEOs 2024

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1. Introduction

This comprehensive report presents an analytical review of alumni feedback collected for the Civil Engineering Department regarding the attainment of Program Outcomes (POs), Program Specific Outcomes (PSOs), and Program Educational Objectives (PEOs). The feedback was obtained using a 5-point Likert scale to measure satisfaction and perceived relevance of the program's deliverables to real-world applications. This analysis identifies strengths, weaknesses, and proposes strategic interventions to enhance future curriculum delivery and graduate quality.

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2. Quantitative Feedback Summary

Program Outcomes (POs)

PO Description	Score
Engineering Knowledge	4.17
Problem Analysis	4.25
Design/Development of Solutions	4.00
Investigations of Complex Problems	4.25

Modern Tool Usage	4.67
The Engineer and Society	4.25
Environment and Sustainability	4.25
Ethics	4.33
Individual and Team Work	4.08
Communication	2.75
Project Management and Finance	4.67
Life-long Learning	3.83

Program Specific Outcomes (PSOs)

PSO Description	Score
Professional Design & Construction	4.33
Innovative Skills	4.33
Entrepreneurship	3.75

Program Educational Objectives (PEOs)

PEO Description	Score
Excelling in Career	4.50
Productive Research	4.33
Inter-disciplinary Exposure	3.67
Professional Ethics	4.33
Team Work	4.00

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3. In-Depth Analysis of Strengths

- **Technical Excellence**: Strong ratings in Modern Tool Usage (4.67), Project Management and Finance (4.67), and Problem Analysis (4.25) indicate that the department is effectively preparing students for practical engineering tasks.
- **Ethical & Social Competence**: High scores in Ethics (4.33), The Engineer and Society (4.25), and Environment and Sustainability (4.25) reflect the department's commitment to social responsibility and global relevance.
- **PEOs Performance**: Graduates report high satisfaction in career advancement (4.50), professional ethics (4.33), and research participation (4.33), validating the department's long-term impact.
- **Discipline-Specific Skills (PSOs)**: Alumni feel well-trained in construction design (4.33) and innovative skills (4.33), reflecting hands-on learning.

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4. Identified Weaknesses and Areas for Improvement

- **Communication Skills**: The lowest-rated area (2.75), suggesting alumni felt underprepared in professional communication, public speaking, and technical documentation.
- **Inter-disciplinary Exposure**: The lowest PEO score (3.67), indicating limited integration with other branches or fields of study during the program.
- **Entrepreneurial Readiness**: Though reasonable (3.75), there's room to improve exposure to start-ups, business models, and design-to-market pathways.

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5. Recommended Remedial Measures

Communication Skills

- Integrate a mandatory communication lab into the curriculum.
- Conduct seminars, debates, and mock interviews regularly.
- Offer electives like Technical Writing and Professional Communication.

Interdisciplinary Learning

- Launch joint projects and electives with departments like Mechanical, Architecture, and Management.
- Promote cross-disciplinary final year projects.

Entrepreneurship Development

- Set up an Incubation Cell for Civil start-ups.
- Invite alumni entrepreneurs for bootcamps.
- Include modules on Construction Business, Bidding, and Tendering.

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6. Implementation Strategy

Phase 1: Curriculum Integration

- Introduce a 2-credit course on Communication and Presentation Skills.
- Add modules on interdisciplinary thinking in the final year.

Phase 2: Activity-Based Learning

- Implement weekly student-led seminars.
- Conduct inter-departmental hackathons and field visits.

Phase 3: Industry Collaboration

- Establish a network of civil entrepreneurs and industry mentors.

- Organize bi-annual guest talks and design showcases.

Phase 4: Evaluation and Feedback Loop

- Use alumni panels to review interdisciplinary and entrepreneurship components.
- Incorporate feedback into Board of Studies recommendations annually.

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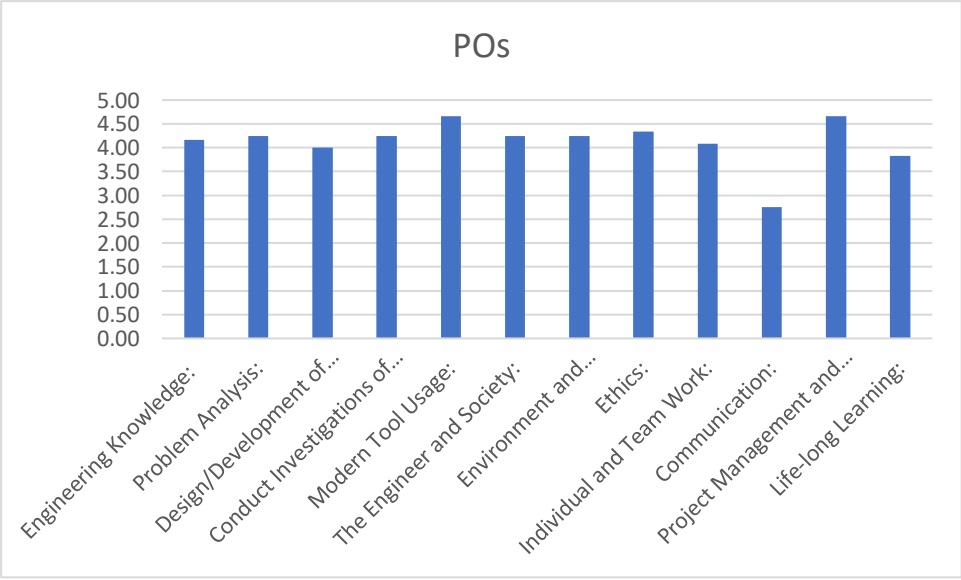
7. Graphical Representation

A. PO Graph (Bar Chart Format)

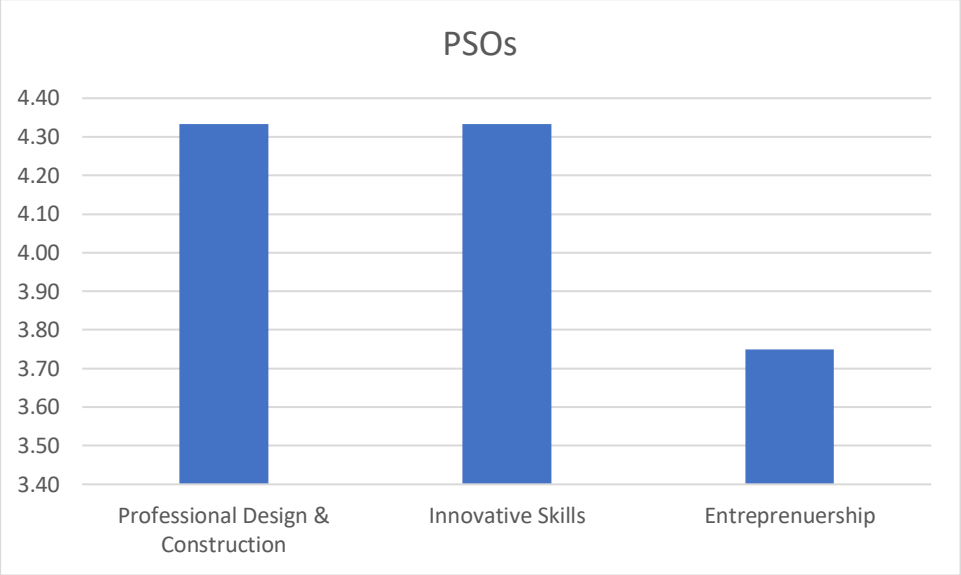
- Highest: Modern Tool Usage (4.67), Project Management (4.67)
- Lowest: Communication (2.75)



B. PSO Graph (Bar Chart Format)

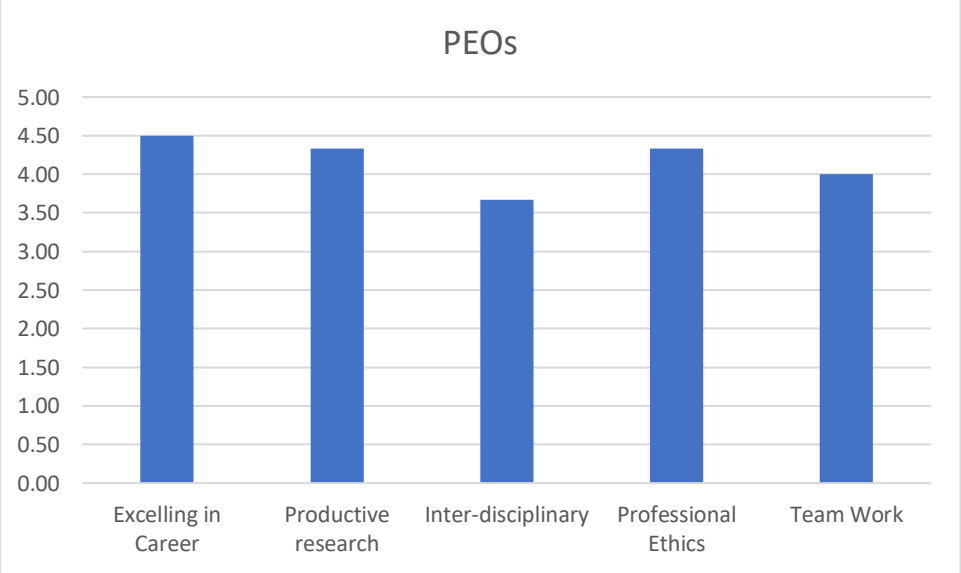
- Highest: Professional Design & Innovative Skills (4.33)

- Lowest: Entrepreneurship (3.75)



C. PEO Graph (Bar Chart Format)

- Highest: Excelling in Career (4.50)
- Lowest: Interdisciplinary Exposure (3.67)



8. Conclusion

The Civil Engineering Department has successfully equipped its students with robust technical, ethical, and managerial skills as confirmed by alumni. The moderate scores in communication and interdisciplinary learning highlight growth opportunities. Through structured curricular reforms, industry-academic collaboration, and stakeholder feedback mechanisms, the department can ensure even stronger alignment between education and real-world expectations.

9. STRATEGIC INITIATIVES ALREADY TAKEN TO STRENGTHEN COMMUNICATION AND EMPLOYMENT SKILLS

To address the gaps identified in communication and employability skills, the institute undertook a series of well-structured and impactful measures:

1. Incorporation of Employment Skills into the Curriculum:
   Employment skills were integrated into the academic credit structure, ensuring that students receive formal instruction and evaluation in this critical area. This strategic inclusion makes skill development an essential component of their academic journey.
2. Creation of a Dedicated Department:
   A specialized department was established to focus exclusively on communication and employability skills. This initiative ensures that the development of these competencies receives continuous attention and structured guidance.
3. Appointment of an Experienced Anglo-Indian Professor as Department Head:
   To lead the newly formed department, an Anglo-Indian professor with extensive expertise in communication and professional skill development was

appointed. Their multicultural background and proven experience bring a global outlook and innovative approaches to the department.

4. Adoption of a Robust Assessment System:
   A refined assessment system, recommended by subject matter experts, was implemented to evaluate student progress effectively. This system emphasizes continuous improvement by identifying skill gaps and addressing them through targeted interventions.

These initiatives are designed to equip students with the necessary skills to excel in professional environments, ensuring they are well-prepared for the demands of the global workforce.

Prepared by: Department Quality Assurance Cell
Civil Engineering Department

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