

BEST PRACTICES
Department of Mechanical Engineering
Faculty of Engineering & Technology

Best Practice 1

1. Title of the Practice

Experiential Learning through Go-Kart Design & National-Level Competitions

2. Objectives of the Practice

- To provide real-time engineering design and fabrication experience.
- To enhance teamwork, leadership, and project management skills.
- To encourage innovation and application of theoretical concepts.
- To prepare students for competitive technical environments.

3. The Context

Mechanical Engineering students often lack exposure to integrated system design and real-world problem solving. Participation in Go-Kart competitions bridges this gap by involving students in design, analysis, fabrication, and testing of vehicles under real constraints.

4. The Practice

- Formation of student teams for Go-Kart competitions.
- Design and analysis using software like SolidWorks/ANSYS.
- Fabrication of chassis, steering, braking, and transmission systems.
- Testing and performance evaluation of Go-Kart vehicles.
- Participation in national-level events.
- Mentorship by faculty and industry experts.

5. Evidence of Success

- Active participation of students in national competitions.
- Development of functional Go-Kart prototypes.
- Improved practical knowledge in automotive engineering.
- Recognition through awards and certificates.
- Increased interest in automotive careers.

6. Problems Encountered and Resources Required

- High cost of fabrication and components.
- Need for dedicated workshop space and tools.
- Time management alongside academic schedule.
- Requirement of sponsorship and industry collaboration.

Best Practice 2

1. Title of the Practice

Industry Integration through Industrial Visits & Industrial IoT Training

2. Objectives of the Practice

- To bridge the gap between academic curriculum and industrial requirements.
- To expose students to modern industrial practices and technologies.
- To provide hands-on learning in Industrial IoT (IIoT).
- To enhance employability and industry readiness.

3. The Context

With rapid industrial automation and digitalization, traditional mechanical engineering education needs to incorporate modern tools like IoT and smart manufacturing. Industrial exposure is essential for understanding real-world applications.

4. The Practice

- Regular industrial visits to manufacturing plants and industries.
- Introduction of industry-oriented courses like Industrial IoT.
- Hands-on training on sensors, actuators, PLCs, and IoT platforms.
- Interaction sessions with industry professionals.
- Live demonstrations of automation systems.
- Mini projects based on IoT applications.

5. Evidence of Success

- Improved understanding of industrial processes.
- Increased student participation in internships.
- Development of IoT-based projects.
- Better placement opportunities.
- Positive feedback from stakeholders.

6. Problems Encountered and Resources Required

- Logistical challenges in organizing industrial visits.
- Limited access to advanced IoT infrastructure.
- Need for trained faculty in emerging technologies.
- Requirement of funding for lab setup.



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