

Department of Mechanical Engineering

Venue: Centre of Excellence in Design

Unconventional Machining Process

Flipped Learning – UCM - Abrasive Water Jet Machining

Objective: The implementation of Flipped Learning in the topic of Abrasive Water Jet Machining provided final year students with an enriching educational experience that combined self-directed study with interactive classroom sessions to the **Third Year students**. Through this approach, students were empowered to take ownership of their learning process, delve deeper into the subject matter, and engage in meaningful discussions with their peers and instructors.

Event Outcomes

Students were assigned preparatory materials such as videos, articles, and interactive simulations, allowing them to familiarize themselves with the fundamental principles and applications of Abrasive Water Jet Machining at their own pace. This pre-class preparation laid a solid foundation for in-depth exploration during classroom sessions.

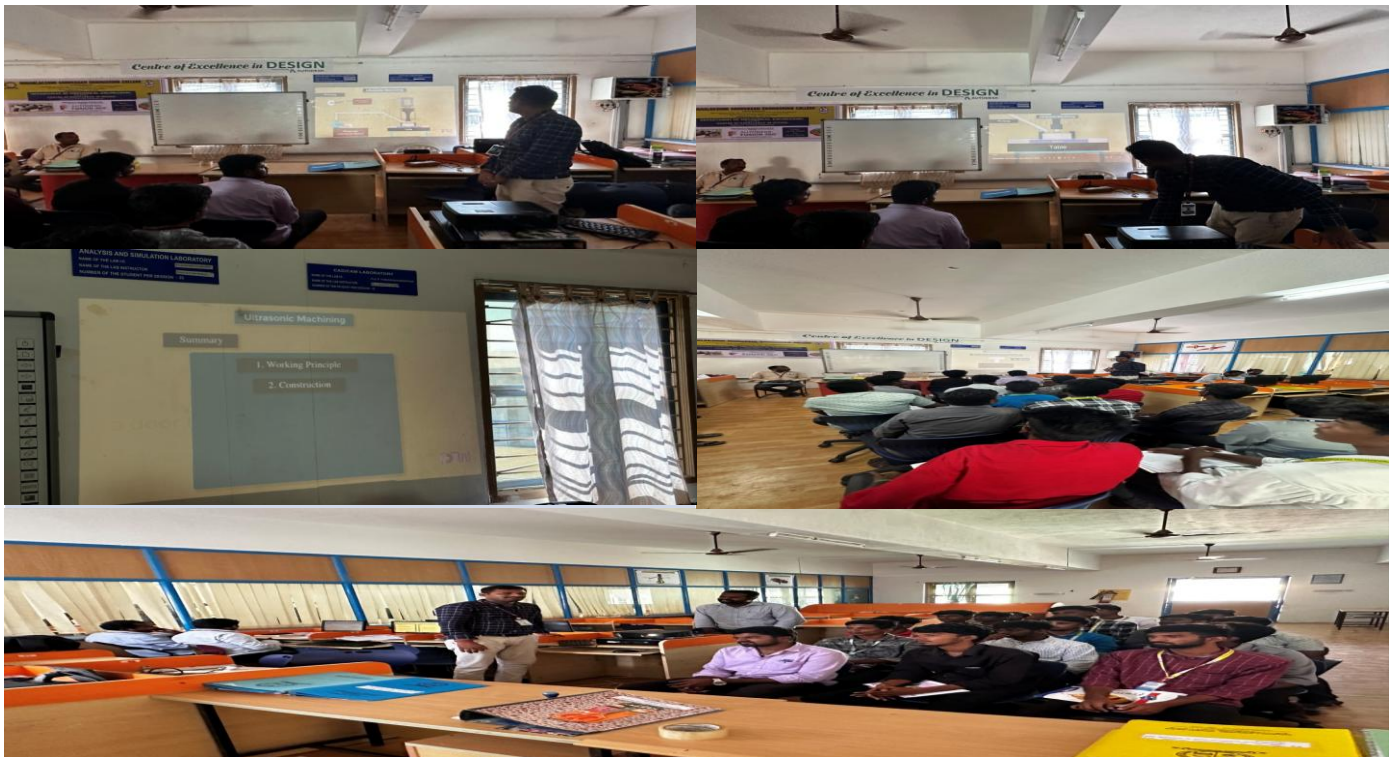
During face-to-face sessions, the focus shifted from traditional lectures to collaborative activities, problem-solving exercises, and discussions facilitated by the instructor. Drawing upon their pre-class learning, students actively participated in hands-on demonstrations, case studies, and group projects, applying theoretical concepts to real-world scenarios.

Through this interactive approach, students gained a deeper understanding of Abrasive Water Jet Machining, its underlying mechanisms, operational parameters, and potential applications across various industries. Moreover, they developed critical thinking skills, problem-solving abilities, and the capacity to analyze complex engineering challenges from multiple perspectives.

Moreover, the Flipped Learning model enabled instructors to provide targeted guidance and support to individual students based on their specific learning needs and challenges.

In addition to fostering academic excellence, Flipped Learning also equipped students with valuable lifelong learning skills that are essential for success in their future careers. By encouraging self-directed study, critical thinking, and collaboration, this innovative pedagogical approach empowered students to adapt to rapidly evolving technological advancements and industry trends.

The implementation of Flipped Learning in the topic of Abrasive Water Jet Machining proved to be a highly effective educational strategy for final year students. By combining self-directed pre-class study with interactive classroom sessions, students gained a deeper understanding of the subject matter, developed essential skills, and cultivated a collaborative learning community. As a result, they were better prepared to tackle real-world engineering challenges and excel in their future endeavors.



Faculty Incharge

HoD – Mech

Principal