

Best Practice-1

Title: Student Skill Development

Objectives:

- To provide access to resources, support systems & mentoring to the students to improve their performance
- To develop cutting edge technical skills as per industry standards
- To enhance the employability and career readiness by exposure to industry practices
- To develop leadership abilities, communication skills, teamwork and innovative ability of students

Context:

The fast-changing requirements of the engineering profession require students to possess technical skills along with soft skills such as communication, teamwork, leadership, ethics and lifelong learning. The curriculum delivered by the institute is designed by the affiliating university and it remains in force at least for 4 years till the next revision. The curricular framework may not address all aspects as per industry requirements. This may create a gap in skill sets due to prevailing university curriculum. The exponential rate of technology development demands upgradation of knowledge and the industry expects the fresh engineers to be equipped with cutting-edge technology skills. This gap between the curriculum and the industry needs to be bridged through additional training, exposure & other activities.

The Practice:

The institute has taken a number initiatives for developing the skills of students and improving their learning experiences. The collaborative training programs for imparting value added & certification courses has become an important component of this practice. Long duration “Campus to technical career (C2TC)” training program on technology tools such as SQL, Java, Git, HTML, CSS, front end development and software lifecycle development was conducted. The “Future skills program” is currently being conducted under which the students are trained on the latest software technology tools. The Google certification program is being run under which the courses on data analytics, UX design, IT support, IT automation, digital marketing & e-commerce are offered without any financial burden to the students. Apart from the technical skills, these programs also cover the training on soft skills addressing the communication skills component. The institute has conducted a separate soft skills training under Mahindra Pride Classroom for improving communication skills. An aptitude training program for improving quantitative aptitude, logical reasoning & verbal ability was organized. The students have availed the facility of online learning through digital platforms such as Infosys Springboard, Coursera & NPTEL to complete various training programs. The nodal center of Virtual Lab approved by IIT Bombay helps in performing experiments & assignments in simulated environments to better understand the basic principles. The collaboration for VMC machine helps in

experiential learning through practical training & product development activities. The honors course on Data Science is offered for the interested students. The project based learning approach is adopted to inculcate problem solving abilities. In addition to this, technical sessions on latest developments & knowledge upgradation have been conducted. The innovation related initiatives (IIC, Innovation policy) and collaborations are helping to inculcate a culture of innovation. The Skillup club is a platform for upgrading coding skills. The students are given industry exposure through internships, industry visits & sponsored projects. The ICT tools are used by the teachers for better delivery of the instruction. The interactive panels are recently installed in all classrooms to improve the learning experience. The computing facilities & IT infrastructure are significantly improved to enrich the learning experience.

Evidence of success:

A large number of students have completed value added & certificate courses such as aptitude training, programming skills, soft skills, Google certification and other online training courses. The outcome of these training is visible in a good number of placements especially in the last three academic years. The use of virtual lab has helped the teachers to explain the fundamentals through simulations especially during the covid period when only online mode of education was available. The practical handling of VMC machine has created an interest among the students & a few students are preparing for the World Skills Competition. The project based learning approach has resulted in innovative projects by the students in first & second year. The innovation related efforts are paying dividends in the form of projects that have won awards & recognition in prestigious competitions. The Skillup club has provided a good platform for enriching the knowledge which is now being independently run by the students. As a result of improved industry interaction, a majority of students completed internships. The improvement in IT infrastructure has resulted in increased use of ICT tools for teaching-learning & also for conducting additional training programs.

Problems encountered & resources required:

A major issue was the lack of interest & motivation of students. The continuous interaction, followup & counseling by teachers resulted in things returning back to normal after the pandemic; making students understand the importance of additional training. The limitation of time constraint due to a regular academic schedule was resolved by allocating a separate time slot. A facility for hands-on practice was required for which a new computer center with 100 seats was established with upgraded computers connected in LAN & a diesel generator for uninterrupted sessions. Availability of funds was a major issue because of low student enrollments and the inability of students to pay fees during & after the covid period. The scholarship given by the government to reserved category students was not disbursed in time which created a major financial crunch. The issue was resolved by the funds given by the parent organization and also through additional revenue streams.



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Sr. No.	Description	Supporting Documents
1	Campus to Technical Career (C2TC) Training program	View
2	Future Skill Program	View
3	Google Certification Program	View
4	Mahindra Pride Classroom	View
5	Aptitude Training Program-Career Launcher	View
6	Infosys Springboard	View
7	Coursera	View
8	NPTEL	View
9	Virtual Lab	View
10	VMC	View
11	Project based Learning	View
12	Technical Sessions	View
13	Innovation Ecosystem	View
14	Industrial Visits	View
15	Internship	View
16	ICT Tools	View
17	Skill Up Club	View