Best Practice 1: In-house Internship

1. Title of the Practice:

In-house Internship

2. Goal

- Through internships TCET wants to bring students to a level wherein they can start thinking analytically about the problems whose solutions are not available on internet. This will simplify their path to technical success.
- Another reason is as a part of institute practice to know about the student ‘s performance during internship, we send faculty to the industry to take their feedback. The feedback was that students lack discipline and sense of responsibility. So, there is a need to develop a platform to strengthen these skills and in house internship will help to enhance the performance of students during their internship in third year. For conducting this program, we need laboratories with equipments/software’s as per the industry requirements so that students get to work on latest technology used in industry. Experts from industry will help to make this program more effective by sharing real time examples and ways to develop the solution. Alumni students can be the resource person to help conduct this program. The faculty with the expertise can be the mentor for the program.

3. The Context

In the face of cut-throat competition, rapid advancements in technology and globalization of business the holistic development of the student is a necessity. To bring this versatility in the student to face the stiff competition for the job and make them global leaders, we need to provide them extra skills apart from the University curriculum through internships. It is not possible for all the students to get industry internship, so TCET has taken the initiative to provide in-house internship for the students who are eager to do the same, and this initiative was taken in the A.Y. 2016-17.

4. The Practice

The following steps are undertaken to execute In-house Internship:

Step1: Orientation is given to students about in-house internship program and its topics.

Step 2: Registration of in-house internship program is got done for various topics.

Step 3: A team of staff is allotted to design schedule and content for the program.

Step 4: Components required for this internship project are issued from R & D cell of TCET and all other expenses borne by department/Institute.

Step 5: In phase-I, Industry experts from various industries are made to interact with students only during evaluation and gave their inputs to enhance their design/product as per industry standards and market trends.

Step 6: In Phase II, sessions are conducted by industry experts and alumni students and they guide students on various technologies and even invite students for Industrial visit.

Step 7: Industrial visit is planned to get exposure of industry environment.

Step 8: In Phase III, to make the problem more relevant to the industry a team of senior leadership team visits SMEs and interacts with them and got problem statements for in-house internship. In this

way a joint internship is offered to the students in association with the SME which gives weightage to the students learning and skills.
Step 6: Exhibition cum evaluation for students during In-house internship is conducted and their product /design is evaluated by industry expert who gave the problem statement.
Step 9: A feedback is taken at the end of the program to understand the experience of students during in-house internship.
Step 10: Certificate with grades is given to the students only who successfully completed the assigned project during this internship.

5. Evidence of Success

E&TC Department				
Sr.No	Title	No. of students involved	Course conducted by	Company association
1.	Arduino	40	Mr. Niket Amoda	-
2.	Internet of Things (IoT)	33	Ms. Sukruti Kaulgud	-
3.	Data Networking and Cyber Security	44	Ms. Megha Gupta	-
4.	Video Making	53	Ms. Sonali Singh	-
5.	Digital Marketing	50	Mr. Manoj Chavan	-
	Total	**220**		

CIVIL Department				
Sr.No	Title	No. of students involved	Course conducted by	Company association
1.	Maintaining Physical & Mental health in Disaster condition	51	Ms. Ugandhara Gaikwad,Mr. Darshan Mali,Mr. Vinod Salunkhe Ms. Shruthy	-
2.	Interior Design	61	Mr. Swapnil Raut, Mr. Prashant Narayane,Mr. Anuj Pawar Ms. Varnika Srivastava	-
3.	Extreme Civil Engineering	68	Dr. Seema Jagtap,Ms. Priyanka Deshmukh Ms. Rutuja Shinde,Ms. Dipika Dalvi	-
4.	AUTOCAD/QCAD	11	Dr. Sanjeev Chaudhari,Mr. Ninad Khandare,Mr.Ghanshyam Pal Ms. Prajakta Kamble	-
5.	Traffic Simulation	16	Mr.Pritesh Bhana,Mr. Arpit Vyas Ms. Ashwini Shanbaug,Mr. Ninad Khandare	-
	Total	**207**		

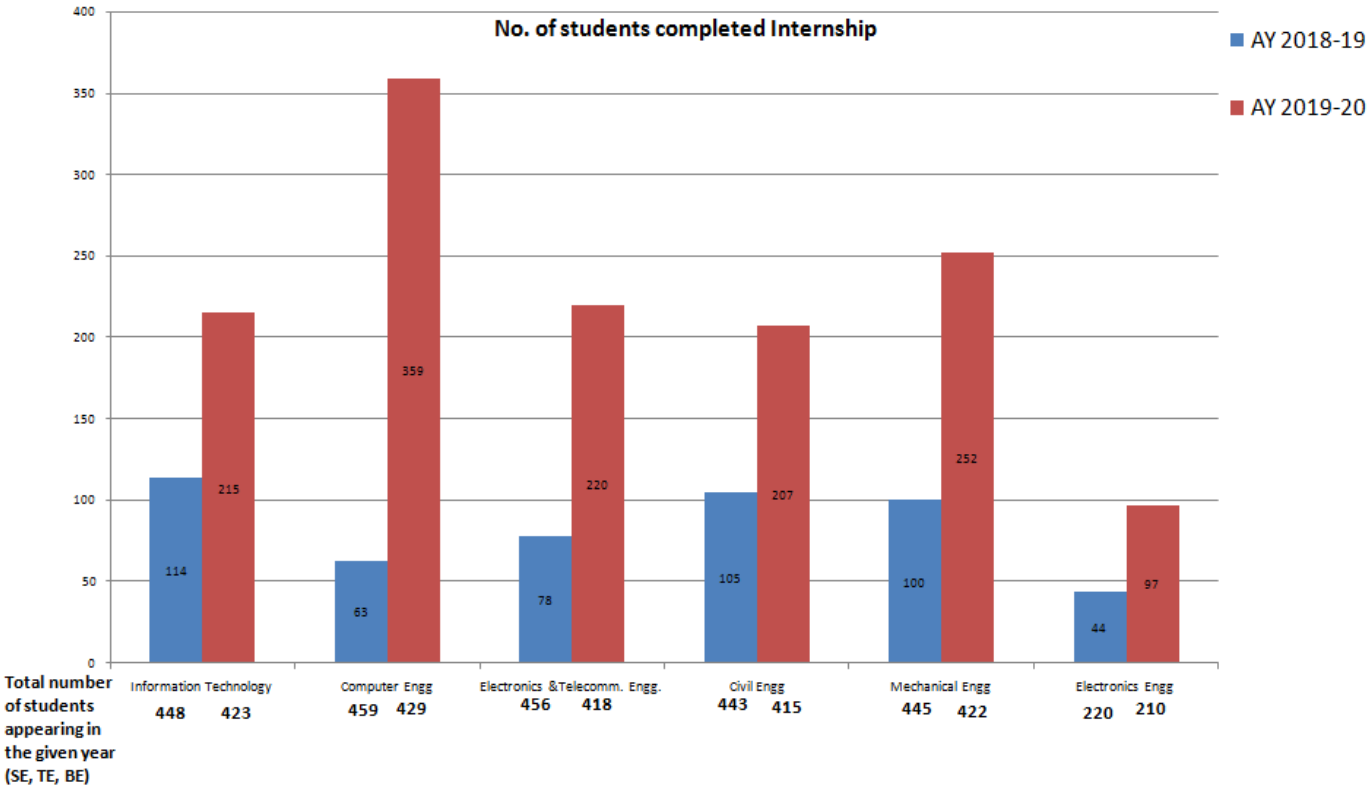
IT Department				
Sr.No	Title	No. of students involved	Course conducted by	Company association
1.	Website Development Batch I	64	Shridhar Kamble, Neha Kapadia, Mary Margarat, Sandip Bankar, Neha Patwari	-
2.	Website Development Batch II	49		-
3.	Database Batch I	21	Namdeo Badhe, Rahul Neve, Hetal Amrutia, Purvi Sankhe Swati Abhang Vandana Munde	-
4.	Database Batch II	46		-
5.	Digital Marketing	35	Dr.Bijith Marakarkandy Pranjali Kasture, Dr. Sangeeta Vhatkar, Shruti Mathur, Aaditya Desai, Apeksha Waghmare Mrs. Sowmuyashwari	-
Total		**215**		

COMP Department				
Sr.No	Title	No. of students involved	Course conducted by	Company association
1	Data Science using R	63	Dr. Anand Khandare, Mrs. Prachi Janrao, Mrs. Ashwini Patil, Ms. Tahera Shaikh	-
2	UX Design	63	Dr. Megharani Patil, Mrs. Vidyadhari Singh, Mr. Manish Rana, Mrs. Deepali Joshi	-
3	Machine Learning	66	Mrs. Shiwani Gupta, Mrs. Vaishali Nirgude, Mr. Nitin Harne, Ms. Pradnya Saval	-
4	Image Processing	75	Ms. Anupriya Bababer, Mr. Vikas Singh,Mr. Shailesh Sangle ,Mrs. Nisha V	-

5	Information Security	53	Mrs. Jesal V, Mrs. Lydia S, Mrs. Priti Badhe	-
6	Software Testing	39	Mrs. Vina Kulkarni, Dr. Rekha Sharma, Dr. Harshali Patil, Mrs. Kalpana G	-
	Total	**359**		

MECH Department				
Sr.No	Title	No. of students involved	Course conducted by	Company association
1.	Introduction of Finite Element Analysis	41	Swetha Sureshkumar, Mahendra Shelar, Pankaj Rawool	-
2.	Fundamentals of I.C. Engine and Automobile	54	Pawan Tiwari, Rupesh Deshbhratar, Vaibhav Madane	-
3.	Thermal System Design and Optimization	35	Uddhav Nimbalkar, Vaibhav Gudi, Saurabh Vichare	-
4.	Mechanical Mechanism	42	Jayant Patil, R S Deshmukh, Vinay Bhatkar	-
5.	Introduction to CNC Programming	33	Rajeshwari Jaisinghani, Krishna Gaikwad, Neha Chauhan	-
6.	Animation in Blender 2.8X	47	Iqbal Mujawar, Sachin Oak, Varad Deshpande	
	Total	**252**		

ELEX Department				
Sr.No	Title	No. of students involved	Course conducted by	Company association
1.	Electronic Product Development (Simulation Lab)	28	Ms. Sujata Alegavi, Mr. Shailendra Shastri, Ms. Archana Deshpande, Ms. Anvita Birje	-
2.	IOT and Embedded Systems	31	Ms. Leena Chakraborty, Ms. Jyoti Kori, Ms. Archana Belge, Mr. Sunil Khatri	-
3.	Digital System Design using FPGA	38	Ms. Jalpaben Pandya, Mr. Sumit Kumar, Mr. Kiran Thale	-
	Total	**97**		



6. Problems Encountered and Resources Required

The following were certain problems and challenges that were encountered while running the In-house Internship Programme:

- A training program helps to strengthen the skills. The time needed by each and every student to develop the skill is different. So more time should be allotted for training process, so that all students get trained at same level.
- In order for student to be trained well, they should acquire the basic knowledge before the training.
- The Company should provide real Life problems.

7. Notes (Optional)

The impact of this practice was that, the students gain hands on knowledge. When the internship programme are conducted the students are able to understand work culture.

8. Contact Details

Name of the Principal: Dr. B. K. Mishra
Name of the Institution: Thakur College of Engineering and Technology
City: Mumbai, Maharashtra
Pin Code: 400101
Accredited Status: Accredited
Work Phone: (022) 67308106/107
Fax: 022 - 67308000
Website: www.tcetmumbai.in
E-mail : tcet@thakureducation.org
Mobile: 9821285825

Best Practice 2: Faculty Development Program

1. **Title of the Practice:** Faculty Development Program (FDP)

2. **Goal:** To keep Academicians abreast with the latest technology & improve their technical knowledge /professional skills that are vital for carrying out effective Teaching & Research in Undergraduate/Postgraduate/Ph.D. programs in Education, so that they are better able to guide students throughout their learning journey.

3. **The Context:**

   FDP has become a significant process in Academic institutions as it proves a way to improve the quality of Academic Delivery and to respond to emerging faculty, student, program, and industry needs It focuses on realistic outcomes through these training programs. It also enhances the knowledge and skills of the teachers in the engineering domain& helps equip the teachers with modern methods of teaching. They support interdisciplinary fields and also encourages team work.

   FDP's conducted at TCET are either Self-Financed, sponsored by approving authorities like AICTE,/ ISTE or Training Programs offered by IIT's conducted at TCET (Remote Center). It also involves Industry persons to be a part of these training programs as a Key Note Speaker/ Resource person for some of the sessions. This enables us to understand the current needs of the industry & bridges the gap between Industry & Academia. The faculty members also build a rapport with them for future acquaintances as well. Some of the FDP's/STTP's are supported with One day Industrial Visits to companies as well. This helps the faculty members gain a practical insight about their respective field of Engineering. These FDP programs are mainly theme based & are relevant with the various Engineering Domains & also on strengthening of various activities in the institute. The program aims to raise not only the quality of the teaching process but also enhances professional skill development of faculty members.

4. Challenges faced &Resources Required:

- Switching to Online Mode during Pandemic: FDP's were usually conducted in the Institute in a well-established set up with proper infrastructure facilities, but due to the

Pandemic, now-a-days it is being done through Online mode, which gave rise to some issues like Software Installation, Internet Connectivity, Unavailability of Resources such as laptop & devices, System Requirement & Configuration, Limited bandwidth and data pack, Non-availability of sound proof infrastructure.

- Resources Required (Online Mode): Laptop, Webcam, License version of Zoom, Devices for recording lectures, Sound-Proof Infrastructure during delivery of sessions to avoid external disturbances.

5. Evidence of Success

FDP's have proven to be beneficial to the Faculty members as well as the students. During these FDP's there is a high level of exchange of ideas. Many pedagogies & methodologies are discussed which are adopted by faculty members while teaching their subjects which in turn has improved the Teaching Learning process. The knowledge & skills of the faculty members also get enhanced as they become abreast with the latest technology of their Engineering domains. During the Pandemic, Online FDP was conducted based on theme of "Creating Digital Content for Effective Online Academic Delivery" in which many Online Tools were discussed & have been used by the faculty members during the Semester to conduct lectures, evaluate & improve the interaction among the students. They have also developed structured and guided learning resource (E-content) for conduction of lectures (PPTs, Videos, Quizzes and design of experiments using Virtual Lab)

6. Notes(Optional)

FDP enables faculty members come up with new and innovative ideas & enhance his/her knowledge/skills in respective filed of Engineering. FDP's also help in strengthening the domains in the department. It also encourages peer learning, adjust & adapt to the new learning environment irrespective of where the faculty was currently located (during this pandemic).

Students get benefitted as faculty members adopt those new techniques & methodologies learnt during their FDP to teach their subject. Their technical knowledge is also enhanced which makes them even more confident to deliver their lectures. They come up with Smart Presentations which holds the student's attention in the class & make them more curious to learn even

more.

7. Contact Details

Name of the Principal: Dr. B. K. Mishra
Name of the Institution: Thakur College of Engineering and Technology
City: Mumbai,
Maharashtra
Pin Code: 400101
Accredited Status: Accredited Work
Phone: (022) 67308106/107 Fax: 022 - 67308000
Website: www.tcetmumbai.in
E-mail tcet@thakureducation.org
Mobile: 9821285825