

BEST PRACTICES IN CSE DEPARTMENT

Title of the practice: Remote Internship Projects

Objectives of the practice:

- Expose the students towards real word problems and encourage them to propose novel solutions
- To explore state of art open source tools
- To understand the software engineering practices employed by industry
- To reduce training time at the working place
- To work with inter disciplinary projects
- To associate with concerned projects from day one at working environment
- To expose agile project management process

The context:

Most of the software industries claim that most of the engineering students coming out of the respective colleges are not having enough skills to get employment. They claim that engineering curriculum is not considering the industry needs. The industry has to spend considerable amount of their resources and time for extending training to their fresh employed engineers. This intern effect their schedules, deliverables and revenue.

The practice:

In order to bridge this academic and industry gap, the GRIET CSE department encourages students should undergo internships with reputed software industries during their study. In this regard the institution has MOU with internationally reputed software industries such as TCS, CAPGEMINI so that they extend training to our students and of offer remote internship projects. From the last 3 years TCS Technological Business Unit, Manufacturing Business Unit offer real time projects with the scope limited to one semester (3months) for their campus selected students. The students have a chance to work with developers during the project. These projects have the mentor from TCS side as well as department side.

This exercise is win-win situation for all stakeholders. Department get benefit to explore real time projects and problems through mentors. Students get benefit of exploring state of art tools and technologies and Industry can greatly reduce resources (time, human and revenue) which otherwise needed for training their fresh employers.

Evidence of success:

Some of the students got training is getting offer letters from TCS for joining on the basis of course completion before the results are declared. This is clear evidence that how industries

get benefit and also how student get preference over others from activity. The increasing number of students got this training opportunity year by year is the best evidence for the success of the remote internship activity.

Problems encountered and resources required:

Since this remote internship project is also associated with academic major project for final years some minor problems are faced by department. Academic project review schedules may have to be adjusted for the remote internship projects because of their external interaction. Since the scope of the real time project is restricted to one semester it may not yield full problem domain benefits to the students in spite of acquiring industry best practice agile project management (weekly scenarios and deliverables).

Dedicated Single Point of Contact is needed to handle this activity right from planning to execute the mentoring sessions. SPOC is the interface between Industry trainers/mentors and students.

Title of the practice: Teaching-Learning Process

Objectives of the practice:

- To ensure the completion of the syllabus according to the academic calendar.
- To encourage faculty to adapt ICT tools in class room teaching.
- To improve the pass percentage and to enhance the number of placements.

The context:

- To complete the syllabus within the stipulated time is somewhat difficult by considering slow learner students to cope up with the bright students.
- The faculty use ICT tools for explaining the complex topics and to avoid the confusion of the students.
- The faculty should find complex topics and provide the material to students.

The practice:

- Academic calendar is uploaded on the website for information to students and faculty.
- Head of the department monitors the coverage of the syllabus.
- To encourage the students for utilizing the library.
- Take students feedback on academic activities.
- Monitor the student's attendance and take necessary steps for improving the regularity.
- Give the subject wise assignments to the students for improving the performance in the end examinations.
- Train the faulty to use ICT tools.
- Conduct the remedial classes for students for improving the pass percentage.

- Give training on soft skills & technical skills during Semester breaks for improving the placements.

Evidence of success:

- Syllabus has been completed within the time.
- Most of the faculty have adopted ICT tools in their classes.
- Material of the course is uploaded on the website.
- Pass percentage and placements are increased.

Problems encountered and resources required:

Since the rural students and non technical faculty does not know how to use ICT tools, training has been given to them by ICT coordinators. By identifying slow learners, extra classes have been conducted to improve the results and their skills.

Title of the practice: Certificate Programmes

Objectives of the practice: The basic objective of certificate programmes is to up-skill the students and faculty with the ever growing industry demands.

The context: To perform industry academia linkage, various skill development activities are required.

The practice: Conducting certificate courses both for faculty and students will keep them up-to-date.

Evidence of success: Majority of the students go their placement with the Java certification done with OCJP for the academic year 2017-18.

Problems encountered and resources required: A dedicated lab facility with good internet connectivity will be beneficial for the learning groups to practice hands-on.

Title of the practice: Certification Courses in Association with IIT Bombay Spoken Tutorials and SERVICENOW MNC in support with TASK.

Objectives of the practice: The practice ensures knowledge and skill of courses beyond curriculum to be imparted to students of CSE making them ready for Industry 4.0.

The context: It makes them industry ready with hands on experience of cutting edge technologies and higher level concepts not covered in regular classrooms. The student becomes a self learner which he can continue throughout his life.

The practice: The students are made to listen to Spoken Tutorials Video lectures and practice the concepts. After the course they will undergo an on line certification exam to test their understanding and grip on technology or concept

In case of Global certification course of SERVICENOW, an internal faculty was first trained and further the trained faculty acts as a facilitator for interested students to undergo in house training in college. The students were encouraged to take Global certification exam with complete fee waiver being given by TASK and SERVICENOW for eligible shortlisted candidates.

Evidence of success: These courses added niche to the profile of the students. Students got multiple offers from different companies based on their enhanced skill in the courses covered under best practice.

Problems encountered and resources required:

- Making them to realize to put extra effort beyond curriculum was a real challenge
- Motivating students to start self learning is one big challenge.
- Encouraging them to face global level competition and high standard certification exams is another challenge.
- Sometimes proper textbooks won't be available for value added courses and relying only on online material discourages a bit for the student.
- Continuous high bandwidth internet facility would be highly solicited
- Even the faculty had to take lot of pains to learn the latest technologies which are very new in market and be certified at first with less peers to discuss even.

Title of the practice: Let the student know the significance of the subject before he/she start learning and also the importance of that subject in real world applications.

Objectives of the practice: To create enthusiasm and interest on the subject.

The context: Normally when we teach the subject in the classroom, most of the students really doesn't know where it is useful or applicable. They simply take it passively and go through just to write exams and never understand the real significance of that subject.

The practice: When we start the first session of any new subject at the beginning of the semester, we will first illustrate the students the importance of that subject, chapters involved and where it is applicable and how it is used in the real world. This creates lot of enthusiasm among them. They start thinking and compare the topics to the real world applications they come across and make the class more interactive.

Evidence of success: After implementing the above technique, the interaction between the student and teacher is manifold, quite effective and sometimes it is going beyond the scope of the prescribed subject.

Problems encountered and resources required: We need to play a snippet or videos from internet. For which we need a multimedia class rooms.

Title of the practice: Digital medium ICT based course content

Objectives of the practice: To make zero utilization of using paper based and to protect the environment

The context:

- All the course materials, notes and contents take around 350 papers per course.
- If this is replaced with Digital medium, this will reduce usage of papers and avoid cutting trees for manufacturing papers.

The practice: Developing content electronically from initial stage of teaching process.

Evidence of success:

- Developed Moodle platform for all courses.
- All faculties are making digital content, are placing their contents in the Moodle courses.
- Students are given access only for the respected year and courses.

Problems encountered and resources required:

- Need dedicated server and user space for faculty courses and students access.
- Established open source “Moodle” and Standalone server for this purpose.
