

# Orientation Program Project Semester

Jan- June 2020

**August 26, 2019**

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# Project Semester Coordinators

- Dr. Ravinder Singh Joshi  
Assistant Professor
- Dr. Rajendra Kumar Godara  
Assistant Professor
- Dr. Dinesh W Rathod  
Assistant Professor

# Introduction

- As a part of the **under graduate curriculum**, students are required to undergo **Industrial Training** under **Project Semester Scheme** in **6<sup>th</sup> Semester**.
- **Objective:** To sharpen the technical skills of students by exposing them to Industrial environment, along with adoption of value based Industrial culture, while being engaged in industrial problem solving.

# Purpose

- Translate engineering theory into practice in a professional engineering environment
- It includes a practical training in a professional engineering culture (a company, top educational institution, research institute etc.)
- It must be based around significant engineering work and is principally assessed on that basis

...cont.

- The technical activity should be related to
  - both the **student's engineering studies**
  - the **host organization's activities**
- It should involve tasks and methods
  - that are **more appropriately completed in a professional engineering environment** and
  - should, where possible, make use of **human and technology resources provided by the organization**

...cont.

- Consolidates the student's prior learning and provides a context for later research studies
- The student remains a full time registered student at TIET during the project semester
  - this activity is therefore wholly distinct from any other industrial interactions

# Selection Process

1. Through the Department (companies visit the campus, select students through GDs, interviews etc.)
2. Through independent effort (by the students)  
Conditions:
  - (a) Location should be discussed prior to approval
  - (b) At least 3 students at specified location
  - (c) Submit the offer letter to us within 7 days (by October) and 3 days (after October to Dec.) of issuing date.
3. Once selected: **No back-out or cancellation** is allowed
4. Once selected: **you cannot apply for other companies**

# Training Locations

## 1. India

- (a) Through Department: No Constraint of Location
- (b) At least 3 students, at one location for individual efforts

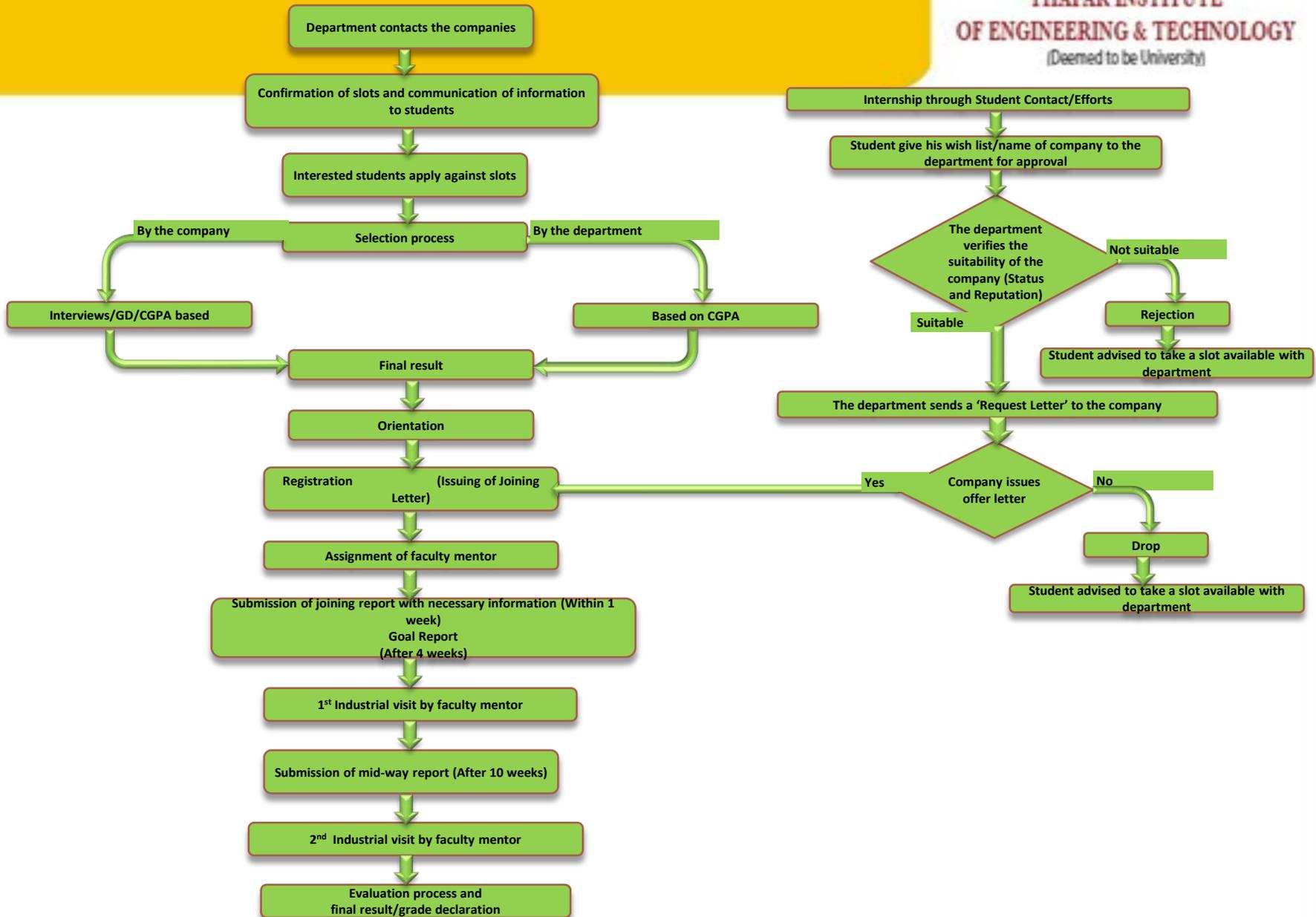
## 2. Outside India

- (a) You have to apply through project semester coordinators and need the approval of HOD, Mechanical.
- (b) You have to fill the proposal form and need one Thapar Alumnus to evaluate two times during the training as per TU evaluation format.

# Registration

- Before final registration you have to clear all hostel dues, semester fee for 6<sup>th</sup> Semester
- In total two rounds of registration in the months of December and January.
- Student has to appear in person for his/her Registration.
- A joining letter will be issued to all the students on the date of registration.
- Daily diary and other related forms will be given.
- Dates of registration will be declared in the month of December after the declaration of EST date sheet.

# PROJECT SEMESTER FLOW CHART



| <b>TR Names</b>   | <b>Branch</b>       | <b>Contact no.</b> |
|-------------------|---------------------|--------------------|
| karan saxena      | BEMBA ( Mechanical) | 9205245192         |
| anshdeep malhotra | BEMBA ( Mechanical) | 8826141797         |
| Ayush Singh       | MEE 1-4             | 9012875462         |
| Anirudh Airi      | MEE 1-4             | 9417211248         |
| Kshitij           | MEE 5-8             | 9968280014         |
| Manjinder Singh   | MEE 5-8             | 7009061038         |
| Varun Mankoo      | MEE 9-12            | 8727094228         |
| Sidharth Kathuria | MEE 9-12            | 9877471325         |
| Vedanshu Seedwan  | MTX1                | 7696624294         |
| Pallav Aggarwal   | MTX2                | 8375964710         |
| Pratham Singhal   | MPE                 | 9911832210         |
| Kavya Bhargawa    | MPE                 | 9313117417         |

| <b>Sr. No.</b> | <b>Name of Faculty</b>     | <b>Section/Group</b> | <b>Ph. No.</b> |
|----------------|----------------------------|----------------------|----------------|
| 1              | Dr. Dinesh W<br>Rathod     | MEE1-4, MPE          | 9834749087     |
| 2              | Dr. R.S. Joshi             | MEE5-8, MTX          | 9888997298     |
| 3              | Dr. Rajendra kr.<br>Godara | MEE9-12 BE-MBA       | 8449924889     |

**Note: Request slips will be submitted by the concerned TR to the respective faculty coordinator either on Monday or Thursday of every week.**

# During the Training

- Discipline and punctuality in industry is of serious concern
- Each student will work under supervision of one faculty and one industry mentor
- Update your details, contact no. with assigned faculty
- Communication of ongoing work with faculty
- Maintain daily diary
- Check group email regularly for updates
- Provide your information within time limit
- Submit the Goal report and Midterm report on time
- There will be strict punishment for those who delay in providing his/her information

# Companies of 2017/2018

| S.No. | Name of Company                |
|-------|--------------------------------|
| 1     | Eicher Tractors                |
| 2     | Federal Mogul                  |
| 4     | JCB                            |
| 5     | Gabriel                        |
| 6     | Anand Group                    |
| 7     | TAFE India                     |
| 8     | Tata motors Limited (8 Plants) |
| 9     | Whirlpool                      |
| 10    | LG Soft (R&D)                  |
| 11    | LG Development                 |
| 12    | GSK, Nabha                     |
| 13    | Ford                           |
| 14    | Continental Automotive Brake   |
| 15    | P&G                            |
| 16    | International Tractors         |
| 17    | Honda Cars                     |
| 18    | Honda Two Wheelers             |
| 19    | Pritika Industries Limited     |
| 20    | EIL                            |

| S.No. | Name of Company                 |
|-------|---------------------------------|
| 21    | Kwality Forge                   |
| 22    | Maruti Suzuki                   |
| 23    | Hero Ecotech Limited            |
| 24    | Toyota Kirloskar Motors pvt ltd |
| 25    | Minda                           |
| 26    | L & T                           |
| 27    | BEL Engineering (UK) Limited    |
| 28    | Volvo Eicher                    |
| 29    | Sona Koyo Steering Systems Ltd  |
| 30    | DNA Automation                  |
| 31    | Anchemco pvt. Ltd.              |
| 32    | Satyam Auto                     |
| 33    | Hitech Robotic Systemz          |
| 34    | Future First                    |
| 35    | SML Isuzu                       |
| 36    | Mercedes Benz                   |
| 37    | Mahle Filters, Pune             |
| 38    | Spicer India Pvt Limited        |
| 39    | Khanna Papers Mills Limited     |
| 40    | Rail Coach Factory              |



# Companies of 2019

| S. No. | Name of Company                                       | Location              | No of students |
|--------|---|-----------------------|----------------|
| 1      | ALP Nishikawa   | Gurgaon               | 1              |
| 2      | Amber Enterprises                                     | Rajpura               | 5              |
| 3      | Ambuja cement   | Ropar                 | 2              |
| 4      | Anand Motors -Mahle Behr                              | Greater noida         | 3              |
| 5      | Autolite  | Jaipur                | 1              |
| 6      | Bajaj Motors Ltd.                                     | Gurgaon               | 1              |
| 7      | Bharat Forge Ltd (3 month's)+DLW Varanasi             | Pune +Varanasi        | 1              |
| 8      | BONY Polymers Pvt. Ltd.                               | Faridabad             | 4              |
| 9      | Bosch limited   | Bangalore, Aduodi     | 1              |
| 10     | CENSE, IISc Bangalore                                 | Bangalore             | 1              |
| 11     | Centre for Artificial Intelligence and Robotics, DRDO | Bangalore             | 1              |
| 12     | claas india pvt ltd                                   | Morinda               | 1              |
| 13     | CNH Industrial  | Greater noida         | 1              |
| 14     | ContiTech India Pvt. Ltd.                             | Sonipat               | 1              |
| 15     | CSIO  | Chandigarh            | 4              |
| 16     | Daimler India Commercial Vehicles                     | Chennai               | 1              |
| 17     | DEE Piping System                                     | Faridabad             | 1              |
| 18     | Diesel Loco modernisation Works                       | Patiala               | 2              |
| 19     | Eicher Tractor  | Bhopal                | 7              |
| 20     | Engineers India Ltd.                                  | Delhi                 | 1              |
| 21     | Essar Steels  | Surat, Hazira         | 1              |
| 22     | Federal Mogul   | Patiala               | 9              |
| 23     | Federal mogul   | Parwanoo              | 4              |
| 24     | Ford India Pvt. Ltd.                                  | Sanand, Gujarat       | 3              |
| 25     | Gabriel India Limited                                 | Pune                  | 2              |
| 26     | Gabriel India Limited                                 | Dewas, M.P.           | 1              |
| 27     | Gates India   | Lalru                 | 1              |
| 28     | GNA Axles Limited                                     | Hoshiarpur, Mehitiana | 1              |
| 29     | Godrej & Boyce Mfg. Co. Ltd                           | Mohali                | 4              |
| 30     | HEAMCO Industries+Tata Steels                         | Jalandhar+Jamshedpur  | 1              |

|    |   |                      |    |
|----|---|----------------------|----|
| 31 | Hero Motocop LTD.                           | Gurgaon              | 6  |
| 32 | Hindustan Shipyard Ltd.; Kirloskar Brothers | Vishakhapatnam; Pune | 1  |
| 33 | Honda Cars India Limited                    | Greater Noida        | 7  |
| 34 | HONDA Scooter & Motorcycles                 | Manesar              | 1  |
| 35 | Hyundai Motors India Ltd.                   | Chennai              | 1  |
| 36 | IIT Bombay                                  | Bombay               | 5  |
| 37 | IIT Delhi                                   | Delhi                | 8  |
| 38 | IIT Indore                                  | Indore               | 1  |
| 39 | IIT Patna                                   | Patna                | 3  |
| 40 | IIT Roorkee                                 | Roorkee              | 1  |
| 41 | IIT ROPAR                                   | ROPAR                | 2  |
| 42 | Intellect project pvt. ltd.                 | Greater Noida        | 1  |
| 43 | International Tractors Ltd. (Sonalika)      | Hoshiarpur           | 5  |
| 44 | IRDE, DRDO.                                 | Dehradun             | 1  |
| 45 | ISGEC Heavy ENGG. LTD                       | Yamunanagar          | 7  |
| 46 | JAY USHIN LIMITED                           | GURGAON              | 1  |
| 47 | JCB india limited                           | Faridabad            | 6  |
| 48 | KOHLER India Corporation Pvt. Ltd.          | Gurgaon              | 1  |
| 49 | L.G. Electronics R&D                        | Greater Noida        | 12 |
| 50 | LG Soft R&D                                 | Greater noida        | 7  |
| 51 | Lohar thermo tech                           | Dera Bassi           | 2  |
| 52 | Lumax Auto Technologies LTD                 | Gurgaon              | 1  |
| 53 | Lumax Auto Technologies Ltd.                | Pantnagar            | 3  |
| 54 | Mahindra & Mahindra; Minda Industries Ltd.  | Mohali; + Manesar    | 1  |
| 55 | Mahle Anand Filter systems Pvt. Ltd.        | Parwanoo             | 1  |
| 56 | Maruti suzuki India Ltd                     | Manesar              | 16 |
| 57 | Mehle Behr                                  | Pune, Chakan         | 1  |
| 58 | Mercedez Benz, R&D                          | Pune                 | 1  |
| 59 | Metro rail                                  | Noida                | 1  |
| 60 | Micro Turners                               | Gurgaon              | 1  |
| 61 | Minda industries ltd.                       | Gurgaon              | 1  |
| 62 | Mindarika                                   | Manesar              | 1  |
| 63 | MNIT jaipur                                 | Jaipur               | 3  |
| 64 | National Metallurgical Lab                  | Jamshedpur           | 2  |
| 65 | Padmini VNA Ltd                             | Gurgaon              | 6  |

|    |  |                    |    |
|----|--|--------------------|----|
| 66 | Parson Nutritionals Pvt Ltd.   | Ghaziabad          | 2  |
| 67 | Plasser India Pvt. Ltd./Microturners, Barotiwala                             | Faridabad          | 1  |
| 68 | Polyplastic Industries   | Yamunanagar        | 1  |
| 69 | Protiviti India Member Firm Private Limited                                  | Gurgaon            | 1  |
| 70 | RDSO   | Lucknow            | 1  |
| 71 | RELIANCE INDUSTRIES LIMITED  | Bombay             | 1  |
| 72 | Rico auto industries   | Gurgaon, Dharuhera | 1  |
| 73 | Siemens  | vadodra            | 1  |
| 74 | Sietz Technologies India Pvt. Ltd.   | Faridabad          | 1  |
| 75 | SML isuzu  | Ropar              | 4  |
| 76 | Somic ZF components pvt ltd  | Gurgaon            | 1  |
| 77 | Spicer India   | Pune               | 2  |
| 78 | Steel strips India Wheels Ltd.   | Chandigarh         | 2  |
| 79 | Swaraj Engines Ltd.  | Mohali             | 1  |
| 80 | TATA MOTORS  | Lucknow            | 49 |
| 81 | TATA Steel   | Jamshedpur         | 3  |
| 82 | Tenneco automotives  | Bawal, Rewari      | 1  |
| 83 | Toyota Kirloskar Motor   | Bengalore, Bidadi  | 1  |
| 84 | TVS motors   | Nalagarh           | 1  |
| 85 | University of Padua<br>Department of Industrial Engineering<br>Padua, Italy. | Padua, Italy.      | 1  |
| 86 | URBAN AIR LABS   | Gurgaon            | 1  |
| 87 | VE Commercial Vehicle  | Pithampur, M.P.    | 1  |
| 88 | Veegee Enterprises   | Faridabad          | 3  |
| 89 | Vehma Engineering Solution Pvt. Ltd.   | Bangalore          | 1  |
| 90 | Victoria Tool  | Faridabad          | 9  |
| 91 | Woodmac Industries   | Amritsar           | 1  |
| 92 | Yamaha Motor Pvt. Ltd.   | Delhi              | 1  |
| 93 | Yaskawa india pvt ltd  | Gurgaon            | 1  |

|                                |     |
|--------------------------------|-----|
| Total offers Through Institute | 189 |
| Others                         | 92  |

# Duration of Training

- January to June, 2020
- As per Academic Regulation, six months

# Evaluation Scheme

| Activity   | Submission time line              | Marks awarded by   | Weightage |
|--|-----------------------------------|--------------------|-----------|
| Goals Report                                     | End of <b>4</b> weeks of joining  | Faculty Supervisor | 5%        |
| Midway report                                    | End of <b>10</b> weeks of joining | Faculty Supervisor | 15%       |
| Daily Diary                                      | During both visits to supervisor  | Panel assessment   | 10%       |
| Final Assessment                                 | End of project semester           | Industry Mentor    | 20%       |
| Final Report                                     | End of project semester           | Panel assessment   | 20%       |
| Oral and poster presentation and viva (i.e. ppt) | End of project semester           | Panel assessment   | 30%       |

# Learning Outcomes

- Learning outcomes for the project semester are focussed on
  - Implementation of technical knowledge to address engineering problems
  - Communication
  - Group work
  - Professional and social ethics
  - Engineering design practice

# Learning Outcomes

- The **project work** undertaken as part of the project semester is **diverse**. As a result, the **Learning Outcomes will vary**, but on completion of the module, **you will have achieved several learning outcomes from the following list**:
  - Able to identify and use appropriate mathematical methods, numerical techniques and software tools for application to new and ill-defined engineering problems;
  - Be able to integrate knowledge, handle complexity and formulate judgements with incomplete or limited information;
  - Have the ability to redesign products, processes or systems in order to improve productivity, quality, safety and other desired needs;
  - Have the ability to apply design methods, processes and techniques to unfamiliar, ill-defined problems, involving other disciplines;

# Learning Outcomes

- Be able to **design according to codes of practice and industry standards**; to identify limitations of codes of practice and the need for their application;
- Have the **ability to investigate and define a need and identify constraints** including health, safety and legal issues and the impact of engineering solutions in a societal and environmental context;
- Be able to make **engineering judgments** that take cognizance of the **social, environmental, ethical, economic, financial, institutional and commercial considerations**;

# Learning Outcomes

- Be able, via knowledge and **understanding of group dynamics**, to exercise **leadership**;
- Be able to select and apply appropriate **communication tools** and write technical papers and reports;
- Be able to describe the relevant advantages and disadvantages of various technologies to an audience, and **to communicate effectively in public**.

# Reflective Diary

- The Reflective Diary should be maintained by the student and included as an appendix in the final report.
- It must be signed by you and industry mentor on regular basis.
- The Learning outcomes provide a context for the reflective entries, which should focus on the learning achieved during the training program.

# Reflective Diary

- What do you reflect on?
  - Reflection is most effective when it is applied to areas of your experience that are memorable or significant in some way.
  - For example, an incident, event or activity that
    - Went better or worse than you expected
    - Caused you to stop and think or challenged your assumptions about what you thought
  - In short, the best reflections tend to be about those events or incidents that challenged what you thought before, presented a dilemma or left you with a sense of unease.

# How do you reflect ?

- *Descriptive Process*: Write a paragraph that is straightforward account of the incident or event or activity, including any context you deem relevant. This helps to take you back to the event and start the reflective process.
- *The Reflection*: During this stage, you start reflecting on the event by questioning yourself, for example
  - What made it memorable or what made me uneasy?
  - What has surprised me about this?
  - What has challenged the way I think or the way in thoughts things would be?
  - What were my assumptions about how things would be compared to how they are?
  - What have I learnt about myself as a result of this event?
  - What have I learnt about the practice of the environment I am in?

# The Outcome

- All the reflections must have an outcome and these needs to be clearly articulated and presented at the end of the reflection.
- Outcomes should include a new understanding, a plan to research something or a commitment to you or others.

# Goals Report & Final Reports

- The *goals report* (section A and B -upto 5 pages) should
  - describe the **engineering problem/ opportunity being addressed**
  - define the **project objectives**
  - set out the **methodology**
  - identify **tasks to be completed** and
  - present **a plan** for the completion of the project semester.
- The *midway report* (section C and D –10 pages) should describe
  - **Work done and the results** (or other outcomes) achieved to date
  - **Major challenges and innovations** along with the **remaining tasks** to be completed by the end of the project.

# Final Reports

- The *FINAL report* will outline achievements while on project semester and incorporate the description of all the work conducted and how this work meets the learning objectives of the project semester. The final report (approx 80 pages) should:
  - Introduce the project setting and identify objectives
  - Describe the background to the project (eg. Prior work)
  - Describe the methodology and work done on the project, highlighting the areas of greatest challenge and innovation; this description should demonstrate how the learning outcomes are achieved
  - Present conclusions, findings and recommendations for further work
  - Include the Reflective diary as an appendix

# Final Reports

- The suggested structure for the final report is as under:
  - *Abstract, Acknowledgement and Table of Contents*
  - *Chap 1: Introduction: Describe the industry setting, explain why the project is important, define project objectives*
  - *Chap 2: Background: Give context of the project, describe prior work done, summarise state of knowledge of the topic – background research*
  - *Chap 3 to N-1: Describe the work done, divide into chapter by topic or project, and describe the methodology employed and the results obtained with as much detail as possible, use graphical material. Use the learning outcomes when deciding what to include or exclude.*
  - *Chap N: Conclusions: Summary of project(s) in 1 to 2 pages, Main Findings (typically 5 – 6 bullet points), Recommendation for further work, what would be done if there was more time?*

# Final Reports

- The final report is **evaluated** under the following headings:
  - Quality of the report (layout, structure, written and graphical material, referencing): **25%**
  - Quantity of work completed, student effort: **25%**
  - Level of difficulty, innovation and understanding of work completed: **25%**
  - Results, conclusions and learning outcomes achieved: **25%**

# Presentation Guidelines

- ◆ **Final Presentation** and **Viva** should include a .ppt presentation (or equivalent) followed by a period of questions and answers.
- ◆ **Some guidelines for the presentation (.ppt)**
  - Use the TIET template
  - Use proper font - calibri or arial (times new roman is for reports, papers, articles) and minimum font size 18
  - Structure the presentation (contents, introduction, background, work done, results and discussion, conclusions, references)
  - Use figures/images/graphic material where appropriate
  - Do not copy content from the report (and paste in ppt)
  - Make bullet points and explain those points
  - Keep track of time (15 to 20 mins) – rehearsal helps
  - Focus on your contribution, major achievements etc.

# Forms / Documents

- Request letter
- Forms
  - Joining report (within 1<sup>st</sup> week of joining the industry)
  - Emergency contact details (within 1<sup>st</sup> week of joining the industry)
  - Employer survey form
  - Alumni survey form
  - Student feedback form
  - Industry feedback form
  - Graduate Attributes form
  - Industry mentor evaluation form

# Miscellaneous

- 2 slots (3 months + 3 months) – subject to review and decision by DPPC
- In case of any dispute/contest/conflict related to Project Semester, the matter will be referred to DPPC (MED). DPPC will decide the suitable course of action and advise accordingly.

# Alternate Semester

- Registration and fee structure as usual
- Student has to clear three *Regular Courses* offered by the department.
- One project within university or in the industry.

*Good Luck*

- List of CR
- Coordinator assignment to different branches
- Different forms to be shown, daily diary