Working Paper # 75
Revision-Policy on Student Industry Visits
Sponsored by ICON Dte

Preamble

1.   This document is in line with the existing SOP for Industrial Visits by University Students given by HEC and governs the procedure for smooth conduct of Undergraduate (UG) and Postgraduate (PG) Student Industrial visits. In order to impart high quality education at NUST, it is imperative that the students as well as the faculty are aware about the day to day working of Industry and Corporate Sector. The students must also be able to relate their theoretical knowledge with the practices being followed in the Industry.

2.   In this document, the term Industry refers to both pure Industrial units that are manufacturing products, as well as service organizations, whether in Corporate Sector or Public Sector, i.e., Industry is used as a generic term for the sake of this document. In this document, the term School is being used for NUST Schools, Colleges, Institutes and Centers (basically all set-ups that have students and are running UG or PG programs).

Purpose of Industry Visits

3.   Industry and business is all about applied knowledge. Industries apply various principles of knowledge from fields as diverse as Engineering Sciences, Social Sciences, Business and Management Sciences etc. Students need to be guided in a way that they can see in practice, what they were taught in class, in theory. Every Industry has machinery, processes, marketing techniques, advertising, labour relations and systems, which can be connected to the syllabus being taught in class. Therefore, the first and foremost purpose of Industry visits by students is to familiarize them well with processes and procedures being used by the Industry and to relate this knowledge with what they are being taught in class.

4.   The above-mentioned purpose leads to the objective of attaining placement of students in the Industry. Industry visits are a useful tool for ensuring good placement, both internships and jobs, for the students in the Industry. Industry visits also lead to better understanding of Industry practices versus theory being taught in the classes, and leads to curriculum improvements. These visits should also be used as a mechanism to get R&D projects from Industry.

1

Role of Faculty in Planning and Executing Industrial Visits

5.   Faculty plays a pivotal role in preparing itself and then its students for getting the best value out of industrial visits. The faculty must apprise itself of the various industrial units within the vicinity of the University, and visit these for fostering a good relationship with the management as well as find out in detail about the business and manufacturing processes of the industrial units. This information should lead to create connections between various subjects taught to the students and how these are applied in the particular industrial unit. This, in turn, enables the faculty to prepare the class for the visit to that Industry. At the same time, the goodwill generated by visits by faculty members that are well-informed about that particular Industrial unit will lead to securing projects from the Industry, as well as gaining internship and employment possibilities for the students.

6.   Faculty members and ILOs must accompany students on the Industry visits.

7.   **Student Industry Visit Application (SIVA)** is developed to further automate Industry Visits' process of UG/PG Students at NUST. Purpose is to streamline and make the process of Scheduling and Reporting more efficient. School ILO's and relevant Faculty to ensure the timely completion of all steps and documents as per the SOPs and features of application plus Industry Visit Policy.

8.   **Salient Features of the Policy**

   a.   Industry visit is mandatory for all UG students and optional for PG students. The attendance should be marked for each Industry visit.

      (1) Schools are encouraged to conduct more than one visit per semester with an aim to cover maximum organizations. Therefore, Industry visits to be conducted **preferably twice** in every semester.

      (2) At least one Industry visit per semester is compulsory for all UG students with a minimum of 08 visits being mandatory during the entire 4-year duration of the program.

      (3) Similarly, Industry visits are desirable, yet optional, to be arranged for PG students during their entire coursework period.

   b.   **Primary responsibility of arranging the visits lies with the School's Industry Liaison Officer (ILO)**. In case of non-availability of an ILO, the task will be undertaken by the School's AD Admin (or equivalent).

c. Schools are to solicit supplemental support from ICON wherever required. ICON will provide all necessary support to Schools in identification and finalization of relevant Industries in a given semester, other than logistical arrangements for the visit, which is the responsibility of the School.

(1) Based on the feedback received in a given semester, Schools will prepare a **"Schedule of Industry Visits"** before start of every new semester and share with ICON office one month before the start of the semester. This schedule will include tentative list of Industries, suggested by School for each program and discipline, to be visited during the course of the upcoming semester along with additional support required from ICON in identifying relevant organizations and arranging the visits. The School**s** will share **all the** necessary information, **regarding the particular industry visit** including number of students, their disciplines, courses, semesters, tentative dates etc. **at least 4 week**s **prior to the start of semester duly mentioned in "Schedule of Industry Visits".** This will give ICON sufficient time to identify and contact the relevant Industry partners well in advance as requested by Schools, and ensure that visits take place as per the desired / preferred schedule of the Schools.

(2) Each School will attain formal approval of the Tentative Plan of Industry visits by submitting the schedule to Pro-Rector RIC through ICON office at least 1 month prior to the start of the semester. ICON will act as the coordinating office for processing of industrial visits. Once the schedule is approved, individual visits for that particular semester will not need separate approvals. However, approval of change of industry will be given by Dir ICON, conditional to no change in no of days and city.

(3) In case new organization is identified for any particular visit or has to be replaced with the tentative plan during the semester, School ILO /AD Admin will communicate the same to ICON office 3 weeks prior to conduct of the visit for formal approval, (required data fields will be communicated to the ICON office by the respective Schools, both manually and also on SIVA).

(4) For transport and security arrangements of visits, the Schools will communicate the requirements to NUST Administration Directorate.

3

(5) For visits arranged through ICON, School ILO / AD Admin will work in close coordination with ICON for smooth planning and execution of the visits.

d.   At least two faculty members per 30 students must accompany them for the Industry visits. Concerned Head of Department (HoD) will be responsible for nominating accompanying faculty/ staff member for the visit. Students must not visit Industry without being accompanied by faculty.

e.   In order to cover maximum number of relevant Industries spread across the country, and if enough number of relevant Industries for particular disciplines are not available in the close vicinity of the Schools, ICON and Schools may identify out-station Industries.

(1)   For visiting out-station Industries, day-trips will be preferred, so as to avoid additional logistics and costs.

(2)   In order to cater to Industry requirements and availability along with the academic calendar of students, visits for sections having strength over and above 40 might be arranged in 2-3 batches during the week days and Saturdays.

(3)   In special cases, night stay may be allowed, for which separate approval will be taken by the School.

(4)   For out-station visits requiring night stay, appropriate accommodation will be arranged for the students by the School or NUST Admin.

f.   As far as food expenses are concerned, students will be responsible for their tea/refreshments during the visits.

g.   Students & staff will follow the dress code – overall for students and lab coat for staff. However, this will be flexible for the Business School as they also visit industries other than Manufacturing. NUST ID Cards must be displayed by students throughout the visit. All Military College students to follow NUST dress code during the visit, unless the visit is planned for military/defence institutions.

h.   Actions required to be taken before the visit:

(1) The visiting class will be required to do background research on the company before the visit, as it would increase their understanding about the company and its operations. The background research may be done by

4

visiting the company's website as well as getting information through their concerned faculty members and through ICON.

(2) Concerned faculty members will familiarize themselves with the Industry to be visited, preferably with a personal visit (or via email or telephonic discussion with the Industry representative) and then prepare a list of ***"learning objectives"*** to be achieved during the visit. ICON to be kept in loop throughout the correspondence with Industry.

(3) Faculty members will properly brief the class about the ***learning objectives*** that the students have to achieve and the processes they will be witnessing. The faculty members should also discuss with the students the questions and problems to which students should look for answers and solutions during the visit.

(4) The faculty members will explain the relationship of processes, machinery and inputs as well as any other physical, chemical, or any other phenomenon that students ought to observe, that relates to what students are being taught in class.

(5) The visiting class will also be briefed about their desired conduct during the visit by the concerned HoD/ senior faculty member.

i. Students will be encouraged by the accompanying faculty to observe the following areas (based on areas of relevance School):-

(1) Layout and organization of company.

(2) Level of technology and methodologies employed.

(3) Quality Control / Quality Assurance procedures, and the costs incurred by the company for QC/QA.

(4) Inventory & supply chain management.

(5) Production, planning and control.

(6) Production standards being followed.

(7) Standard of services being provided.

(8) Mode of product traceability within the organization and with the customer.

(9) R&D and product improvement initiatives.

(10) Industrial safety and materials handling.

(11) Efforts to reduce or recycle waste in the Industry.

(12) Measures taken to safeguard environment.

(13) Marketing strategies.

5

(14) Cost accounting methods and techniques.

(15) Recruitment policy and procedures.

(16) Human resource development policy.

(17) Welfare of employees.

j.   During the visit, accompanying staff member will take photographs of locations allowed by the Industry. No photograph will be taken by students inside the premises of the visiting company without their permission. ==NUST faculty and students must adhere to all industry rules and SOPs.==

k.   ==Faculty members must ensure that students do not ask for personal contact details of industry management.==

l.   Faculty / staff members may carry small souvenirs of the University to present to the management of the organization they are visiting on behalf of the Dean/Principal/Commandant.

m.   Feedback and reporting is automated on Student Industry Visit Application (SIVA). School ILOs to ensure the Post Industry Visit report for every visit, Student Post Visit Questionnaire and Faculty Post Visit Report are duly filled, uploaded on the application at the end of every visit and shared with ICON Office and Pro-Rector RIC Sectt, so as to monitor the feedback and take corrective actions, if any. ==All Schools/Colleges to prepare an Analysis Report at the end of each Semester for all Student Industry Visits.==

(1)   Post visit de-briefing will be done by the faculty in order to assess the depth of learning objectives achieved by the students, and to use this assessment as a basis to further improve their teaching methodology and techniques. ==Post visit report for every visit will be forwarded to School Management (Principal / Commandant) within two weeks after the visit. Sample post visit report is attached as Annex A. School ILOs to ensure the same is duly filled and uploaded on the application to be further forwarded to Pro-Rector RIC, NUST for reporting purposes.==

(2)   Feedback questionnaire regarding the organization visited will be distributed to the students who will fill up the questionnaire after the visit. These filled questionnaires will be handed over to the ILO on return, who will maintain a file of this record and share the responses with the concerned HoD for taking corrective action in order to improve the overall conduct of the Industry Visits, if required. Sample student feedback questionnaire is

6

attached as Annex B. ==Faculty assigned for a particular visit and School ILO, to ensure students complete their respective feedbacks on SIVA as soon as visit is completed.==

      (3) The visiting faculty member(s) will also fill a post-visit feedback questionnaire regarding the conduct of the visit indicating the timely availability of transport/ students etc. as well as the potential of any Industry/ research project that can be undertaken with the visited organization, and the potential of gaining internships or jobs for the students in that particular organization. Sample faculty feedback form is attached as Annex C. ==School ILOs to ensure the same is duly filled and uploaded on the application to be further forwarded to Pro-Rector RIC, NUST for reporting purposes.==

n.   School ILO / AD Admin will forward a short write-up and some photographs of the visit to ==ICON for further submission to Marking and Communications (M&C)== Dte for publication in NUST News and various other reports. Copy of the same will be forwarded to the School's Librarian for placement in the archives. The same brief and photographs to be shared with ICON. ICON will also publish the same in the ICON Newsletter, and share on social media.

o.   ICON will write an appropriate note of thanks to the Industry after the visit for their support and hospitality.

p.   A reward and penalty mechanism to be adhered by the students and faculty for effective execution of the visits:

      (1) Visiting Faculty Member(s) to arrange a class meeting to re-inforce the learning gained from the visit. This will serve as a basis for the faculty to further improve their teaching techniques and method. Students should also be asked to write a brief write-up after every Industry Visit as their class assignment.

q.   ICON will maintain a relationship with the Industries visited by the students, in order to keep the organizations on board for future student / faculty visits, and also for spin offs like projects and placements. The relationships established or maintained will be used for similar activities / KPIs of other Schools, wherever applicable.

      (1) In addition to UG Student industrial visits, industrialists and their representative's visits to Schools should also be encouraged to find ongoing Lab projects and its relevance to the industry and national needs. They can

7

be invited to deliver a talk/seminar to the students (all batches of UG+PG) to keep them abreast with industrial knowledge and motivate them.

r.   Student Industry visits are a useful tool for ensuring good placement, both internships and jobs, for the students in the Industry. Industry visits also lead to better understanding of Industry practices versus theory being taught in the classes, and leads to curriculum improvements. These visits should also be used as a mechanism to get R&D projects from Industry.

s.   Key features of the Industry Visit Policy are summarized below. All NUST Schools/Departments and Faculty need to ensure close coordination for smooth execution of the visits.

KEY FEATURES OF INDSUTRY VISIT POLICY			
S. No.	**Action**	**Timeframe**	**Responsibility**
1.	**List of Industries** a. To finalize the list of Industries and share tentative schedule of visits for each program, batch and section with ICON Office for a given semester. b. Revision of list of industries.	3 weeks prior to start of every semester Every 1-2 years	School ILO/Focal Person, ICON School ILO/Focal Person, ICON
2.	**Data Management on SIVA** a. Direct supervision, facilitation and maintenance of data/records on SIVA. b. To update student sections of a particular batch, semester and add students in each section. c. To add details of fresh intake of students. d. Setting up Industry Data for a given semester. e. To set up and schedule Industry Visits on SIVA.	3 weeks before start of semester As and when lists are finalized at School level 3 weeks before start of semester	ICON, ILO and ICT Dte School ILO/Focal Person, CMS Coord ICON and School ILO/Focal Person School ILO/Focal Person ILO/Focal Person and Assigned Faculty for a particular visit

WP No.75-64th ACM-23 Jan 2023

	f. Faculty and Student Feedbacks for reporting purposes.	Upon completion of every visit	
3.	**Tentative Industry Visit Schedule and Formal Approval before Start of Every Semester** a. School ILO will set up and schedule visits on SIVA to generate tentative industry visit schedule for a given semester.	3 weeks prior to start of every semester	School ILO/Focal Person
	b. Tentative Schedule to be approved by Pro-Rector RIC.	2 weeks prior to start of every semester	ICON and RIC Sectt
	c. Approved Tentative Industry Visit Schedule to be shared with NUST Schools and NUST Main Admin Dte to manage and arrange transport during the semester.	At the start of every semester	ICON, School ILOs, NUST Main Admin Dte
4.	**Approval Process for Visits Over & Above Approved Tentative Industry Visit Schedule** a. For approval of visits over and above tentative industry visit schedule (which includes change in the number of days and city), ILOs to take formal approval from Pro-Rector RIC through ICON Office.	At least 1-2 weeks before the scheduled time	School ILO/Focal Person, ICON
	b. Arrangements for transport to be requested from NUST Main Admin.	Upon formal approval of the visit	School Administration (On-campus only), School ILO/Focal Person
	c. This is applicable to on-campus Schools only. Military Colleges to		

9

	ensure process already being followed at their respective institutes is implemented.		Military Colleges/ILOs

5.	**Transport Arrangements/Logistics**
	a. For transport and security arrangements, the Schools will communicate the requirements to NUST Main Administration Directorate.
	
	b. NUST Main Admin Dte and School/College Admin to ensure the following for on-station and out-station visits:
	  i. Transportation arrangements for pick & drop of students from School/College to the Industry on the intimated dates and time.
	  ii. Date and arrival time of each visit would be communicated by ILO as and when visits are planned and finalized.
			P&R Sectt (NUST Main Admin Dte), School Administration, School ILO/Focal Person

6.	**Feedback and Reporting** To submit Post Industry Visit Report on behalf of the institution, Faculty Post Visit Report and to ensure Student Post Visit Questionnaire is duly filled and to ensure all documents are uploaded on SIVA for the given semester. All Schools/Colleges to prepare an Analysis Report at the end of each Semester for all Student Industry Visits.	At the end of every visit At the end of every Semester	Faculty/ILO assigned for a particular visit Schools/Colleges, ICON
7.	Write up along with high resolution photographs for the visits in a given semester to be shared with ICON Office and M&C Dte for various NUST publications/news announcements on NUST main website.	Upon completion of every visit	ICON, School ILO/Focal Person, Faculty

9.   **Benefits to NUST**

a. It would be an initiative that will improve the quality of visits, in general, and enhance capacity building of faculty and students, in particular. Faculty will be able to keep themselves abreast of the current trends in the Industry and students will be able to relate their theoretical knowledge with the best practices being followed in the Industry.

b. Industry Visits will act as a useful tool for ensuring good placement, both internships and jobs, for students in the Industry.

c. Similarly Industry Visits will prove to be an effective means to solicit R&D Projects from the Industry. At the same time maintaining the relationships with Industry will help NUST to gauge Industry for similar activities / KPIs of other Schools, like curriculum improvements etc.

Comments of Research Directorate

10. The proposal was deliberated and endorsed by UCRIP held on 30 Dec 2022.

Recommendation of Research Directorate

11. Proposed Revision - Policy on Student Industry Visits is recommended for approval with immediate effect.

12. Academic council is requested for the decision.

Post Industry Visit Report (to be submitted by the Department / Institution)

_____

Institution Name: _____

Organization/Industry Name: _____

Number of Semester: _____

Number of Students per Batch: _____

Number of Faculty Members / Staff:
_____

Note: Details of students and faculty members to be annexed with the post-visit report

1.   Pre Visit Check List Submitted by the Faculty
        Yes
        No

2.   Post Visit Check List Submitted by the Faculty
        Yes
        No

3.   Student Post Visit Feedback Completed
        Yes
        No

4.   Faculty Post Visit Report Submitted
        Yes
        No

Institution Name: _____

Student Batch: _____

Student Post Visit Questionnaire

Student's Name: _____   **Enrollment #** _____

Semester: _____

<u>Note:</u> Please visit the website of the company before going & familiarize yourself with the organization. Return this questionnaire to the accompanying faculty immediately on your return.

1.   **Name of the company visited**_____ Date: _____

2.   **Nature of Company's ownership**
    a. Govt   b. Semi Govt/ Corporation   c. Private   d. Public Ltd

3.   **Nature of the product / services provided by the company.**
    a. Mass Produced parts   b.   Customized /made to order
    c.   Consultancy/ Training   d.   Process Industry

4.   **Nature of Processes**
    a. Manual   b.   Semi automatic   c.   Fully automated

5.   **Quality Assurance functions**
    a. Manual   b.   Semi automatic   c.   Fully automated

6.   **Material Handling methods**
    a. Manual   b.   Semi automatic   c.   Fully automated

7.   **Nature of Production Planning and Control**
    a. Manual   b.   Semi automatic   c.   Fully automated

8.   **Human Resource Development functions**
    a. Primitive b.   Moderately developed c.   Strong

9.   **Health, Industrial Safety & Environmental awareness**
    a. Neglected b.   Partial awareness   c. Moderately aware   d. Fully aware

10.   **R&D Setup**
    a. Manual   b.   Semi digitized   c.   Fully digitized

11.   **Cost Accounting techniques**
    a. Primitive b.   Moderately developed c.   Strong

12. **Employee Welfare System**

    a.   Primitive   b.   Moderately developed c.   Strong

13. **Adherence to International Standards**

    a.   Primitive   b.   Moderately followed c.   Strongly followed

14. **Marketing functions**

    a.   Primitive   b.   Moderately developed c.   Strong

15. **Inventory Management System**

    a.   Primitive   b.   Moderately developed c.   Strong

16. **Was this your first Industrial Visit? If not, mention the number of visit conducted**

    a. YES

    b. No

    _____
    _____
    _____

17. **How was your experience during the visit?**

    a. Exceptional

    b. Very Good

    c. Good

    d. Average

18. **What did you learn from the visit?**

    _____
    _____
    _____

19. **Please share the departments/sections of the Industry visited?**

    _____
    _____
    _____

20.   Your overall satisfaction level for the visit (please tick)

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.

Not Satisfied   Fully Satisfied

(If 6 or below then please mention the reason)

Institution Name: _____

Faculty Post Visit Report

Name of the Instructor: _____ **Dept:** _____

Industry / Organization Visited: _____ **Date:** _____ **Time:** _____

1. How was the conduct of the students:-
2. Arrival of the students   a.   On time   b.   Late
3. Availability of transport   a.   On time   b.   Late
4. Arrival at destination   a.   On time   b.   Delayed due to

_____

_____

5. Preparation by the visiting industry? Please rate/comment your experience. Tick the appropriate field (**Rating Scale: 1=Very Low, 2=Low, 3=Medium, 4=High, 5=Very High**)

	Rating (Tick Accordingly)				
Weightage	Very Low (1)	Low (2)	Medium (3)	High (4)	Very High (5)
Adequacy of conducting staff					
Time duration allocated for the visit					
Depth of information conveyed to the students					
Other administrative arrangements by the industry					
Potential of joint research / collaboration with the visiting industry?					

5. ==Were the learning objectives achieved during the visit?==
   a. ==Yes==
   b. ==No==

6. ==Were students able to link the technical knowledge demonstrated during the visit with their respective course(s) and theoretical concepts?==
   a. ==Yes==
   b. ==No==

   Please Elaborate

7. ==Were there any possible areas of collaboration with the visiting industry (joint research projects / and other specific areas discussed during the visit)==
   a. ==Yes==
   b. ==No==

   List Down the projects/specific areas, if any

8. In context to the visit conducted, highlight some areas of improvement for effective implementation in the future.

   _____
   _____

WP No.75-64ᵗʰ ACM-23 Jan 2023