

Guidelines for Industrial Training

ENTC & BM

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Outline

- Learning Outcomes
- Program Outcomes
- Placement
- Assessment
- Conduct

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Learning Outcomes

- LO1

- Describe the organization in which the student is undergoing training with respect to the work carried out, organizational structure, its business practices, financial management and ultimately appreciate the differences between academic and industrial environments as an entry-level engineer.

- LO2

- Apply the knowledge of mathematics, science and engineering fundamentals learnt in the university to an industrial setting, and apply the industrial engineering knowhow gained from industry to enhance academic work.

Learning Outcomes

■ LO3

- Practice health and safety procedures, risk management, professional ethics, industrial standards and processes as required by an employee.
 - some universal ethical principles that apply across all professions, including:
 - honesty
 - trustworthiness
 - loyalty
 - respect for others
 - adherence to the law
 - doing good and avoiding harm to others
 - accountability

Learning Outcomes

- LO4
 - Demonstrate the technical, teamwork and managerial skills developed through the training.

- LO5
 - Evaluate the economic, environmental, social, and cultural impact of the tasks performed during training period.

Learning Outcomes

- **Induction:**
 - Initial period to help students in the transition from academic to industrial life.
 - Students should meet their mentor to discuss the contents and the objectives of training.
 - Students should also receive information about the training organization, its products or services and the terms and conditions of employment.
- **Practical Skills:**
 - During this period, the student should receive instructions for practical skills essential for their future employment.
 - It should also include an appreciation of the work of others in converting an engineering design into a final product (if appropriate).

Learning Outcomes

- General Engineering Training:

- In a large organization this should include an introduction to the work done in various departments.
- Under these circumstances, the student may eventually be **working as a member of a team** in the organization.
- The student should be made aware of the management and administration tasks of the organization.

- Directed Objective Training:

- The major part of the training should be directed towards conducting engineering activities which the student intends to specialize in.
- The student should be encouraged to work on **real world problems** and substantial responsibility should be vested upon to encourage independent work to establish interest and confidence within the student.

Learning Outcomes

- Most of the training duration should cover design and development, documentation and data preparation and commissioning.
- The student should have a thorough understanding of the operations of the training place in electronic and telecommunication / biomedical engineering context.

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Program Outcomes

- PO1: **Engineering Knowledge**
 - Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems
- PO2: **Problem Analysis**
 - Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- PO3: **Design/development of solutions**
 - Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
- PO4: **Investigation**
 - Conduct investigations of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

Program Outcomes

- PO5: Modern Tool Usage
 - Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations.
- PO6: The Engineer and Society
 - Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.
- PO7: Environment and Sustainability
 - Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
- PO8: Ethics
 - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice

Program Outcomes

- PO9: Individual and Teamwork
 - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
- PO10: Communication
 - Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11: Project Management and Finance
 - Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
- PO12: Lifelong learning
 - Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadcast context of technological change.

Program Outcomes

- **PO13: Contemporary research**

- Demonstrate a knowledge and understanding of contemporary technologies, their applications and limitations, contemporary research in the broader context of relevant fields.

- **PO14: Competitions**

- Demonstrate the ability to succeed in national and international competitive events in the relevant fields.

Mapping of Expected Outcomes

Mapping of Learning Outcomes to Program Outcomes

Learning Outcomes Covered	Program Outcomes											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
LO1		L								L	L	M
LO2	H				H							
LO3	L					H		M				M
LO4	L	L	L			M		L	H	M	M	H
LO5						H	L			H	L	H
Overall Contribution to POs	H	L	L		H	H	L	M	H	H	M	H
Scale:	H - High				M - Medium				L - Low			

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Placement

- A contract of apprenticeship known as “Training Contract” shall be signed between the Training Employer and the undergraduate
 - The signed contract shall be sent to NAITA by post for registration
 - Use Annex C
- Within a week after reporting to training establishment, all undergraduates shall send the worksite details to NAITA through completed Annex B by post.
 - A scanned copy/image of the completed Annex B should be sent via email to:
 - Respective Senior Lecturer/Consultant of Industrial Training Division
 - Respective Training Coordinator of the Academic Department
- Once you confirm, you should not change the company!

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Assessment

Assessment No.	Assessment Activity	%	Learning Outcome/s Covered	Comments/Observations/Novelty if any
A01	Daily diary & four-weekly continuous assessment reports	30%	LO2, LO4	
A02	Report on industrial training	30%	LO1, LO2, LO3, LO4, LO5	
A03	Presentation and oral examination	40%	LO1, LO2, LO3, LO4, LO5	

Assessment

- Assessment during the training period will be based on:
 - Four weekly continuous assessment reports (consisting of maximum two pages of report in addition to the completed Annex D)
 - Four weekly expected outcomes follow-up report (Annex E)
 - Industrial training monitoring reports (Annex G)
 - Entries by authorized officers in the Daily Diary
- Trainees at regular intervals (once per every four weeks) should complete and upload their Four-weekly Continuous Assessment Reports (Annex D), Learning Outcomes and Program Outcomes Follow-up Report (Annex E), to Moodle under the “Assignments” within allowed time.
- In addition, hard copy of the same to be submitted along with the final report.
- The report must carry signature and seal of the supervisor

Assessment

- Undergraduates who undergo training will be visited during their periods of training by:
 - Department Staff
 - Training Division
 - NAITA
- Daily diary will be assessed during these visits and at the final assessment
- Annex G will be filled by the visiting personnel based on their findings

Assessment

- Upon completion of the training, all undergraduates must prepare and submit a comprehensive report on the Industrial Training received.
 - Refer Annex J and Annex H
- Presentation and oral examination
 - A presentation of five to ten minutes
 - Documents to have completed:
 - Report on Industrial Training
 - Daily diary
 - Four weekly continuous assessment reports (Annex D)
 - Four weekly expected outcomes follow-up report (Annex E)
 - Feedback forms 1, 2 & 3 (Annex K-1, K-2 and K-3, respectively)

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- **Conduct**

Conduct

- Remember that you represent University of Moratuwa
 - Think twice before you act
 - Demonstrate ethical behavior and adhere to moral principles
 - Attitudes
- Problems
 - Sickness and Injuries
 - Problematic situations
 - a matter or situation dealing with company employees

Inform the training coordinator and training division

Conduct

- Return

- Usually, Semester 6 starts immediately after training period
- Semester 6 has 100% CA modules

- Advice

- Keep copies of your original documents
 - Offer letters, training completion, 4-weekly reports etc.
 - Training diary
 - If misplaced, you will face a lot of trouble

These slides only contained a summary

Please make sure you refer to the
Industrial Training Guidelines
(Available on Moodle)

All the Best !!!