



Training Plan				HIPF Diploma			
SEMESTER	NO.	CODE	COURSE TITLE	NO. OF UNITS			
				CTH	CT	PT	Cr.H
1st (21 weeks)	1	ENG 101	English	25	25	0	0
	2	COM 102	Computer	4	2	2	3
	3	CHM 103	Chemistry	4	2	2	3
	4	BE 104	Basic Engineering I	2	2	0	2
				Total			8
2nd (21 weeks)	5	ENG 201	English ESP1	11	11	0	0
	6	MA 202	Mathematics	3	3	0	3
	7	WE 203	Work Ethics	2	2	0	2
	8	BE 204	Basic Engineering II	6	6	0	6
	9	BP 205	Basic Plastics	6	6	0	6
	10	STH 206	Sheet Thermoforming	7	3	4	5
				Total			22
3rd (21 weeks)	11	ENG 301	English ESP2	7	7	0	0
	12	PTL 302	Test Methods	4	2	2	3
	13	INJ 303	Injection Molding	12	4	8	8
	14	BLM 304	Blow Molding	12	4	8	8
				Total			19
4th (21 weeks)	15	FEM 401	Film Extrusion	11	3	8	7
	16	PEM 402	Pipe Extrusion	11	3	8	7
	17	OJT 403	OJT	According to work hours			6
				Total			20
Total Credit Points							69



المعهد العالي للصناعات البلاستيكية

HIGHER INSTITUTE FOR PLASTICS FABRICATION

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COURSE TITLE	COURSE DESCRIPTION	SEMESTER
1. ENGLISH	Introductory level English instruction course. Foundation fundamentals such as grammar, vocabulary, conversation, listening, reading and writing are covered. Trainees are fully engaged in an English speaking environment during the lessons. All courses are taught by native English speakers.	1
2. COMPUTER	Introduction to Computers, Windows, Microsoft Word, Excel, PowerPoint and also the Internet and E-mail. This course has both theory and practical classes as per the needs.	1
3. CHEMISTRY	Basic principles of chemistry, gases, solutions, stoichiometry, organic chemistry, titration, polymers identifications, chemical bonding. The course is supported by experiments in the laboratory.	1
4. BASIC ENGINEERING I	Safety engineering, accidents - its causes and prevention, the principle of 5S and KY, basic procedures for safe operation (general overview), safe operation procedures for plastics processing machines, and good shop floor practices.	1
5. ENGLISH FOR SPECIFIC PURPOSE I	Introduction to workshop and factory terminology. Topics include safety, machinery functions and factory duties. Supplementary materials are provided to improve English proficiency.	2



6. MATHEMATICS	Operations on Real Numbers, Percentage, Plotting and Reading of Graphs, Operations on Polynomials, Linear Equations in One or Two Unknowns, Exponential and Logarithmic Functions, Plane and Space Geometry, Elements of Analytical Geometry, and Methods of Comparison between Measurement Results.	2
7. WORK ETHICS	An introduction to work discipline and its values, the moral benefit of work and its ability to enhance character, being reliable, having initiative and maintaining social skills, honesty and accountability. Involves learning what is right or wrong, and then doing the right thing.	2
8. BASIC ENGINEERING II	Basic industrial engineering, introduction to machinery, daily machine inspection guide, cost accounting methods for processed goods, introduction to electrical engineering, introduction to control technology, introduction to measurement and quality control.	2
9. BASIC PLASTICS	Introduction to petrochemical industry, basics of polymer, plastic materials and their properties; the formulation technology, different kinds of molds used for plastics fabrication; the fabrication processes for plastics: Injection Molding, Blown Film Extrusion, Blow Molding, Pipe Extrusion, Sheet Extrusion, and Thermoforming, recycling technologies.	2
10. SHEET EXTRUSION AND THERMOFORMING	Sheet Extrusion Plastic Fabrication technology, concepts, theories, hands-on and practical trainings, safety, 5S and good shop floor practices, standard operating procedures or SOP including machine and mold maintenance. Thermoforming Plastic Fabrication technology, concepts, theories, hands-on and practical trainings, safety, 5S and good shop floor practices, Standard Operating Procedures or SOP including machine and mold maintenance.	2



11. ENGLISH FOR SPECIFIC PURPOSE II	A more in-depth course covering in detail the different kinds of machines used in workshops. Fully detailed diagrams are presented detailing the working functions of the workshop machines. Trainees will continue to build on the terminology that they learned in the previous ESP course.	3
12. PLASTICS TEST METHODS	Measurements, specification, standard, sample preparation, test equipments, test methods, test report and safety used in plastics industry for quality inspection as well as research and development. Practical training on micrometer, caliper, mechanical, thermal, flow and optical tests.	3
13. INJECTION MOLDING	Injection molding process, machine, operation, control panel, mold, safety measures, molding area, trouble shooting in the process & maintenance. Machine startup/shutdown, parameter setting, mass production, material change over, mold setting on/off, mold maintenance, crusher operation and troubleshooting, recycling machines.	3
14. BLOW MOLDING	The course covers Blow Molding Process, Blow Molding Safety Practices, Blow Molding Machine, Process & Equipment, Blow Molding Machine parts & function, Machine Operation, Mold and Tooling Change-Over and Set-Up, Changing Material & Master Batch, Mold and Machine Maintenance, Machine and Process Troubleshooting, Product Quality Testing.	3
15. BLOWN FILM EXTRUSION TECHNOLOGY	Basic principles of blown film extrusion , raw materials for blown film, common polyethylene used for blown film, major parts of blown film machine, blown film machine (hands-on operating skills) and troubleshooting, preventive maintenance, quality control of blown film.	4



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16. PIPE EXTRUSION	Pipe extrusion technology, the machine parts and functions, the machine mechanism, safety machine operation, the operating principles and techniques of HDPE and PVC pipe processing, recycling, operation of crusher and pelletizer.	4
17. ON-THE-JOB TRAINING	The trainees go to respective companies for on-the-job training.	4