



Training Plan HIPF Diploma

SEMESTER	NO.	CODE	COURSE TITLE	PREREQUISITE	NO. OF UNITS			Cr.H
					CTH	CT	PT	
1 st (21 weeks)	1	ENG 101	English (Introduction)	-	25	25	0	0
	2	COM 111	Computer	-	4	2	2	3
	3	CHM 121	Chemistry	-	4	2	2	3
	4	PLS 150	Basic Engineering I	-	2	2	0	2
					Total			8
2 nd (21 weeks)	5	ENG 202	English (ESP I)	ENG 101	11	11	0	0
	6	MAT 231	Mathematics	-	3	3	0	3
	7	WET 241	Work Ethics	-	2	2	0	2
	8	PLS 251	Basic Engineering II	ENG 101	6	6	0	6
	9	PLS 252	Basic Plastics	CHM 121	6	6	0	6
	10	PLS 253	Sheet Thermoforming	PLS 150	7	3	4	5
					Total			22
3 rd (21 weeks)	11	ENG 303	English (ESP II)	ENG 202	7	7	0	0
	12	PLS 354	Plastics Test Methods	PLS 150	4	2	2	3
	13	PLS 355	Injection Molding	PLS 150, PLS251	12	4	8	8
	14	PLS 356	Blow Molding	PLS 150, PLS251	12	4	8	8
					Total			19
4 th (21 weeks)	15	ENG 404	English (ESP III)	ENG 303	1	1	0	0
	16	PLS 457	Blown Film Extrusion	PLS 150, PLS251	11	3	8	7
	17	PLS 458	Pipe Extrusion	PLS 150, PLS251	11	3	8	7
	18	PLS 459	<u>On the Job Training (OJT)</u>		According to work hours			6
					Total			20
					Total Credit Points			69

CTH: Contact Hours - CT: Class Training Hours - PT: Practical Training Hours - Cr.H: Credit Hours



COURSE TITLE	COURSE DESCRIPTION	SEMESTER
1. ENGLISH ENG 101	Introductory level English instruction course. Foundation fundamentals such as grammar, vocabulary, conversation, listening, reading & writing are covered. Trainees are fully engaged in an English speaking environment during the lessons. All courses are taught by native English speakers.	1 st
2. COMPUTER COM 111	Introduction to Computers, Windows, Microsoft Word, Excel, PowerPoint & also Internet & E-mail. This course has both Theory & Practical classes as per the needs.	1 st
3. CHEMISTRY CHM 121	Basic principles of chemistry, gases, solutions, stoichiometry, organic chemistry, titration, polymers identifications, chemical bonding, & it is supported by experiments in laboratory.	1 st
4. BASIC ENGINEERING PLS 150	Safety engineering, accidents -its causes & prevention, the principle of 5S & KY, general overview & safe operation procedures for operation of plastic processing machines & good shop floor practices.	1 st
5. ENGLISH FOR SPECIFIC PURPOSE I ENG 202	Introduction to various technical & science terms used during the work in technical field.	2 nd
6. MATHEMATICS MAT 231	Operations on Real Numbers, Percentage, Plotting & Reading of Graphs, Operations on Polynomials, Linear Equations in One or Two Un-known's, Exponential & Logarithmic Functions, Plane & Space Geometry, Elements of Analytical Geometry, & Methods of Comparison between Measurement Results.	2 nd
7. WORK ETHICS WET 241	An Introduction to work ethics covering individual behavior, skills for getting jobs, work laws & regulation, work ethics, work habits, problem solving, self development, communication skills.	2 nd
8. BASIC ENGINEERING II PLS 251	Basic industrial engineering, introduction to machinery, daily machine inspection guide, cost accounting method for processed goods, introduction to electrical engineering, introduction to control technology, introduction to measurement & quality control.	2 nd
9. BASIC PLASTICS PLS 252	Introduction to Petrochemical industry, basics of polymers & polymerization, classification of plastics, plastics materials & their properties; formulation technology, overview of the fabrication processes for plastics: Injection Molding, Blown Film Extrusion, Blow Molding, Pipe Extrusion, Sheet Extrusion, Thermoforming, Physical Properties of molten resins & recycling technologies.	2 nd
10. SHEET THERMO - FORMING PLS 253	Concepts, theories, safety, 5S, & good shop floor practices FOR Sheet extrusion & Thermoforming are introduced. H&s on & practical training including Standard operating procedure (SOP) & machine maintenance are also covered.	2 nd
11. ENGLISH FOR SPECIFIC PURPOSE II ENG 303	The in-house practices to improve the speaking, reading, writing & listening skills. Supplementary material to improve English proficiency is included.	3 rd
12. PLASTICS TEST METHODS PLS 354	Measurements, specification, standard, sample preparation, test equipments, test methods, test report & safety used in plastics industry for quality inspection as well as research & development. Practical on micrometer, caliper, mechanical, thermal, flow & optical tests. This course covers plastics testing, specification & standards & their meaning, H&s on training on measurement including micrometer, vernier. Mechanical testing including tensile, flexural, impact, dart impact, Puncture resistance & tear tester. Thermal test including MFR tester, DTUL & heat sealing. Optical test including Gloss, color & Haze tester.	3 rd

<p>13. INJECTION MOLDING PLS 355</p>	<p>This course covers details of the Injection molding history, theory, process, cycle, parameters & machine used. The Machine operation, types, groupings, control panel, specifications, hydraulic system & parts. The common plastic materials used in Injection Molding will be reviewed. The mold structure, parts, types, groupings, its setting, maintenance & configurations is also covered. Understanding of SOP (Standard Operating Procedures) for machine operations, mold change, Parameter setting & machine maintenance. Fundamentals of common secondary processes & auxiliary equipments are provided. The common Molding Defects & possible countermeasures. This course also includes Demo run in latest technology in Injection molding like Electrical injection molding machine, multi-component injection molding process by using strategic plastic materials like PC,PMMA,NYLON & TPE . Also includes secondary fabrication techniques like PAD printing, hot-stamping, ultrasonic welding & automatic screw driving.</p>	<p>3rd</p>
<p>14. BLOW MOLDING PLS 356</p>	<p>The course covers Blow Molding Process, Blow Molding Safety Practices, Blow Molding Machine, Process & Equipment, Blow Molding Machine parts & function, Machine Operation, Mold & Tooling Change Over & Set-Up, Changing Material & Master Batch, Mold & Machine Maintenance, Machine & Process Troubleshooting, Product Quality Testing, Auxiliary equipment & process recycling, Other related process. The course also includes Demo run of stretch blow molding process using two stage machines like HUSKY & SIDEL, testing procedure for performs & PET bottles. In theory it covers the knowledge of PET resin; PET bottles & performs trouble shooting.</p>	<p>3rd</p>
<p>15. ENGLISH FOR SPECIFIC PURPOSE III ENG 404</p>	<p>Trainees will continue to build on the skills learned in the previous course. Also covered the communication.</p>	<p>4th</p>
<p>16. BLOWN FILM EXTRUSION PLS 457</p>	<p>BF Extrusion Definition & Principles, Products & its Applications, Comparison between BF & Flat Film Extrusion, Optimization of Blown Film Process , Materials for BF Extrusion, Types of Blown Film Machines, Major Parts of Blown Film Machine, Secondary Processes, Related Technologies, Safety Operations,(H&s-on operating skills), Production set-up, Troubleshooting, Production with Quality control, Preventive maintenance. H&s on operation on Blown film machine & process parameters setting by using LLDPE, LDPE & HDPE material. Also covers working principle of flexographic printing & bag making machine & recycling machine.</p>	<p>4th</p>
<p>17. PIPE EXTRUSION PLS 458</p>	<p>This course covers Pipe extrusion technology, understanding the machine parts & their functions, the machine mechanism, safety machine operation, the operating principles. It also covers the hands on operation on Pipe extrusion machine & techniques of HDPE, PP & PVC pipe processing, recycling, operation of crusher & pelletizer. Analyzing the basic characteristics of Pipes & reporting methods in a plastic pipe production set up.</p>	<p>4th</p>
<p>18. ON THE JOB TRAINING (OJT) PLS 459</p>	<p>The trainees go to respective companies for on the job training.</p>	<p>4th</p>