

# ADVANCE DIPLOMA IN INDUSTRIAL ENGINEERING, QUALITY AND PRODUCTION

Industrial Engineering and Production promotes utilisation and coordination of machines, materials and human resources to obtain a desired output with optimum utilisation of resources.

## COURSE STRUCTURE

Advance Diploma in Industrial Engineering, Quality and Production will be conducted in the form of lectures, discussions, demonstrations, case studies, practical exercises, role plays and hands-on activities.

### 21 MODULES:

1. English Communication Skills
2. Computer Skills
3. Clothing development skills
4. Human Resource Management
5. Introduction to Textile
6. Garment Construction
7. Apparel Production Sequence
8. Workplace Skills
9. Production Drawing
10. Apparel Product Development
11. Social Accountability Compliance
12. Quality Assurance in Textile and Fashion Industry
13. Work Study 1
14. Work Study 2
15. Effective Executive Behavior
16. Lean Thinking
17. Lean Value Stream Mapping
18. Building Leadership Excellence
19. Standard Minute Costing
20. Textile and Apparel Safety and Testing
21. QMS Workflow

## ENTRY REQUIREMENT

- Currently working in the apparel industry or aspire to work in the apparel industry
- Possess university, diploma or high school certificate
- Ability to read, write and comprehend English proficiently
- Basic computing skills and knowledge of Microsoft office

## COURSE FEE

For more details on type of Place and Train programme packages and courses fee, please contact us at (855) 23 883 435

## COURSE DURATION

Course Type	Full-Time
Total Training and Assessment Hours	728 hours
Total Number of Months	6 months

\*Maximum number of months factoring in holidays and scheduling conflicts.

## GRADUATION REQUIREMENTS

Student must fulfil the following requirements:

- 75% attendance rate of total training hours per module
- Assessed and be competent for every module

## CERTIFICATE ISSUANCE

Upon successful completion of the course, student will be awarded the CGTI Certification which is nationally endorsed and recognised by industry partners.

## CAREER OPPORTUNITIES

- Factory and Production Manager
- Industrial Engineers
- Work Study Officer
- Production Planner
- Work Improvement Officer
- Manufacturing Departments-In-Charge
- Merchandiser
- Quality Assurance Auditor/Inspector
- Compliance Assistant Auditor

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# MODULES SYNOPSIS

## 1. English Communication Skills

This course seeks to impart basic English language skills one requires to carry out their duties at workplaces and to enable students of the foundation to improve their writing, reading speaking, and listening skills at a Pre-intermediate level. In addition to English language skills, the students will develop their communication via real practice. To make this course more fun and productive, a variety of approaches and interactive practice activities will be employed. Those include student-centered, communication, cooperative learning, task-based, and project-based approach, and communication and interactive practice activities. The students are also required to do assignments and projects individually, in pairs, and/or in groups.

With a stronger foundational English skill upon the content of this course, it is the main objective to ensure better, more effective who can assist their organizations to achieve their goals and objectives. Additionally, to make good effective communication with the team or their workplace.

## 2. Computer Skills

Computer Basics is a course designed for trainees to learn basic computer skills with Microsoft Offices. This basic computer skills course will provide you with an understanding of the most popular, current technologies used at home and in the workplace. You will become computer literate in this hands-on course while you learn to access, create, save and manage documents, spreadsheets and emails and use the Internet effectively.

## 3. Clothing development skills

This course is designed to enhance in the sewing skill. The purpose of this course is to provide the basic of sewing skill to student for able working in the manufacturing.

This course has to divided into two parts. There are theory class and practical class.

the theory class has technical skill and soft skill. For the technical skill is focus on manufacturing process, equipment and material use, supporting department on manufacturing.

The practical class we have practicing on machine operating, sewing on exercise paper, sewing on fabric and full process of T-shirt and short pant.

this course will help no skill on sewing to understand about method for sewing, machine operating, quality of product and become a better communicator and self-motivated person in the workplace.

## 4. Human Resource Management

Human Resource means, "The total knowledge, skills, creative abilities, talents, aptitudes, values, attitudes, approaches" in personnel. Human resource management is the organization function that deals with issues related to people such as compensation, hiring, performance management, organization development, safety, wellness benefits, employee motivation, communication, administration and training. Human resource management is a strategic approach to the motivation and development of people, and to gaining their commitment so that they can make their best contribution to organization success, while also meeting their own needs and aspirations.

## 5. Introduction to Textiles

This subject provides a basic understanding of fibers and yarns in textiles formation. Students are taught the fundamentals of knits and weaves, and to identify fabric by names through visual identification and their intrinsic characteristics.

Students' understanding of textiles include production processes and developments in the industry. Virtual field trips include visits to mills and testing laboratory. This is a fundamental foundation for anyone in the fashion industry.

Merchandisers, Designers, Product Developers, Purchasers, Procurement Officers, Quality Control Auditors/Inspectors, Sample Makers and Production Personnel often have problems in identification of fabrics and pre-empting issues relating to materials due to the lack of material knowledge, its characteristics, limitations and the varied processes. Thus a good understanding of textiles is a critical competency required for the incumbent in the effective delivery of their job functions

## 6. Garment Construction

With steep retail competition and quick style changeovers, manufacturers, retailers and buying agents are faced with the challenges of offering a wider product range, a quicker product development cycle in a shorter production lead-time. Thus, Merchandisers, Garment Technologists and Designers are required to develop designs and respective technical packages including production design that are feasible in production as well as achieve accuracy in sample interpretation. The understanding of how garments are constructed, the various seams and stitches utilization in various components within the garment is critical. Thus fundamental knowledge will reduce redundant designs that cannot be replicated in mass production and eliminate misinterpretation in sampling.

## 7. Apparel Production Sequence

Learn how a garment is made from pattern drafting, cutting and sewing. With the basic knowledge in drafting and sewing, you can better understand and relate mass production processes from pattern making to cutting, sewing and finishing. This course also covers basic threading of the industrial sewing machine and sewing techniques, and is a good foundation for anyone who wants to be in the apparel industry.

## 8. Workplace Skills

The module is designed to help individuals function effectively as an independent thinking adult in the workplace and focus on importance of initiative and enterprise in the context of his/her work scope, responsibility, accountability authority and expertise. This module covers area of communication, goal setting, time management, work ethics etc.

This course will help you become a better communicator and self-motivated person who is able to connect well with the different stakeholders to enhance workplace success.

## 9. Production Drawing

This module aims to provide basic knowledge and skills to draw production drawings. It covers different garment types, details and specifications. You will learn how to draw basic production drawings and give basic descriptions.

## 10. Apparel Product Development

With the growing trend of buyers asking for value-added services, only factories who can offer design and product development services can compete in the global arena. It is fast becoming a pre-requisite for factories to be able to offer such services to remain in the buyers' matrix of selected suppliers. Garment manufacturers have to develop their own product development team to meet their buyers' requirements. Factories that have already set up product development teams, would have a head start to work with buyers and designers to collaborate and better understand the buyer's needs. It is also imperative to create the most relevant collection in the shortest time for the buyers, as lead time gets shorter. Product development is not just about the creation of new samples, it has to meet the criteria and the needs of the buyers.

## 11. Social Accountability Compliance

Social Accountability Compliance has emerged as one of the most complex challenges in the garment industry. In recent years, a significant number of Asian vendors have failed to meet the code of conduct standards established by the buyers. Inability to meet these standards has forced hundreds of factories to close down. There are still thousands of small factories that find it difficult to do businesses with large brands as you do not know how to meet the code of conduct requirements. Buyers, on the other hand, face increasing pressure from their stakeholders in their home country and raising the bar with new demands. A factory is often faced with multiple codes of conduct and has many audit and monitoring visits. The challenge, therefore, is to ensure that you meet the code of conduct audit and stay competitive. After attending this module, students will be able to reduce the audit failure rate and minimize business risk for factories.

## 12. Quality Assurance in the Textile and Fashion Industry

This module covers the major aspects of Quality in the textiles & apparel industry. Students will learn the Principles of quality management, to understand and interpret the various types of quality audit reports and how quality policies can impact the operational performance of the organization. The areas of coverage include: statistical sampling, defects classification, samples evaluation and report writing. Raw Materials, product testing and safety, color evaluation will also be introduced. Students will also have the opportunity to be engage in discussions on common quality issues and measurement deviations faced by the industry.

## 13. Work Study 1

With competition getting stiffer, there is a need to look at garment manufacturing as a science and not an art. This is where a great need of Garment Engineering and Work Study emerges. This course will help the designers, sample makers and garment technologists develop designs, technical specifications and manufacturing instructions that take production efficiency into consideration. Basic industrial engineering is the pre-requisite for any productivity improvement project. You cannot improve what you cannot measure.

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# MODULES SYNOPSIS

## 14. Work Study 2

This course is a continuation of Work Study 1. You have learnt how to record and study, and now you will learn to analyse and improve the methods and time required in the apparel production processes from cutting, sewing to packing. This course includes hands on activities to conduct capacity assessment, identify unit drivers, apply simultaneous engineering approach for lead-time and cost reduction and conduct value add analysis and feasibility studies. You will learn how to measure and analyse your production efficiency, and what you need to do in production in order to optimize output and increase profit potential.

## 15. Effective Executive Behavior

Our character, basically, is a composite of our behaviors. Because they are consistent, often unconscious patterns, behaviors constantly express our character and produce our effectiveness - or us in effectiveness. In the words of Aristotle, "We are what we repeatedly do. Excellence, then, is not an act, but a habit."

Acquiring the effective executive behaviors of effectiveness takes us through the stages of character development. Behaviors 1 through 3 make up the "private victory" - where we go from dependence to independence by taking responsibility for our own lives. Acquiring behaviors 4 through 6 is our "public victory": Once independent, we learn to be interdependent, to succeed with other people. All behavior makes all the others possible - periodically renewing ourselves in mind body, and spirit.

## 16. Lean Thinking

The lean journey is similar to a marathon without a finish line. It's "change the mind" rather than "change the line". With today's rising costs and competitive market, this course will introduce you to the world of lean and how it can help to change the way you think and do things. This course provides an introduction to lean and gives you the foundation to develop future projects implementing lean in your workplace. When concepts are implemented as strategies, participants can be assured of higher productivity at work, reduction in the cost of the operations and an increase in profit margins. There will be a simulation of a production line to identify and eliminate wastes streamlining processes to improve productivity.

## 17. Lean Value Stream Mapping

This course requires participants to have a basic understanding of lean manufacturing concepts. You will learn to assess the current state of the apparel manufacturing operational process from door to door. This methodology provides an accurate snapshot of all the value and non-value added activities in the production process, enabling you to design its future state. You can then easily focus improvements through process razing where a series of Kaizen events can be conducted to eliminate wastes, improve quality and increase productivity.

## 18. Building Leadership Excellence

This course seeks to impart basic Building Leadership Excellence one requires in order to carry out their duties as middle managers. There are frequent instance of mismanagement by supervisors with regards to staff management, leadership and motivation. This could arise from the inadequate knowledge and skills among supervisors.

This course will focus on providing participants with the necessary knowledge and skills in supervising effectively. It will cover functions and roles of supervisors and the various aspects of-

commutation, coaching, counseling and team building which are vital skills required of an effective supervisor. With a stronger foundation built upon the content of this course, it is the main objective to ensure better, more effective supervisors that can assist their organization to achieve its goals and objectives.

## 19. Standard Minute Costing

Apparel manufacturing mainly consists of cutting, sewing, assembly of sewn parts in sewing lines, finishing and packing. Line balancing within each process is one of the keys to achieving optimum production performance.

Computing standard minutes using common industry software is critical in this process. The aim of this course is to provide occupational knowledge, skills and techniques to compute standard allowed minutes (SAM) or standard of allowed hours (SAH) for apparel sewing and balance work among teams or amongst workers in lines to achieve higher efficiency. SAM or SAH or SMV is a universal tool used to compute factory efficiency & costing.

## 20. Textile and Apparel Safety and Testing

This course provides occupational knowledge on product safety and testing requirements that applies to raw material and

finished garment in the fashion industry. This includes specific rules and regulations governed by the importing countries like

USA and European communities not limited to testing and safety regulations. With this knowledge, it will reduce duplication in

product quality testing and provide upfront information for raw material selection, to facilitate design changes to comply to

importing countries regulations and eliminates misinterpretation so that the individual can make better decisions in materials management and improves communication.

## 21. QMS Workflow

Quality management System training enhances and delegates' learning experience and achieves a better level of understanding of ISO 9001 Standards. QMS training course introduces the ISO 9001 Standard and its procedures for implementing and maintaining the ISO 9001 framework system through frequent departmental auditing.

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