



# Overview in Packaging Technology - Certificate Course -

## COURSE OVERVIEW

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## Overview in Packaging Technology=

<b>Course Overview</b>	
<b>WHERE DOES THIS COURSE FIT INTO IPSA'S EDUCATION PROGRAMME</b>	The Institute of Packaging (SA) has identified a need to meet industry's requirements for a basic level course in 'Packaging'. The course is devised at a starter level for those employed in the 'packaging' and related industries. It seeks to address South Africa's need for skilled employees in this sector where a basic knowledge of packaging, its principles and materials is lacking. This course, therefore, offers a seamless introduction to the more in-depth content of the Institute's 'One Year Diploma in Packaging Technology'. The Advanced Packaging Diploma (APD) is at this stage the final step in the Institute's portfolio of educational courses
<b>COURSE OBJECTIVE AND EXIT OUTCOMES</b>	<p>This course is aimed at those students who are new to the packaging field and who have little or no previous knowledge of packaging, rendering them unlikely to succeed if attempting the Institute's One Year Diploma in Packaging Technology. He/she would not typically have had much - if any - technical schooling, packaging background or experience. They would probably be working in a packaging environment where theoretical and practical packaging knowledge would be beneficial to them (e.g. trainee packaging technologist, machine operator, packaging line team leader, packaging material salesman, packaging material buyer, logistics controller / supervisor, or packaging material laboratory / QC assistant.</p> <p>This course is also aimed at persons very new to packaging – for example, school leavers interested in this field as a possible vocation, or perhaps newly recruited employees / first time workers.</p> <p>The course takes a training approach with a significant practical content during class sessions. Practical packaging assessments would introduce packaging identification and measurement skills as found in the industrial laboratory.</p> <p>At the conclusion of the course the students should have a good (but limited) grasp of the technologies of packaging, and the materials and processes involved in the industry. This will equip them not only to contribute more meaningfully in their employment, but prepare them for their next academic step – which is to study the Institute's One Year Diploma in Packaging Technology.</p>
<b>ELIGIBILITY</b>	Students should have at least a matriculation certificate and an adequate proficiency in the English Language, enabling them to grasp explanations of a moderately technical nature.
<b>PARTICIPANT OBLIGATION</b>	As stated below, this is designed to be a very practical and hands on learning experience, so students will be expected to apply themselves to the practical requirement of the course, which includes the Action Points referred to below.
<b>COURSE LENGTH &amp; STRUCTURING</b>	The course will run for a minimum of approximately 33.5 hours, comprising 14 lectures; i.e. 3 sessions of 2 hours, and 11 lecture session of 2,5 hours – the latter including the half hour learner check. The detail is as set out in the syllabus following, divided into 12 modules. The frequency of lectures will be advised to enrollees.
<b>SUBJECT FACILITATORS</b>	Drawn from Industry - persons who are up to date and well qualified in their fields.
<b>COURSE EVALUATION / ACHIEVEMENT RECOGNITION &amp; ASSESSMENT</b>	Formal classroom attendance is expected to be at least 80% (12 of the 14 lecture sessions) and at least one of the factory visits. As the course progresses, the students are required to complete a "Learning Check" at the beginning of each lecture session based on the previous lecture's work. A PASS is an accumulated average score of 70% (80% = with merit). Only students achieving 70% of marks available or more will be issued with the Institute's formal Certificate – Introduction to Packaging Technology. Consideration is being given to awarding an Attendance only certificate to those who do not achieve the 70% pass mark.

<b>MODUS OPERANDI</b>	<ul style="list-style-type: none"> <li>The course makes use of sample materials and numerous pictures and photographs to familiarise the student with the course concepts – it is intended to be very practical and interactive in nature;</li> <li>Students are given the opportunity to handle the various material types and formats and discuss their suitability or different applications.</li> <li>The course is interspersed with “Action points” which are practical ‘interludes’ during each lecture where the students as a group are required to discuss or perform practical exercises designed to give them ‘hands on’ exposure to the subject matter;</li> <li>As stated above, there is a Learning Check at the beginning of each lecture (except the first) providing a means for both the student and the lecturer to measure the successful knowledge gain, or identify where there are learning deficiencies. The latter will as far as possible be addressed, but with due regard to the need to progress studies and not be held up unnecessarily by weaker students.</li> <li>After hours research by learners would also be an important component of the course, where packaging applications and materials, local and imported products, would be assessed and discussed in the class sessions.</li> </ul>
<b>MODUS OPERANDI (continued)</b>	
<b>TOTAL COST</b>	R 8625-00 including vat and Student membership for the Year.

### **PROGRAMME STRUCTURE AND PRESENTATION**

*(Dates of lectures will be advised prior to the commencement of each scheduled course)*

<b>MODULE NUMBER</b>	<b>SUBJECT and LEARNING OBJECTIVES</b>	<b>LECTURE HOURS</b>
1	<b>What is packaging?</b> * <i>state the definition of packaging;</i> * <i>list the five functions that packaging needs to satisfy;</i> * <i>identify and explain the principles of packaging</i> * <i>describe a simple package design based on the criteria and principles learned</i>	2
2	<b>Packaging perspectives</b> * <i>to highlight the impact of packaging in modern society with reference to:</i> * <i>the supermarket;</i> * <i>road transport;</i> * <i>the preservation of products;</i> * <i>the environment.</i>	2,5
3	<b>The protection role of packaging – lectures one and two</b> * <i>understand the terms <b>shock</b> and <b>cushion</b>;</i> * <i>understand the ways in which <b>shock damage</b> can be lessened or prevented;</i> * <i>describe the 3 main categories of <b>cushioning</b> systems;</i> * <i>explain the factors affecting the amount of <b>water vapour</b> reaching a product;</i> * <i>Explain the terms <b>gas barrier – permeability – MVTR – OTR and ESC</b>;</i> * <i>identify the three type of <b>cushioning</b> used in illustrations and names the materials in use.</i>	2 + 2,5
4	<b>Distribution packaging</b> * <i>list the criteria to be satisfied when considering packaging for distribution;</i> * <i>explain the five elements that need to be considered for distribution packaging;</i>	2,5

	* <i>list the five hazards of distribution that can be eased by correct distribution packaging</i>	
<b>MODULE NUMBER</b>	<b>SUBJECT and LEARNING OBJECTIVES</b>	<b>LECTURE HOURS</b>
5 and 6	<b>Paper and Paperboard</b> – two lectures * <i>describe paper and its various grades;</i> * <i>explain the two ways of manufacturing wood pulp;</i> * <i>explain the key properties of paper and its various formats;</i> * <i>Explain the importance of paperboard carton for use in packaging;</i> * <i>describe the components of a paperboard carton;</i> * <i>explain the manufacture of cartons;</i> * <i>identify the different carton styles and types.</i>	2,5 + 2,5
7	<b>Corrugated Board</b> – * <i>explain the basic structure of Corrugated Board.</i> * <i>classify corrugated board – flute, class</i> * <i>design the structure of a typical corrugated shipping case.</i>	2,5
8	<b>Plastics</b> * <i>explain the major properties of plastics;</i> * <i>identify the main plastics used in packaging;</i> * <i>explain the conversion processes of thermoplastics in packaging;</i> * <i>explain the terminology related to polymers and plastics technology, for example – flexible plastics, polymer, monomer, thermoplastic, thermoset, tear strength, heat sealing of plastics, crystallinity, shrink film, etc.;</i> * <i>name the applications for each of the major packaging plastics.</i>	2,5 + 2
9	<b>Glass</b> * <i>identify the major constituents of glass;</i> * <i>understand the manufacture of glass and glass containers;</i> * <i>describe the advantages and disadvantages of the use of glass as a packaging medium;</i> * <i>understand the meaning of basic bottle terms: ullage, fill height, hot fill, hydrodynamic breakage, annealing, hot end and cold end coatings;</i> * <i>be able to sketch a bottle and name the major components.</i>	2,5
10	<b>Metal Packaging – tin</b> * <i>detail the positive and negative properties of tinplate;</i> * <i>explain the two manufacturing processes of tinplate cans;</i> * <i>explain tinplate and can making terminology.</i>	2,5
11	<b>Metal Packaging – aluminium</b> * <i>outline the major advantages and disadvantages of aluminium as a packaging medium;</i> * <i>explain aluminium foil and can making terminology;</i> * <i>identify product applications for aluminium.</i>	2,5
12	<b>An introduction to Printing Processes</b> * <i>explain the principles of the various printing processes;</i> * <i>explain the terminology related to printing processes;</i> * <i>identify applications for each of the major printing processes.</i>	2,5
<b>TOTAL LECTURE AND ASSESSMENT TIME (HOURS)</b>		<b>33,5</b>