

# HALF DAY TRAINING COURSES



AUSTRALIAN INSTITUTE  
OF PACKAGING

**NEW  
COURSE**

## INTRODUCTION TO PRINT TECHNOLOGY

Have you ever gone to a press approval and struggled to make the printer understand what you wanted? Do you want a basic understanding of what problems you are likely to encounter with each print process? The AIP have enlisted the help of Andrew Readman, Specialist Teacher, Print Machining Workplace Trainer and Assessor from RMIT's School of Design International Centre of Graphic Technology to provide a half day training session on the introduction to print technology.

### Course Objectives

- The print processes
- Print and other related problems you may encounter
- A simulated press approval process
- Further associated 'production quality' factors including Print technology advances

As part of the session Andrew will show you how to use a linen tester (Eyeglass) which you will get to take away with you. He will also introduce you to the use of pantone charts books, colour densitometers and more.

This half-day training course will provide delegates with adequate information to be able to have an informed discussion with a printer on your requirements and needs.

### Who should attend?

People likely to benefit from this course are packaging technologists, packaging designers, people involved in print sales and marketers.

**Course Presenter:** Andrew Readman

## INTRODUCTION TO FLEXIBLE PACKAGING & BIOPLASTICS

**NEW  
COURSE**

Flexible packaging is a complex and dynamic area of packaging. Flexible packaging utilises a wide variety of materials, a broad range of processes for manufacturing, producing films and laminates all of very different properties and applications. Today we find ourselves in a time where renewable based materials are emerging, with properties and end of life opportunities, quite different from traditional polymers and films.

### Course Objectives

- The aim of the course is to provide attendee's with an introduction to the following:-
- Polymers used in flexible packaging;
- Flexible packaging manufacturing processes;
- Films and their properties;
- Market applications for flexible packaging – structures, properties and pack formats;
- Emerging materials for flexible packaging;
- Compostable and degradable flexible films;
- Sustainable packaging – opportunities for flexible packaging

The aim of the presenter is to give attendees a thorough introduction to flexibles, an ability to understand flexible film applications and to more confidently define or select flexible packaging.

### Who should attend?

People likely to benefit from this course are packaging technologists, packaging designers and those in a role that might specify flexible packaging.

**Course Presenter:** Richard Smith, MAIP

## MODIFIED ATMOSPHERE PACKAGING AND BARRIER MATERIALS

**NEW  
COURSE**

The ability to create a specific atmospheric environment to suit specific products e.g. foods, as well as provide protection through packaging is not new. However the increased understanding of the biochemical pathways coupled to the advances in plastics has opened new opportunities for product protection and shelf life extension. The retention of organoleptic characteristics, e.g. flavour, colour, texture are important factors in the selection and purchase of food by the consumer. The development of new and sophisticated barrier materials has also resulted in broader applications as well as supporting new processing techniques.

Arising from the development of MODIFIED ATMOSPHERE PACKAGING has been the extension into ACTIVE PACKAGING which has provided the opportunity to 'manage' the atmosphere of a pack by absorbing or releasing gaseous components and maintaining quality with the extension of shelf life. Whilst developments in barrier materials have provided significant benefits through MAP for foods this has also extended in to other major areas such as cut flowers etc.

### Course Objectives

This half day course will cover MAP and its application to fruit, vegetables, meat and fish, followed by the functional attributes of MAP films. The important role of Active Packaging (antimicrobials, antioxidants etc.) including recent developments and future projections will be examined. The important area of nanotechnology and its applications covering film inclusions e.g. nanofibres and nanoclays and their use in MAP will be covered. Advances in polymeric films including sustainability together with the technical assessment and monitoring of Modified Atmosphere packs will be outlined. The recent scientific opinion from EFSA on the risk assessment of the application of nanoscience and nanotechnologies in the food and feed chain will be addressed in respect to packaging materials.

### Who should attend?

The half-day training course is designed for anyone who has an interest or involvement in the use of MAP and Barrier Materials. The aim is to provide a comprehensive overview of techniques and materials and recent developments. It will include a recent project dealing with whole meals for the catering sector.

**Course Presenter:** Emeritus Professor Harry Lovell, OAM, FAIP

## INTRODUCTION TO PLASTICS

This half-day course will be clear and comprehensive, it will present a precise, non-mathematical introduction to plastics, their raw materials, syntheses, and applications, discussing the manufacture and properties of plastics as a function of the molecular properties of polymers used in the plastics industry.

The course will consist of the properties of the main classes of materials, on the principles of such processes as injection moulding, extrusion, blow moulding and thermoforming polymers. No previous experience will be assumed in the subject matter of the lectures.

Plastics are polymeric materials, a material built up from long repeating chains of molecules. Polymers such as rubber occur naturally, but it wasn't until the development of synthetic polymers that the polymers tailored to the needs of the industry first started to appear. One of the first commercial plastics developed was Bakelite and was used for the casing of early radios. During the Second World War, plastics such as nylon and polyethylene were used as a replacement material for other materials in short supply. Because the early plastics were not completely chemically stable, they gained a reputation for being cheap and unreliable. However, advances in plastic technology since then, mean that plastics are a very important and reliable class of materials for product design.

The mechanical properties of plastics tend to be inferior to most metals. Because of this, careful consideration must be given to using plastics for structural applications. Fibre reinforced plastics are extensively used where the mechanical properties of the base plastic material are not sufficient. However because of their relatively low weight, the ability to colour the plastics when manufacturing, and the ability to mould complex shapes relatively easily, plastics are extensively used for product casings and other applications where mechanical strength is not at a premium. Plastics are not cheap materials. The cost of raw plastic materials is typically higher than steel but less than aluminium. However, because processing costs over large production runs are lower, the use of plastics can result in significantly cheaper products.

We will discuss the two main families of plastics, **thermosets** and **thermoplastics** and their methods of moulding, i.e. the various methods of blow moulding as well as the various methods of injection moulding. We will conclude with plastic applications in the industry, associated problems, choosing the correct plastic for the application and which aspects of plastics to avoid.

**Course Presenter:** Pierre Pienaar, MSc, FAIP



## ADVANCED PLASTIC PACKAGING

### OVERVIEW OF THE COURSE

Today there are hundreds of identified 'species' of synthetic polymers. Any of these is available in a range of molecular masses, most can be influenced by processing conditions. Therefore the choice in plastics is almost limitless. Polymer science is the subfield of materials science concerned with polymers, primarily synthetic polymers such as plastics. The field of polymer science includes researchers in multiple disciplines including chemistry, physics, and engineering.

This science comprises three main sub-disciplines: Polymer chemistry or macromolecular chemistry, concerned with the chemical synthesis and chemical properties of polymers. Polymer physics, concerned with the bulk properties of polymer materials and engineering applications. Polymer characterisation is concerned with the analysis of chemical structure and morphology and the determination of physical properties in relation to compositional and structural parameters.

### OBJECTIVES OF THE COURSE

The course will cover certain aspects of organic chemistry, revisit the raw materials, syntheses, and applications, only touching on the manufacturing and moulding aspects. It will ensure that those attending are reminded of the main classes of plastic materials as a function of the molecular properties of polymers used in the plastics industry. It will discuss the molecular structure of plastics in relation to the two main families of plastics, namely thermosets and thermoplastics.

The course will discuss and obtain an understanding of composite materials, crystallinity, melt flow index, polymeric orientation, heat shrink properties, viscoelasticity, capillary rheometry, just to mention a few aspects. The training course will conclude with applications in the industry, discussing possible industry polymer issues, and what to do about the problems.

### WHO SHOULD ATTEND?

This half-day training course is intended for those that have already attended the 'Introduction to Plastics' course, or have spent a number of years in some related plastics industry. It will extend to those attending to new levels of understanding the complex world of polymer science. Every attendee will learn new aspects of polymers, test themselves and their ability of remembering what they learnt previously.

**Course Presenter:** Pierre Pienaar, MSc, FAIP

# HALF DAY TRAINING COURSES



AUSTRALIAN INSTITUTE  
OF PACKAGING

## PACKAGING FOR TRANSPORT

The Packaging for Transport half-day training course will focus on the protection of products during transportation from the producer to the consumer. It will examine the various systems of transportation in terms of the potential hazards and the protection to be afforded by packaging. It will also examine the question of fragility its determination and its role in the selection of protective mechanisms.

Within the distribution chain, the course will identify the hazards and those steps which are necessary in order to provide adequate protection. It will look at methods of hazard assessment and how these can be addressed in practical terms.

The different forms of transportation will be examined and the protection which is required. Examples will be drawn from a wide range of products ranging from small unit packs to bulk containers.

### Course Objectives

At the completion of this half day training course, participants should be able to:

- Understand the basic technical requirements of packaging for transportation;
- Identify the hazards within various distribution systems and recommend appropriate methods of assessment;
- Advise on recognised procedures associated with evaluating packaging for transportation.

### Who should attend?

The course will be of interest to those concerned with product distribution, packaging design, transportation and materials handling etc.

**Course Presenter:** Emeritus Professor Harry Lovell, OAM, FAIP

## INTRODUCTION TO PACKAGING MATERIALS

This half-day course is clear and comprehensive, it presents a precise, non-mathematical introduction to Packaging Materials, their raw materials and applications, as well as discussing the manufacture and properties of the various Packaging Materials used in the packaging industry.

### Packaging materials

The course will consist of the most common types of materials used for packaging where the various aspects of these packaging materials will be explained.

### Course Objectives

At the completion of this half day training course, participants should be able to:

- Understand the basics of packaging materials;
- State the elements of packaging materials;
- The classification of certain materials;
- Be able to choose correctly the material for the purpose;
- Be able to prevent unnecessary materials being used in the supply chain;
- Identify the factors required for successful packaging from a materials perspective;
- Acquire an appreciation of future trends and developments in relation to packaging materials.

### Who Should Attend?

- This course is intended for people who have a direct involvement in packaging operations within all packaging associated industries. This includes the production, development, technology, purchasing, sales, QA/QC, marketing, regulatory and development functions.

The course will conclude with applications in the industry, associated problems, choosing the correct material for the application and which aspects and materials to avoid.

**Course Presenter:** Pierre Pienaar, MSc, FAIP

## PACKAGING SPECIFICATIONS

The AIP are offering a half-day course dealing with the preparation and role of specifications across a variety of packaging materials. The different types of specifications and their functionality. Specifying requirements in detail and their relationship to product and packaging lines. The role of specifications and their review.

This course would ideally suit Packaging Field Sales Representatives, Purchasing Officers, Production Supervisors, Technical and QA staff involved in writing and checking specifications in the packaging industry and in industries that use packaging.

### **A Specification can be defined as:**

**A document giving a description of material, machinery, equipment, process or product in terms of its required properties or performance. Where quantitative requirements are stated, they are either in terms of Units or in terms of standards with permitted tolerances.**

Specifications are formulated in clear structured documents defining the requirements, properties and the performance which is required of packaging materials. It is supported by recognised and agreed testing regimes and where appropriate reference procedures.

The course will focus primarily on the role of specifications relative to the supplier and the user. It will examine the different types of specifications from the basic purchasing specification to the more comprehensive complex requirements involving machinery performance. It will cover ancillary requirements including delivery formats, storage, QC data and coding.

The definition and use of AQL's will be examined together with sampling regimes.

**Course Presenter:** Emeritus Professor Harry Lovell, OAM, FAIP

## INTRODUCTION TO PACKAGING ECONOMICS

Packaging represents a significant investment in any brand with innovation & design driving improved consumer utility and function. Packaging protects & preserves its valuable contents through the supply chain delivering the product to the consumer in the state that its brand owners intended.

However, packaging also represents a major cost to its brand owners and users of packaging remain under constant pressure from rising costs due to raw materials, energy and on-costs.

Understanding what is 'cost effective packaging' and how to achieve it – remains the key to ensuring that your company remains competitive in today's tough trading environment where margins are being squeezed from both ends. Maximising sales while minimising the total distribution costs reflects the techno-economic function of the packaging technologist – a function that is important for all segments of your organisation to understand.

This half-day Professional Development session provides a comprehensive and non-mathematical introduction to the economics of packaging – reviewing the main drivers of packaging costs including material selection and importantly, how and what to look out for in achieving cost savings. Covering primary and secondary packaging, this course will assist you not only with driving efficiencies across existing packaging formats but will assist in new product development.

### Course Objectives

At the completion of this half day course, the student should be able to:

- Discuss the packaging costs.
- Discuss the elements of packaging costs.
- Classify the costs.
- Discuss the guidelines for Cost Effective Packaging.
- Describe how to prevent unnecessary costs creeping into the supply chain.
- Identify the factors required for successful packaging from a cost perspective.
- Understand the basics of packaging economics.
- Acquire an appreciation of future trends and developments with the cost confines of packaging.

### Who should attend?

This course is intended for people who have a direct involvement in packaging operations within all packaging associated industries. This includes the production, development, technology, purchasing, sales, QA/QC, marketing, regulatory and development functions.

We will conclude with applications in the industry, associated problems, choosing the correct packaging for the application and which aspects of packaging to avoid with cost in mind.

**Course Presenter:** Pierre Pienaar, MSc, FAIP

## INTRODUCTION TO PHARMACEUTICAL & COSMETIC PACKAGING

This half-day course is clear and comprehensive, it presents a precise introduction to the packaging of pharmaceuticals and cosmetics, their methods, materials and packaging applications. This course will provide delegates with the knowledge of packaging of cosmetics and pharmaceuticals in general, ethical and OTC which will also include QA, supply chain and engineering as well as what to be aware of when packaging designing, the pitfalls and potential areas of packaging savings. Good packaging protects and preserves the product along the supply chain from the plant to the patient. This course offers a broad packaging portfolio and expertise in development and production of packaging, so as to make sure that your products reach the patient safely. Furthermore, it will support you with innovative packaging concepts to enhance the product compliance and attractiveness.

Good packaging protects and preserves the product along the supply chain from the plant to the patient. This course offers a broad packaging portfolio and expertise in development and production of packaging, so as to make sure that your products reach the patient safely. Furthermore, it will support you with innovative packaging concepts to enhance the product compliance and attractiveness.

### Course Objectives

At the completion of this half day course, the student should be able to:

- Itemise the general packaging requirements for these products
- Describe how packaging is utilised to prevent diverse types of spoilage
- Identify the factors required for successful packaging
- Stability testing – shelf life
- Regulatory needs
- Specifications & testing
- Quality – from design to audits
- Understand the basics of artwork control allied to the printing processes
- Design for pack security – tamper evidence, child resistance and anti-counterfeiting
- Understand line layout to avoid rogues and optimise production
- An appreciation of future trends and developments

### Who should attend?

This course is intended for people who have a direct involvement in packaging operations within the cosmetic and/or pharmaceutical industry. This includes the production, development, technology, purchasing, QA/QC, marketing, regulatory and auditing functions.

**Course Presenter:** Pierre Pienaar, MSc, FAIP

# HALF DAY TRAINING COURSES



AUSTRALIAN INSTITUTE  
OF PACKAGING

## INTRODUCTION TO CORRUGATED BOXES

This half-day training course will present the humble corrugated box, as probably the most diverse single-form packaging medium in use throughout the world, today and in the future. The course will cover the basics of papermaking for the box industry, will then progress through the conversion of paper and other materials, into the finished package that is so necessary for the marketing, safe storage and transportation of virtually every type of product that we buy on a daily basis.

### Course Objectives

The corrugated box industry contains many mysteries. There is a maze of board grades/flutes and box styles. Customer requirements are extensive. The terminology used in the industry can be very confusing.

On completion of this half-day training course, participants should be able to:

- ✓ Understand board grades and how they are established.
- ✓ Understand the differences in flute types and their applications.
- ✓ Be able to determine suitable styles, dependent on process capability.
- ✓ Gain a basic, but substantial understanding of the technical aspects of box making.

### Who should attend?

This half-day training course is focussed towards people from all aspects of packaging, including students, technologists, designers (graphical and structural), QA/QC, purchasing, marketing and logistics.

**Course Presenter:** Ron Mines, MAIP

## PACKAGING FOR PRODUCT LIFE EXTENSION

The extension of shelf life using modern packaging techniques plays an important role in food packaging. The course examines a range of integrated technologies with the emphasis on the packaging operation, the materials used and their selection.

The technologies will include Modified Atmosphere Packaging, vacuum and gas packaging, canning and retort pouches, aseptic and clean fill packaging, active and smart packaging. Ancillary operations such as closures, sealing processes including adhesives will be covered. Finally the environmental issues will be examined.

**Course Presenter:** Emeritus Professor Harry Lovell, OAM, FAIP

## INTRODUCTION TO LIFE CYCLE INVENTORY & CARBON FOOTPRINTING

This half-day Professional Development training course provides a comprehensive introduction to Life Cycle Inventory (LCI) - an inventory that identifies and quantifies energy and resource use and environmental discharges through the entire product life cycle, i.e. from cradle to grave. Resource inputs, energy requirements, and releases to the air, water, and land for each step in the manufacture of a product or process are quantified, from the extraction of the raw materials from the earth to ultimate disposal of the wastes.

### Course Objectives

At the completion of this half day training course, participants should be able to:

- Understand what Life Cycle Inventory (LCI) is;
- Be aware of the strengths and weaknesses of LCI;
- Examine real LCIs that have been performed on actual packages;
- Have a basic understanding of PAS 2050 and carbon footprinting.

### Who should attend?

This training course is intended for people who have a direct interest and involvement in packaging within all packaging-associated industries (both suppliers and users). This includes the production, development, technical, purchasing, sales, QA/QC, marketing, regulatory and development functions. It will be particularly relevant for those involved in preparing National Packaging Covenant plans, together with those involved in communications. Please note that a workbook will be provided to each participant for future reference and use.

**Course Presenter:** Professor Gordon Robertson, FAIP

The Australian Institute of Packaging offers half-day training courses on a regular basis throughout Australia and New Zealand. If your company is interested in participating please let us know.

[info@aipack.com.au](mailto:info@aipack.com.au) [www.aipack.com.au](http://www.aipack.com.au)