AUSTRALIAN INSTITUTE OF PACKAGING

Fundamentals of Packaging Technology

Residential Program Now Available In Australasia

In today's challenging packaging environment, you can't afford to make mistakes or overlook the critical details that cost precious time and money. You need the knowledge—from materials properties and selection to transport packaging issues—that can help you make better decisions regarding your company's packaging dollars—now.

The Fundamentals of Packaging Technology course content is developed in consultation with packaging subject matter experts at leading global consumer packaged goods companies who face packaging challenges just like yours. Undertake the complete course and learn about all the major segments of packaging—and beyond.

The Australian Institute of Packaging (AIP), in partnership with the IoPP, are bringing the Fundamentals of Packaging Technology course to Australasia as a residential course for the first time in 2020. The residential course is divided into semesters to provide maximum flexibility around your work schedule. *This course is also the basis for the examination side of the Certified Packaging Professional Designation; bringing you one step closer to becoming an internationally recognised CPP.*

1. Take the entire course
Participate in the full Fundamentals of Packaging Technology residential course which will be broken up into 8x classroom days as 4x semesters over 12 months.

OR

2. Attend Semesters relating to your subject-interests or knowledge gaps
Content is divided into 4x Two-Day Semesters with each semester focussed on specific areas of packaging. You have the choice to enrol in one semester, or as many as you wish based on your professional development needs & knowledge gaps.

OWNED BY	FULL COURSE	PER SEMESTER
Institute of PACKAGING PROFESSIONALS	* = 50 CPP PTS	* = 12.5 CPP PTS

AIP: PEAK PROFESSIONAL BODY FOR PACKAGING EDUCATION & TRAINING IN AUSTRALASIA

AUSTRALIAN INSTITUTE OF PACKAGING

FUNDAMENTALS OF PACKAGING TECHNOLOGY RESIDENTIAL COURSE

VIEWPOINT, ST KILDA, VICTORIA, AUSTRALIA

SEMESTER ONE (TWO DAYS)

DAY ONE 29 APRIL 2020

- ***COURSE INTRODUCTION***
- ***COURSE OVERVIEW***
- ***COURSE LOGISTICS***

1-1: PERSPECTIVE ON PACKAGING

- Demographic Workshop: Part One
- A definition of packaging
- The historical evolution of packaging and packaging materials
- The industrial revolution and packaging
- Growth of modern packaging roles
- The modern packaging industry

1-2: PACKAGE DEVELOPMENT PROCESS

- Management of the packaging function
- Project Scope and objectives
- The package development process
- The package design brief
- Specifications

1-3: MARKET RESEARCH

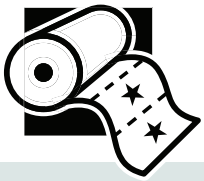
- Why perform market studies
- Market study tools
- Broad based studies
- Focused studies
- Updating persona through market research

1-4: GRAPHIC DESIGN

- Demographic Workshop: Part Two
- Technical and communication roles compared
- The importance of demographic and psychographic information
- The modern retail environment
- The package as the purchase motivator
- Fundamental messages: Cords of familiarity and points of difference
- Equity and brand names
- Emotional aspects of colour
- Basics of graphic design: balance, unity, direction, typography and illustrations

1-5: COLOUR PERCEPTION

- Physics of colour
- The human perception of colour
- Additive and subtractive colour synthetics
- Ink as a modifier of light
- The four process printing colours
- Standard colour viewing conditions
- The visual comparison of colours



SEMESTER ONE (TWO DAYS)

30 APRIL 2020

DAY TWO

1-6: INTRODUCTION TO PRINTING & PRINTING METHODS

- Preparing the artwork, prepress proofing
- Package printing methods and printing presses
- Line art, colour selection and Pantone Matching System
- Halftone art, screens and screen sizes
- Process art, moire patterns
- Colour bleeds, trap, special colours

1-7: PRINTING METHODS

- Flexographic and Related Relief Printing Processes
- Nature and production of the printing plate
- Configuration of the printing station
- Advantages and limitations of flexography
- Offset letterpress (dry offset) and applications

LITHOGRAPHY

- Nature and production of the printing plate
- Configuration of the printing station
- Advantages and limitations of lithography
- Principal packaging applications of lithography

GRAVURE

- Nature and production of the printing plate
- Configuration of the printing station
- Advantages and limitations of gravure
- Principal packaging applications of gravure

1-8: ELECTRONIC PRODUCT CODING

- EPC advantages through the supply chain
- EAN/UPC symbologies
- UPC structure
- RFID tags
- RFID readers
- RFID advantages
- RFID limitations

1-9: LABELS AND LABELLING

- The functions of a label
- Types of labels
- Label forms
- Label materials
- Affixing labels

SPECIAL DECORATING TECHNIQUES

- Screen, heat transfer, hot stamp and pad printing, reflective metallics and surface gloss

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SEMESTER TWO (TWO DAYS)

DAY ONE

22 JULY 2020

2-1: PAPER AND PAPERBOARD

- Fibre sources and fibre quality
- Furnish make-ups
- Fourdrinier and cylinder-type paper machines
- Machine direction and cross direction
- Coatings, calendaring and other treatments
- Paper characterisation
- Paper and paperboard grades and applications

2-2: FOLDING CARTONS

- General paperboard construction classes
- General design considerations
- Tube-style folding cartons: basic designs and variations
- Tray-style cartons: basic design and variations
- Dimensioning, grain direction
- Die-boards and paperboard cutting and creasing
- Folding carton manufacture
- Set-up boxes, designs, applications and limitations

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2-3: CORRUGATED FIBREBOARD

- Containerboard grades and standard flute sizes
- General applications of standard flutes
- Mullen Test and edge crush tests (ECT)
- Using McKee formula to estimate box compression strength
- Carrier rules and regulations
- Corrugated board manufacture
- Single, double and triple wall boards
- Microflute and wave flute comparisons

2-4: CORRUGATED BOXES

- Regular slotted container (RSC) production and styles
- Die cut container production and style examples
- Bliss box styles
- Decorating by direct printing (post printing)
- Preprint, litho labelling and litho laminating options
- Scoring allowances
- Dimensioning corrugated containers and pads
- General industry tolerances
- Wax and other treatments

SEMESTER TWO (TWO DAYS)

23 JULY 2020

DAY TWO

2-5: BOX COMPRESSION STRENGTH WORKSHOP

- Standard compression strength measurement
- Difference between compression strength and stacking strength
- Impact of humidity, time, pallet pattern and overhang
- Using Fibre Box Association stacking strength factors
- Calculating required compression strength
- Determining required ECT values to meet required stack strength
- Stacking HDPE bottles

2-6: DISTRIBUTION ENVIRONMENT

- Package transport and distribution hazards
- A systems approach to distribution packaging
- Sources of shock inputs and effects
- Vibration sources, relative movement damage
- Resonance, stack resonance, load skewing
- Unit loads and unit load efficiency
- Tracking and acting on distribution losses
- Industry guidelines and practices
- Pallet issues
- Recommended minimum and maximum container dimensions
- Recommended load stability
- Good shipping practices

2-7: PROTECTIVE PACKAGING

- Understanding G factors
- Damage boundary curves
- Cushioning against shock
- Selecting cushioning materials
- Using dynamic cushioning tables
- Spring-mass relationships and isolating inputs

2-8: PRE-SHIPMENT TESTING

- Purpose
- ISTA test procedures
- ASTM D4 169 test procedures
- Planning a pre-shipment test

2-9: INDUSTRIAL PACKAGING

2-10: WOOD PACKAGES

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SEMESTER THREE (TWO DAYS)

DAY ONE 16 SEPTEMBER 2020

3-1: INTRODUCTION TO POLYMERS

3-2: POLYMER CHEMISTRY

- Polymers, plastics and polymerisation
- Polymer classifications
- Terminology and abbreviation
- Copolymers and properties
- A review of basic chemical concepts
- Polarity, solubility, permeability and barrier
- Coefficient of friction and adhesion
- Glass transition and melt temperatures
- Thermal history and crystallinity
- Oriented plastics and shrink plastics
- Hydrocarbons and polyethylene

3-3: PACKAGING POLYMERS

- Structure of HDPE, LDPE, LLDPE and mPE
- Polyethylene density and property trends
- Thermosets and thermoplastics compared; thermoset applications
- Structure and general properties of polypropylene, poly (vinyl) and poly (vinylidene chloride), polystyrene, poly (vinyl alcohol), poly (vinyl acetate) and ethylene-vinyl acetate, polyamide, poly (ethylene terephthalate), other lesser used polymers

3-4: PROPERTY COMPARISONS

- General properties of packaging polymers
- Factors affecting barrier properties
- Oxygen and moisture vapour barrier comparisons
- Using Fibre Box Association stacking strength factors
- Classes of polymer additives

3-5: EXTRUSION MOULDING

- Plasticating extruders
- Cast and blown plastic film and sheet
- Co-extruded and oriented plastic films
- Video presentation: Analytical and Physical Testing

SEMESTER THREE (TWO DAYS)

17 SEPTEMBER 2020

DAY TWO

3-6: FLEXIBLE PACKAGING
- Aluminum foil properties and applications
- Vacuum metallising process
- Metallised paper and film applications
- Structural, barrier, sealing and aesthetic properties
- Basic form-fill-seal machines
- High barrier constructions
- Wet bond, dry bond, and extrusion laminating
- Specifying plies, caliper, and roll orientation
- Example laminate constructions

3-7: THERMOFORMING
- Extruded profiles and typical packaging applications
- Common thermoforming methods and materials
- Thermoform packaging applications

3-8: INJECTION MOULDING
- The injection moulding process
- Injection moulds, tooling costs
- Sprues, runners, gates and undercuts
- Part characteristics and packaging applications

3-9: BLOW MOULDING
- The extrusion blow moulding process
- Parisons and parison programming
- The injection blow moulding process
- Injection stretch blow moulding
- Extrusion and injection blow moulding compared
- General bottle design considerations

3-10: BOTTLE DESIGN CRITERIA
- General design elements
- Decorating options
- Special bottle designs
- Environmental stress cracking

3-11: CLOSURES
- Closure selection criteria
- Container finish standards and thread styles
- Closure dimension designations
- Closure liner functions and types
- Common plastic closure designs
- Metal continuous thread, lug, roll-on, press-on and crown closures
- Child-resistant and tamper-evident designs

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SEMESTER FOUR (TWO DAYS)

DAY ONE 18 NOVEMBER 2020

4-1: ENVIRONMENTAL ISSUES

- Defining packaging's role in the solid waste issue
- Proportion of packaging in the waste stream
- The four 'R's' hierarchy: reduce, reuse, recycle and recover
- Environmental concerns and the consumer
- The packaging professional's role in the environmental issue

4-1A: SUSTAINABLE PACKAGING

- The concept of cradle-to-cradle product design
- The need to push packaging system boundaries
- Central definitions of sustainable packaging
- Design strategies that implement the definitions
- Measuring sustainable packaging—Wal-Mart's sustainable scorecard
- No single 'sustainable solution'
- Creating sustainable packaging strategies, yet implementing them one step at a time.

4-2: ADHESIVES

- Mechanical and specific theories of adhesion
- Surface tension and dyne level
- Adhesive viscosity
- Starch, dextrin, and casein adhesives and their applications
- Emulsion adhesives: advantages, applications, green strength
- Hot melt adhesives: advantages, and applications
- Elastomeric and cold seal adhesives: advantages and applications
- Good manufacturing practices
- Trouble shooting adhesive problems

4-3: METAL CONTAINERS

- Can-making metals
- Welded, adhesive, bonded and mechanical clinch three-piece cans
- Shallow draw, draw and redraw, draw and iron two-piece cans
- Impact extruded cans and collapsible tubes
- Protective coatings and decorations
- Sizing conventions

4-4: AEROSOLS

- Component parts and operations
- Aerosol propellants and formulations
- Other pressurised dispensing systems
- Aerosol container legal requirements

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SEMESTER FOUR (TWO DAYS)

19 NOVEMBER 2020 DAY TWO

4-5: GLASS PACKAGING
- Raw materials for soda glass and special glasses
- The glass furnace and glass manufacture
- Blow-and-blow and press-and-blow bottle production
- Surface coatings and annealing
- Decorating options
- Video presentation: Glass Bottle Manufacture

4-6: SPECIAL DESIGNS

4-7: PACKAGING MACHINERY
- Package design and machine-ability
- The packaging machine industry
- Stock machines and custom machines
- Intermittent and rotary machine configurations
- Fast changeovers

4-8: FILLING SYSTEMS
- Product categories and filler selection
- Fill-to-level liquid filling systems
- Fill-to-volume liquid filling systems
- Flask fillers
- Auger fillers
- Gravimetric filling
- Statistical combining methods for filling

4-9: PRODUCTION LINE WORKSHOP
- Basic design layout and assignment of machine speeds
- Efficiency and output, calculating production line efficiency
- Purpose and placement of buffers

4-10: LAWS AND REGULATIONS
- Statutes versus regulations
- Role of the Federal agencies
- Fair Packaging and Labelling Act
- Food, Drug and Cosmetic Act
- Federal Insecticide, Fungicide and Rodenticide Act
- Hazardous Materials Transportation Act
- Miscellaneous acts impacting packaging

4-11: PACKAGING SOFTWARE
- Standards Applications Use in Packaging
- Special Packaging Applications
  - Graphics Design
  - Structural Design
  - Specifications
  - Spatial Efficiency
  - Performance Design
  - Test and Measurement Support

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RESIDENTIAL COURSE - BOOKING

AUSTRALIAN INSTITUTE OF PACKAGING

BOOK ON-LINE, EMAIL, SCAN BACK

NB: To reserve your place simply book on-line or scan and email back this form.

HOW TO BOOK ?

ON-LINE

To reserve your place CLICK HERE to book on-line.

EMAIL : AIP MEMBERS ONLY

AIP Members: Email your confirmation to mark@aipack.com.au

SCAN BACK

To reserve your place fill in details below, scan and email back to mark@aipack.com.au

If you are an AIP Member simply fill in your name, contact number and dietary requirements.

Mr/Ms: Given Name: Surname:

Position: Company:

Street Address:

Suburb: State: Post Code:

Ph: Mob:

Email address: PRINT CLEARLY

Please indicate if you have any allergies or dietary requirements:

Mr/Ms: Given Name: Surname:

Position: Company:

Email address: PRINT CLEARLY

Please indicate if you have any allergies or dietary requirements:

Mr/Ms: Given Name: Surname:

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Email address: PRINT CLEARLY

Please indicate if you have any allergies or dietary requirements:

COURSE SELECTION

I would like to enrol in:

Full FPT Residential Course (4 Semesters)	☐ AIP Member	$8,000+GST	☐ Non-Member	$9,000+GST	$	
Semester One 29-30 April 2020	☐ AIP Member	$2,200+GST	☐ Non-Member	$2,500+GST	$	
Semester Two 22-23 July 2020	☐ AIP Member	$2,200+GST	☐ Non-Member	$2,500+GST	$	
Semester Three 16-17 September 2020	☐ AIP Member	$2,200+GST	☐ Non-Member	$2,500+GST	$	
Semester Four 18-19 November 2020	☐ AIP Member	$2,200+GST	☐ Non-Member	$2,500+GST	$	
					TOTAL: $	

NB: The 2020 Fundamentals of Packaging Technology Residential Course will be held at Viewpoint, St Kilda, Melbourne, Australia. A Tax Invoice will be sent upon receipt of your booking. The attendance fee includes catering for morning tea, lunch and afternoon tea. Please note, a workbook will be provided to each participant for future reference and use. *Due to catering and venue requirements **NO CANCELLATIONS** will be accepted after **one week prior to each Semester.** Replacements during each Semester will however be accepted. Anyone attending the 4x semesters will receive the Fundamentals of Packaging Technology Textbook as a part of the fee. All other attendees can purchase the FPT textbook at a discounted rate via the AIP.*

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GLOBAL ENDORSEMENT

WPO
WORLD PACKAGING ORGANISATION

OWNED BY

Institute of PACKAGING PROFESSIONALS

AUSTRALASIAN PARTNER

AIP
AUSTRALIAN INSTITUTE OF PACKAGING

ARE YOU INTERESTED IN ATTAINING THE INTERNATIONALLY RECOGNISED AND HIGHLY-VALUED CERTIFIED PACKAGING PROFESSIONAL (CPP)® CREDENTIAL?

ISN'T IT TIME THAT YOU JOINED RECOGNISED PACKAGING EXPERTS FROM AROUND THE WORLD WITH THE INDUSTRY'S LEADING PROFESSIONAL DESIGNATION?

Attaining the CPP® designation is an excellent investment in your professional development and the credential defines the packaging professional and allows organisations to seek out and hire the right professional based on verified knowledge, skills and industry contributions. Using the CPP® program to assess and evaluate one's professional competency validates you as internationally proficient as a packaging professional; a cut above your peers. The Certified Packaging Professional designation is the leading mark of excellence internationally and a must-have recognition of industry proficiency and achievement for packaging professionals. The CPP program is owned by the IoPP in the US and is exclusively delivered through Australasia via the AIP, South Africa via IPSA, Brazil via ABRE and is internationally recognised by the World Packaging Organisation (WPO).

WHO IS ELIGIBLE?

Peer reviews of each individual in multiple dimensions:

- Educational background.
- Industry experience.
- Professional accomplishments.
- Specific and relevant training.
- Practical experience.
- Professional contributions.

WHAT ARE THE BENEFITS?

- International and public recognition for the qualification.
- CPP® post nominal that is globally recognised.
- CPP® recognises the designation as a commitment to excellence in the packaging profession.
- CPP® credential demonstrates that a packaging practitioner possesses packaging knowledge, experience and skills to the degree that they deserve recognition as a true packaging professional.

MAKE HISTORY BY BEING ONE OF THE FIRST CERTIFIED PACKAGING PROFESSIONALS (CPP)® IN AUSTRALASIA...

TO FIND OUT MORE ABOUT THE CPP® PROGRAM, COSTS AND ELIGIBILITY CRITERIA PLEASE CONTACT THE AIP ON INFO@AIPACK.COM.AU OR PH: +61 7 3278 4490

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