MQF Level 3

CA3-01-21

Diploma in Printing

Course Specification

Course Description

This course aims to deliver both general as well as area-specific education and training. It provides opportunities for direct employment in the trade. This qualification enables students to develop a range of skills and techniques, personal qualities and attitudes essential for successful performance in working life. Students will harness theoretical knowledge at the Institute, backed up by practical training within the printing industry.

Programme Learning Outcomes

At the end of the programme the learner is able to

1. *Understand printing fundamentals, production and finishing processes;*
2. *Perform printing tasks in accordance with clear instructions;*
3. *Understand the basics of colour management, materials, processes and technologies in printing;*
4. *Understand and implement established health and safety procedures in printing.*

Entry Requirements

- MCAST Foundation Certificate
  or
  2 SEC/O-Level/SSC&P (Level 3) passes
  Preferred subjects: Art, or Art and Design, or Textiles and Design

Current Approved Programme Structure

Unit Code	Unit Title	ECVET/ECTS
CAWBL-306-2016	Placement in Printing	6
CAPRN-303-1701	Health and Safety in the Printing Industry	3
CAPRN-306-1701	Pre-Press Procedures	6
CAPRN-306-1703	Post Press Procedures	6
CAPRN-306-1704	Fundamentals of Printing Processes	6
CAPRN-306-1705	Basic Colour Management	6
CAPRN-303-1706	Basic Cost Management and Pricing	3
CDKSK-304-1922	English	4
CDKSK-304-1921	Mathematics	4
CDKSK-304-1923	Malti	4
CDKSK-304-2108	Information Technology	4
CDKSK-304-2103	Community Social Responsibility	4
CDKSK-304-1925	Science	4
Total ECVET/ECTS		60

CAPRN-303-1701 Health and Safety for the Printing Industry

Unit level (MQF):   **3**

Credits   :   **3**

Unit description

The printing industry can pose various hazards to people working within different areas of printing. In this unit learners will become familiar with the most common types of accidents related to the printing sector such as manual handling of machinery, slips and trips and contact with machines. Also one must consider health issues that one might encounter in this field, health issues such as continuous exposure to noise which might result in hearing loss and the exposure to certain chemicals which might cause skin diseases such as dermatitis if the proper equipment is not worn.

In this unit learners will also learn how to identify hazardous risks and apply the right working practices that are safe for them and their work mates. Learners will understand how to conduct a risk assessment of their working environment as well as report any wear and tear on protective equipment, tools and machinery.

Learners will also become familiar with the legislation related to health and safety and also be aware of signs, alarms and the appropriate procedure to deal with accidents that might arise at the workplace.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Apply statutory regulations and organizational safety requirements.*
2. *Identify and control hazards in the printing sector.*
3. *Identify most common causes of accidents and the methods used when reporting accidents in the place of work.*
4. *Understand the selection, function and operation of safety mechanical systems and components used in the printing sector.*

CAPRN-306-1701 Pre-Press Procedures

Unit level (MQF):   3

Credits   :   6

Unit description

The term prepress is used in the printing and publishing sector to describe the process and procedures that artwork go through from the moment the print layout is created to the actual printing. Prepress includes the various printing tasks performed before ink is put on the printing plate such as taking photos or scans to produce art work which is than separated into different colours to create printing plates.

Learners will become familiar with the traditional prepress methods and digital prepress. Learners will than understand the different prepress processes and procedures used in the traditional prepress and digital prepress until the plates are made. Learners will be introduced to the methods used to transfer images from negatives to the printing plate, choose printing plates and finally manufacture the printing plate.

In this unit learner will also become familiar with the appropriate desktop publishing software used to originate artworks as well as the appropriate tools and techniques required to prepare the artwork for the printing process. This is because learners need to set some parameters to the documents or artwork according to the printing process being used.

Even though prepress is essentially the first step towards the final stage, prepress actually starts from the moment that a client or customer walks into the printing house with artwork. Therefore, besides becoming familiar with the different prepress procedures and processes, learners undertaking this unit need to understand the communication skills required to be able to deal appropriately with the customers or clients, interpret their instructions, estimate timeframes as well as calculate costing to ensure that the printing job is successful and the customer or client is satisfied.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Understand the job instructions and follow them effectively and efficiently to ensure client satisfaction.*
2. *Use appropriate software according to given printing task.*
3. *Apply pre-press procedures for imposition, platemaking and output in the commercial and security printing industry.*
4. *Outline the advantages of digital printing over other printing processes.*

CAWBL-306-2016 Placement in Printing

Unit level (MQF):   **3**

Credits   :   **6**

Unit description

The aim behind the work placement at level 3 is to provide learners with the opportunity to consolidate and broaden the knowledge they encounter throughout this course of study in practical real-world contexts. This unit provides the underpinning knowledge and skills to allow learners to gain the confidence and experience necessary to successfully secure work in the science industry, and evidence this during the Work-based Experience. Learners are encouraged to combine classroom theory with related practical job experience representative of the local printing industry.

Work placements give the industry a chance to hire enthusiastic employees, while exposing and training them with the latest skills and knowledge. Learners can offer printing companies and institutions an extra pair of hands to help on a specific project, while using their skills in a real-life environment that can really contribute to learning. The links between personal and career development are explored, allowing learners to develop the skills required to maximize use of job-seeking resources, establish, develop and maintain professional contacts, compile effective job applications, and perform successfully at interviews.

In the work environment itself, learners are guided towards the development of a professional and conscientious work ethic, as well as practical contextual day-to-day team working and administrative skills typical of the modern-day printer workplace. Throughout this unit, learners will organize, prepare for, undergo, and finally evaluate a work experience placement in an environment rich in peer and tutor support. At the end of the unit, learners would have developed a reflective practice and understanding of how the printing industry works.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Understand the structures and functions in the printing industry.*
2. *Plan own objectives for a work experience placement in the printing industry.*
3. *Carry out a work experience placement in the printing industry.*
4. *Review personal and professional development achieved in a work experience placement.*

CAPRN-306-1703 Post Press Procedures

Unit level (MQF):   **3**

Credits   :   **6**

Unit description

Post Press operations consist of four major processes: cutting, folding, assembling, and binding. Each process has its own machinery and materials as well as different chemicals.

This unit is concerned with developing a clear understanding of the processes involved in the various aspects of mechanical print finishing and binding, including appropriate terminology. Learners will have the opportunity to explore a variety of methods of working on different techniques related to post-press.

Learners will be able to consolidate the principles involved in producing finished printed products. Furthermore, they will delve into issues pertaining to quality control, as well as developing the ability the evaluate final work, both in terms of strengths and weaknesses, as well as in an effort to identify areas for improvement. Learners will also understand the requirements for cleanliness of machinery and good housekeeping.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Identify the various post press processes used in the commercial and security printing industries.*
2. *Explain the function and safe operation of the different machines used in the finishing departments of commercial and security printing industries.*
3. *Identify different stages applied during the post press processes in the security printing industry.*

CAPRN-306-1704 Fundamentals of Printing Processes

Unit level (MQF):   3

Credits   :   6

Unit description

The learners engaged in this unit are intended to be, but not limited to, employees in the printing sector, including those in the production of printed material newspapers, magazines, brochures, leaflets, flyers, office forms, banknotes and other security documents through the various mechanical and electronic processes.

Learners will be introduced to the different printing processes which dominate this industry. Learners will become familiar with letterpress, lithography, screen, flexography, gravure Intaglio and digital printing.

Learners will become familiar with the different properties and characteristics of these printing processes. They will also find out that the distinguishing feature of these processes is the method by which an image is transferred and the type of image carrier used. This unit also includes the different printing materials required for specific jobs and the techniques, procedures and chemicals required for each different process.

Demonstration of the whole printing process is vital for students who are enrolled in this programme. This would include investigations on different specifications of papers, inks and adhesives, image preparation and the final printed product. Last but not the least, students will become aware of the importance of maintaining, cleaning and lubricating related machinery as to ensure the safe running of each process.

Printing of banknotes and other security documents is a complex procedure that involves a series of high tech processes. The aim of the unit is to acquaint students with these processes and methods of securing security prints and to distinguish security printing from commercial printing.

The unit also gives the students the knowledge relevant to banknote printing processes, enabling them to distinguish between the uses of the main security printing processes.

Participants will also acquire the knowledge needed to understand the role, the meaning, the limits and the advantages of a wide range of security features.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Describe the features of the different printing processes and their applications in the printing industry.*
2. *Distinguish the different security printing technologies.*
3. *Carry out investigations on the characteristics of a wide range of papers and inks.*
4. *Follow procedures for the maintenance, cleaning and lubricating printing machinery and other equipment.*

CAPRN-306-1705 Basic Colour Management

Unit level (MQF):   **3**

Credits   :   **6**

Unit description

Historically, managing colour was always a very time consuming and costly process in printing and prepress. The human eye is able to see a very wide spectrum of colours. Unfortunately, devices used to capture colour and reproduce it such as cameras, scanners, monitors, printers and photocopiers are very limited in the colour they are able to 'see' or 'show'. Indeed, these devices reproduce colour in a different manner, both in terms of how many colours and also in terms of which colours, or the shape of their "vision". In reality there is also a difference in the method used by printers of the same make in the way they manage colour since a lot of different variables affect colour. Amongst the variables that affect colour is ink and the type of paper used. One can actually say that all these devices speak a different language altogether.

Therefore, something had to be done to enable these devices to speak a common language. This has led to several years of intense discussions on colour management solutions. In response to these discussions, the International Colour Consortium (ICC) created a standard which attempts to serve as a cross-platform device profile format to be used to characterize colour devices. With colour management one gets to set up the right environment for the devices to understand a common language for more accurate and reliable results. Thus colours shown on the monitor are the colours reproduced on paper after printing.

In this course learners will become familiar with the principles of colour mixing and colour separation as well as the equipment and tools required to achieve a matching colour in the print out. In addition, learners will become familiar with the effect of dot gain and different screens in colour reproduction. Finally, learners will learn how to mix colour and control inks during a printing run to reproduce and match the original copy.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Outline the principles of colour mixing, colour separation and ink production in the security and commercial printing industry.*
2. *Use appropriate equipment to achieve matching colour reproduction.*
3. *Explain half—tone screening and the effect of dot gain in colour reproduction.*
4. *Operate the different systems used to control colour reproduction during print runs.*

CAPRN-303-1706 Basic Cost Management and Pricing

Unit level (MQF): **3**

Credits   : **3**

Unit description

When one works in an industry where the product is created from scratch according to a job commissioned by a client such as the printing industry, it is important that people working in this sector has the ability to do basic cost management and pricing. Also it is important to make a difference between product and service costs as well as pay attention to the types of services and how they differ from tangible products.

The major objective of the cost accounting system is to assign costs to cost objects through direct tracing, driver tracing, and allocation. Allocation is the least accurate and least desirable approach, and thus, a cost accounting system should be designed to minimize allocations.

In this course learners will know how to identify the different stages of a printing job to be able to allocate prices and costing for each stage and for the materials used to be able to issue a quotation. Learners will also become familiar with the terminology used in cost management as well as be familiar with the different sheets required in cost management such as job sheets and evaluation sheets.

At the end of this unit learners will be able to assess the stages involved to complete the job, issue quotations and produce and follow job tacking sheets.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Identify the different stages of a printing job.*
2. *Originate job sheets.*
3. *Work out quotes and compare prices to a real job evaluation sheet.*