

# VOCATIONAL TRAINING PROGRAM PRINTING (DVS 5813)

Training Sector: Communications and Documentation





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Training Sector: Communications and Documentation



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# Introduction to the Program

In vocational training, a program of study presents the competencies required to practise a given trade or occupation at entry level on the job market. The training provided allows students to acquire a degree of versatility that will be useful in their career and personal development.

A program is a coherent set of competencies to be developed. It outlines the knowledge and broad orientations to be favoured during training. The competencies correspond to the tasks of the trade or occupation or to activities related to work, vocational or personal life, depending on the case. Learning is acquired in a specific achievement context and targets the ability to act, succeed and evolve.

According to the Education Act<sup>1</sup>, “every program shall include compulsory objectives and contents and may include optional objectives and contents that shall be enriched or adapted according to the needs of students who receive the services.” For behavioural competencies, the compulsory components include the statement of the competency, the elements of the competency, the achievement context and the performance criteria; for situational competencies, they include the corresponding components.

For information purposes, programs also provide a grid of competencies, educational aims, a summary of competency-related knowledge and know-how, and guidelines. They also specify the suggested duration of each competency. All optional components of a program may be enriched or adapted according to the needs of the students, the environment and the workplace.

## Program Components

### Program Goals

Program goals consist of the expected outcome at the end of training as well as a general description of a given trade or occupation. They also include the four general goals of vocational training.

### Educational Aims

Educational aims are broad orientations to be favoured during training in order to help students acquire intellectual or motor skills, work habits or attitudes. Educational aims usually address important aspects of career and personal development that have not been explicitly included in the program goals or competencies. They serve to orient appropriate teaching strategies to contextualize students' learning, in keeping with the dimensions underlying the practice of a trade or occupation. They help guide educational institutions in implementing the program.

### Competency

A competency is the ability to act, succeed and evolve in order to adequately perform tasks or activities related to one's working or personal life, based on an organized body of knowledge and skills from a variety of fields, perceptions, attitudes, etc.

A competency in vocational training can be defined in terms of a behaviour or a situation, and includes specific practical guidelines and requirements for learning.

#### 1. Behavioural Competency

A behavioural competency describes the actions and the results expected of the student. It consists of the following features:

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<sup>1</sup> Education Act, R.S.Q., c. I-13.3, ss 461

- The *statement of the competency* is the result of the job analysis, the orientations and general goals of vocational training and other *determinants*.
- The *elements of the competency* correspond to essential details that are necessary in order to understand the competency *and* are expressed in terms of specific behaviours. They refer to the major steps involved in performing a task or to the main components of the competency.
- The *achievement context* corresponds to the situation in which the competency is exercised at entry level on the job market. The achievement context attempts to re-create an actual work situation but does not describe a learning or evaluation situation.
- The *performance criteria* define the requirements to be respected. They may refer to elements of the competency or to the competency as a whole. When associated with a specific element, performance criteria are *used* to judge whether a competency has been acquired. When associated with the competency as a whole, the criteria describe the requirements for performing a task or activity and provide information on the expected level of performance or the overall quality of a product or service.

## 2. Situational Competency

A situational competency describes the situation in which students are placed to acquire learning, and allows for actions and results to vary from one student to another. It consists of the following features:

- The *statement of the competency* is the result of the job analysis, the orientations and general goals of vocational training and other determinants.
- The *elements of the competency* outline the essential aspects of the competency and ensure a better understanding of the competency with respect to the expected outcome. The elements of the competency are fundamental to the implementation of the learning situation.
- The *learning context* provides a broad outline of the learning situation designed to help the students develop the *required* competency. It is normally divided into three key phases of learning: information, participation and synthesis.
- The *instructional guidelines* provide reference points and means for teachers to ensure that learning takes place and that the context in which it occurs is always the same. These guidelines may include general principles or specific procedures.
- The *participation criteria* describe requirements that the students must meet when participating in learning activities. They focus on how the students take part in the activities rather than on the results obtained. Participation criteria *are* normally provided for each phase of the learning situation.

### Competency-Related Knowledge and Know-How

Competency-related knowledge and know-how together with related guidelines, are provided for information purposes. Competency-related knowledge and know-how define the essential and meaningful learning that students must acquire in order to apply and continue to develop the competency. They are in keeping with the job market and are accompanied by guidelines that provide information about the field of application, level of complexity and learning content. They generally encompass learning associated with knowledge, skills, strategies, attitudes, perceptions, etc.

### Duration

The total duration of the program is compulsory and must be observed. It consists of teaching time, which includes time for the evaluation of learning and for enrichment or remedial activities, depending on the students' needs. The duration indicated for a given competency refers to the amount of time needed to develop the competency.

The amount of teaching time corresponds to the amount of time allotted to training, which is established during program development as the average amount of time needed to acquire a competency and evaluate learning. This duration is helpful in organizing training.

### **Credit**

A credit is a unit used for expressing the quantitative value of each competency. One credit corresponds to 15 hours of training.

## **Aspects of Program Implementation**

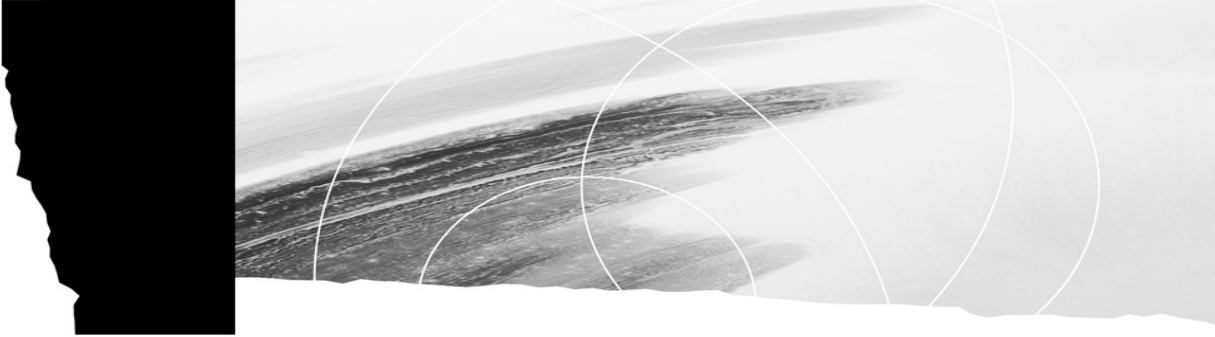
### **Program-Based Approach**

The program-based approach is founded on a comprehensive view of a program of study and its components (e.g. goals, educational aims, competencies). It requires concerted action among all players involved, from the initial stages of program design and development, to program implementation and evaluation. It consists in ensuring that all of the actions and activities proposed are based on the same aims and take into account the same orientations. For students, the program-based approach makes training more meaningful as it presents learning as a coherent whole.

### **Competency-Based Approach**

In vocational training, the competency-based approach is based on a teaching philosophy that is designed to help students mobilize their own individual sets of resources in order to act, succeed and evolve in different contexts, according to established performance levels with all the required knowledge and know-how (e.g. skills, strategies, attitudes, perceptions). The competency-based approach is carried out in situations that are relevant to the students' working life and personal life.





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5813

**Printing**

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Year of approval: 2011

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<b>Certification:</b>	Diploma of Vocational Studies
<b>Number of credits:</b>	90 credits
<b>Number of competencies:</b>	18 competencies
<b>Total duration:</b>	1 350 hours

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To be eligible for admission to the *Printing* program, candidates must meet one of the following requirements:

Persons holding a Secondary School Diploma or its recognized equivalent.

OR

Persons who are at least 16 years of age on September 30 of the school year in which their training is to begin and have earned the Secondary IV credits in language of instruction, second language and mathematics in the programs of study established by the Minister, or have been granted recognition of equivalent learning.

OR

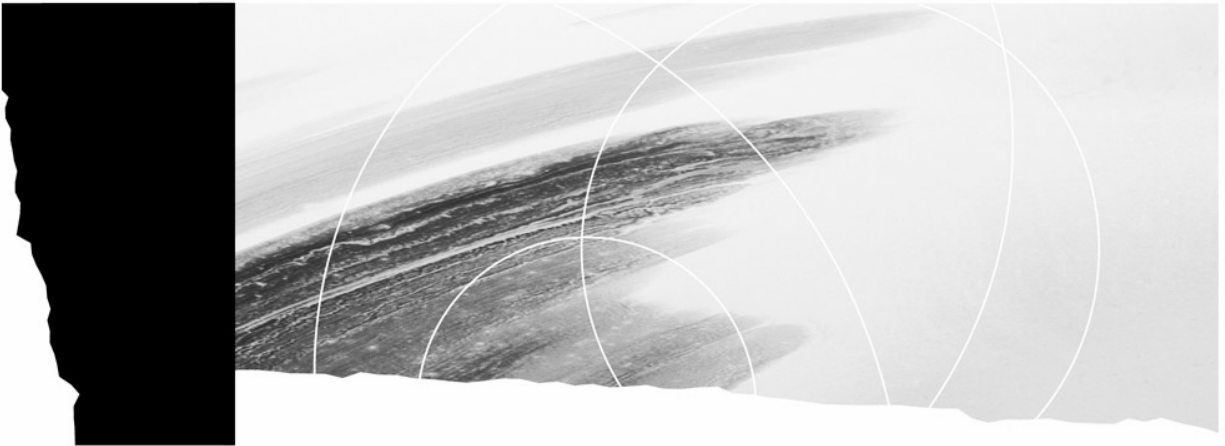
Persons who are at least 18 years of age upon entry into the program and have the following functional prerequisites: the successful completion of the General Development Test and ENG 3070-3, or recognition of equivalent learning.

OR

Persons having earned Secondary III credits in language of instruction, second language and mathematics in the programs of study established by the Minister and who will continue their general education courses concurrently with their vocational training in order to obtain the credits they are missing among the following: Secondary IV language of instruction, second language and mathematics in the programs of study established by the Minister.

The duration of the program is 1 350 hours, which includes 300 hours spent on the specific competencies required to practise the trade or occupation and 1 050 hours on general, work-related competencies. The program of study is divided into 18 competencies which vary in length from 15 to 120 hours. The total hours allocated to the program include time devoted to teaching, evaluation of learning and enrichment or remedial activities.

<b>Competency</b>	<b>Code</b>	<b>Number</b>	<b>Hours</b>	<b>Credits</b>
Occupation and Training	983011	1	15	1
Printshop Health and Safety	983021	2	15	1
Setup and Maintenance of a Duplicator and Offset Press	983033	3	45	3
Printing of Text Documents Using a Duplicator	983048	4	120	8
Trimming and Finishing	983055	5	75	5
Preparation of Offset Inks and Plates	983064	6	60	4
Quality Control	983074	7	60	4
Perforated and Numbered Printing Using a Duplicator	983083	8	45	3
Use of Tints and Halftones in Duplicator Printing	983096	9	90	6
Two-Colour Printing Using a Duplicator	983106	10	90	6
Polychromatic Printing Using a Screen Printing Press	983116	11	90	6
Four-Colour Printing Using a Screen Printing Press	983126	12	90	6
Four-Colour Printing Using a Duplicator	983136	13	90	6
Printing of Solids Using a Duplicator	983145	14	75	5
Job Search	983152	15	30	2
Polychromatic Printing and Printing of Solids in 14x20 Inch Format Using an Offset Press	983168	16	120	8
Four-Colour Printing in 14x20 Inch Format Using an Offset Press	983178	17	120	8
Integration Into the Workplace	983188	18	120	8



## **Part I**

---

**Program Goals**

**Educational Aims**

**Statements of the Competencies**

**Grid of Competencies**

**Harmonization**





## Program Goals

The vocational training program *Printing* prepares students for the trade or occupation of specialized offset press operator or screen press operator.

Specialized offset press operators or screen press operators work on various types of machines including duplicators, multicolour sheet-fed offset presses and screen print presses. Their tasks cover all aspects of the industrial production of printed materials, such as press setup; plate, paper, ink and dampening solution preparation; trimming and finishing work.

Computerized technologies are integrated into the workplace. Specialized offset press operators and screen press operators must configure control systems, analyze data, process information and set printing parameters.

The work is performed autonomously, individually or as part of a team, in contact with clients, suppliers and printshop personnel. Communication, teamwork and interpersonal skills are necessary for the exercise of this occupation.

The program goals of the *Printing* program are based on the general goals of vocational training. These goals are as follows:

- To help students develop effectiveness in the practice of a trade or occupation, that is:
  - to teach students to perform roles, functions, tasks and activities associated with the trade or occupation upon entry into the job market
- To prepare students to progress satisfactorily on the job (which implies having the technical and technological knowledge and skills in such areas as communication, problem solving, decision making, ethics, health and safety)
- To help students integrate into the work force, that is:
  - to familiarize students with the job market in general, and with the specific context of their chosen trade or occupation
  - to familiarize students with their rights and responsibilities as workers
- To foster students' personal development and acquisition of occupational knowledge, skills, perceptions and attitudes, that is:
  - to help students develop their autonomy and ability to learn, and acquire effective work methods
  - to help students understand the principles underlying the techniques and the technology used in the trade or occupation
  - to help students develop self-expression, creativity, initiative and entrepreneurial spirit
  - to help students adopt the attitudes required to successfully practise the trade or occupation, and instill in them a sense of responsibility and a concern for excellence
- To promote job mobility, that is:
  - to help students develop positive attitudes toward change
  - to help students develop the means to manage their careers by familiarizing them with entrepreneurship

## Educational Aims

The aim of the *Printing* program is to help students develop attitudes and behaviours that representatives from education and the field deem essential to the practice of the trade or occupation:

- development of autonomy and problem-solving skills
- development of efficient working methods and teamwork skills
- increased interest in furthering their knowledge
- development of a sense of responsibility and respect for the environment

# Statements of the Competencies

## List of Competencies

- Determine their suitability for the occupation and the training process.
- Apply health and safety rules in a printshop.
- Adjust and maintain a duplicator and offset press.
- Print text documents using a duplicator.
- Perform trimming and finishing work.
- Prepare inks and plates for offset printing.
- Apply quality control procedures for offset printing and screen printing.
- Print perforated and numbered jobs using a duplicator.
- Use tints and halftones in duplicator printing.
- Print jobs in two colours simultaneously using a duplicator.
- Print polychromatic jobs using a screen printing press.
- Print four-colour jobs using a screen printing press.
- Print four-colour jobs using a duplicator.
- Print solids using a duplicator.
- Apply job-search techniques.
- Print polychromatic jobs and jobs involving solids in 14x20 inch format using a computerized offset press and two-colour press.
- Print four-colour jobs in 14x20 inch format using a computerized offset press and two-colour press.
- Integrate into the workplace.

## Grid of Competencies

The grid of competencies shows the relationship between general competencies, which correspond to work-related activities, and specific competencies, which are required to practise the particular trade or occupation, as well as the major steps in the work process.

The general competencies appear on the horizontal axis and the specific competencies, on the vertical axis. The symbol (○) indicates a correlation between a general and a specific competency. The symbol (Δ) indicates a correlation between a specific competency and a step in the work process. Shaded symbols indicate that these relationships have been taken into account in the acquisition of specific competencies. The logic used in constructing the grid influences the course sequence. Generally speaking, this sequence follows a logical progression in terms of the complexity of the learning involved and the development of the students' autonomy. The vertical axis presents the specific competencies in the order in which they should be acquired and serves as a point of departure for determining how all of the competencies will be taught.

## GRID OF COMPETENCIES

<b>PRINTING</b>				GENERAL COMPETENCIES						WORK PROCESS								
				Competency number	Type of competency	Duration (in hours)	Determine their suitability for the occupation and the training process	Apply health and safety rules in a printshop	Adjust and maintain a duplicator and offset press	Perform trimming and finishing work	Prepare inks and plates for offset printing	Apply quality control procedures for offset printing and screen printing	Apply job-search techniques	Analyze information	Perform setup	Print job	Perform finishing	Maintain equipment
							Specific Competencies	1	2	3	5	6	7	15				
Competency number																		
Type of competency																		
Duration (hours)																		
				15	15	45	75	60	60	30								
Print text documents using a duplicator	4	B	120	○	●	●	○	○	○	○	▲	▲	▲	△	△			
Print perforated and numbered jobs using a duplicator	8	B	45	○	●	●	●	●	●	○	▲	▲	▲	△	▲			
Use tints and halftones in duplicator printing	9	B	90	○	●	●	●	●	●	○	▲	▲	▲	△	▲			
Print jobs in two colours simultaneously using a duplicator	10	B	90	○	●	●	●	●	●	○	▲	▲	▲	▲	▲			
Print polychromatic jobs using a screen printing press	11	B	90	○	●		○		●	○	▲	▲	▲	△	▲			
Print four-colour jobs using a screen printing press	12	B	90	○	●		●		●	○	▲	▲	▲	▲	▲			
Print four-colour jobs using a duplicator	13	B	90	○	●	●	●	●	●	○	▲	▲	▲	▲	▲			
Print solids using a duplicator	14	B	75	○	●	●	●	●	●	○	▲	▲	▲	▲	▲			
Print polychromatic jobs and jobs involving solids in 14x20 inch format using a computerized offset press and two-colour press	16	B	120	○	●	●	●	●	●	○	▲	▲	▲	△	▲			
Print four-colour jobs in 14x20 inch format using a computerized offset press and two-colour press	17	B	120	○	●	●	●	●	●	○	▲	▲	▲	△	▲			
Integrate into the workplace	18	S	120	●	●	○	○	○	○	○	△	△	△	△	△			

## Harmonization

The Ministère de l'Éducation, du Loisir et du Sport harmonizes its vocational and technical programs by establishing similarities and continuity between secondary- and college-level programs within a particular sector or between sectors in order to avoid overlap in program offerings, to recognize prior learning and to optimize the students' progress.

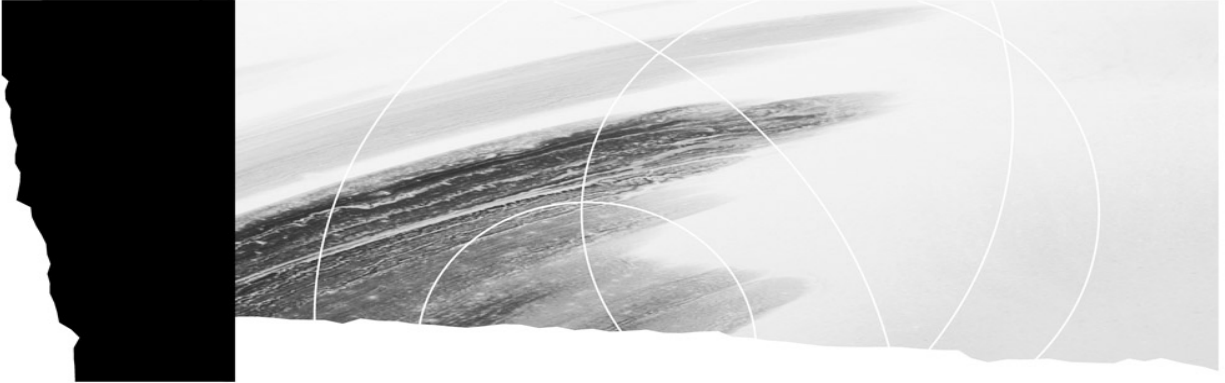
Harmonization establishes consistency between training programs and is especially important in ensuring that the tasks of a trade or occupation are clearly identified and described. Harmonization makes it possible to identify tasks requiring competencies that are common to more than one program. Even if there are no common competencies, training programs are still harmonized.

Harmonization is said to be “inter-level” when it focuses on training programs at different levels, “intra-level” when it focuses on programs within the same educational level, and “inter-sector” when carried out between programs in various sectors.

An important aspect of harmonization is that it allows the common features of competencies to be identified and updated as needed. Common competencies are those that are shared by more than one program; once acquired in one program, they can be recognized as having been acquired in another. Competencies with exactly the same statement and elements are said to be identical. Common competencies that are not identical but have enough similarities to be of equal value are said to be equivalent.

The *Printing* program does not share any competencies with other programs at this time.





## **Part II**

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### **Program Competencies**





Competency 1                      Duration 15                      hours                      Credit 1

### ***Situational Competency***

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#### **Statement of the Competency**

Determine their suitability for the occupation and the training process.

#### **Elements of the Competency**

- Become familiar with the reality of the occupation.
- Understand the training process.
- Confirm their career choice.

#### **Learning Context**

---

##### **Information Phase**

- Learning about the characteristics of the job market in the printing sector: work environments, job prospects, wages, advancement and transfer opportunities.
- Learning about the nature and requirements of the occupation.
- Presenting the data gathered, and discussing their perception of the trade.

##### **Participation Phase**

- Discussing the skills and knowledge needed to practise the occupation of press operator.
- Finding information about training.
- Discussing their first impressions of the occupation and the training process.

##### **Synthesis Phase**

- Producing a report in which they:
  - sum up their preferences and interests with regard to the trade
  - assess their career choice by comparing different aspects and requirements of the occupation with their preferences and interests

#### **Instructional Guidelines**

---

- Create a climate targeting personal achievement and assimilation of the occupation.
- Promote discussions and encourage all students to express their opinions.
- Encourage students to take part in the activities suggested.
- Help students develop an accurate perception of the occupation.
- Provide students with the means to evaluate their career choice honestly and objectively.
- Organize visits to businesses that are representative of the main work environments in the printing sector.
- Ensure that all relevant documents are available: information on the occupation, training programs, handbooks, etc.
- Organize a meeting with trade specialists.

## Participation Criteria

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### Information Phase

- Gather information on most of the topics presented.
- Express their views on the occupation at a group meeting, making connections with the information gathered.

### Participation Phase

- Give their opinion on some of the requirements they must meet to practise a printing trade.
- Express their views on the training program at a group meeting.

### Synthesis Phase

- Prepare a presentation in which they:
  - summarize their preferences and interests
  - explain their career choice, making the required links explicitly

## Suggestions for Competency-Related Knowledge and Know-How

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each phase of the learning context, along with their attendant guidelines.

### Information Phase

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Learn about the characteristics of the job market in the printing sector.</li> </ul> | Types of businesses<br>Types of printing processes and printing presses<br>Job prospects, hiring criteria, remuneration in the screen printing and offset printing sectors<br>Advancement and transfer opportunities |
| <ul style="list-style-type: none"> <li>• Learn about the nature and requirements of the occupation.</li> </ul>                | Tasks and operations, working conditions, rights and responsibilities of workers and employers, consultation of the job analysis   |
| <ul style="list-style-type: none"> <li>• Present the data gathered, and discuss their perception of the trade.</li> </ul>     | Presentation methods: notes, summaries and presentations<br>Rules for group discussions: participation, permission to speak, respect for others, etc.  |

### Participation Phase

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Discuss the skills and knowledge needed to practise the trade of press operator.</li> </ul> | Definitions: skills, aptitudes and knowledge<br>Basic skills and knowledge needed for the occupation, consultation of the job analysis |
| <ul style="list-style-type: none"> <li>• Find information about training.</li> </ul>   | Program of study<br>Training process<br>Evaluation methods<br>Certification of studies<br>Continuation of studies at the college level |

- Discuss their initial reactions to the trade and the training process.

Links between competencies and the requirements of the occupation

#### Synthesis Phase

- Summarize their preferences and interests in connection with the occupation.
- Evaluate their career choice by comparing the aspects and requirements of the occupation with their preferences and interests.

Definitions: preferences and interests

Summary of the requirements of the occupation  
Brief conclusion explaining their career choice



Competency 2                      Duration 15 hours                      Credit 1

## ***Situational Competency***

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### **Statement of the Competency**

Apply health and safety rules in a printshop.

### **Elements of the Competency**

- Pay attention to health and safety in a printshop.
- Understand the roles and responsibilities of the people responsible for health and safety.
- Become aware of the main preventive measures applicable in a printshop.
- Become aware of the steps to take following an accident in a printshop.

### **Learning Context**

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#### **Information Phase**

- Learning about health and safety standards.
- Learning about the methods available to workers to prevent industrial accidents and occupational diseases.
- Learning about the rights and responsibilities of workers and employers.

#### **Participation Phase**

- Discussing the health and safety risks of the occupation, and their consequences.
- Discussing ways to prevent industrial accidents and occupational diseases in specific situations.
- Recognizing their rights and responsibilities, and those of others, in connection with occupational health and safety.
- Selecting actions in the event of an accident or emergency.

#### **Synthesis Phase**

- Stating their main concerns about health and safety in their future work environment.
- Identifying safe attitudes and behaviours to apply in a printshop.

### **Instructional Guidelines**

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- Organize visits to printshops.
- Make sure all relevant documents are available.
- Create a climate suitable to discussions of the importance of workplace health and safety.
- Give priority to group discussions.
- Organize meetings with workplace health and safety specialists.

### **Participation Criteria**

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#### **Information Phase**

- Listening to explanations.
- Processing data about workplace health and safety.

**Participation Phase**

- Discussing compliance with workplace health and safety rules.
- Stating the main workplace health and safety risks and prevention measures.
- Interpreting their rights and responsibilities as workers in the occupation.

**Synthesis Phase**

- Presenting a summary of their concerns with respect to workplace health and safety and explaining the measures that must be taken.

**Suggestions for Competency-Related Knowledge and Know-How**

The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each phase of the learning context, along with their attendant guidelines.

**Information Phase**

- Learn about health and safety standards and the methods available to workers to prevent industrial accidents and occupational diseases.

General information about the Labour Code, government organizations, joint sector-based associations and the WHMIS  
Information sheets on the Web site of the Joint association on occupational health and safety in the printing and allied industries sector  
Information documents issued by various organizations

- Learn about the rights and responsibilities of workers and employers.

General information about rules such as the right of refusal and protective reassignment and the procedure for applying them

**Participation Phase**

- Discuss the health and safety risks of the occupation, and their consequences.

Risks associated with: 1) equipment, machines, tools and electrical devices; 2) effort, posture and repetition; 3) the work environment and general condition of the premises; 4) chemical products (biodegradable and non-biodegradable); 5) stress  
Consequences on the health of individuals: electrocution, cuts and lacerations, musculo-skeletal disorders, back pains, slips, falls, knocks, hearing loss, occupational diseases, skin allergies, skin and respiratory tract irritation, exhaustion, fatigue, anxiety, etc.

- Discuss ways to prevent industrial accidents and occupational diseases in specific situations.

Preventive measures: safety and protection devices installed on machines and blades; wearing of appropriate clothing; wearing of compulsory individual protection equipment; compliance with the lock-out procedure; use of devices to lift and move loads; creation of ergonomic workstations; use of an emergency plan; tidiness; access to emergency equipment, electrical panels and emergency exits; safe storage of chemical products and raw materials; labelling of containers compliant with WHMIS requirements; alternating work/rest periods; harmonious working climate and teamwork, etc.

- Recognize their rights and responsibilities, and those of others, in connection with occupational health and safety.
- Select actions in the event of an accident or emergency.

Procedures to follow for common accidents and emergency situations  
Roles and responsibilities of various players

#### Synthesis Phase

- State their main concerns about health and safety in their future work environment.
- Identify safe attitudes and behaviours to apply in a printshop.





Competency 3

Duration 45 hours

Credits 3

***Behavioural Competency***

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**Statement of the Competency**

Adjust and maintain a duplicator and offset press.

**Achievement Context**

- Using service manuals and hand tools

**Elements of the Competency**

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**Performance Criteria**

- |   |  |
|---|--|
| 1. Interpret the service manual.                        | <ul style="list-style-type: none"> <li>• Location of relevant information</li> </ul>   |
| 2. Ensure the proper operation of the feeding system.   | <ul style="list-style-type: none"> <li>• Precise verification of feeding system components</li> <li>• Appropriate verification of synchronization mechanisms</li> <li>• Precise adjustment of the parallelism and overall pressure of the feed rollers</li> <li>• Precise adjustment of the stop fingers</li> </ul>          |
| 3. Ensure the proper operation of the dampening system. | <ul style="list-style-type: none"> <li>• Appropriate verification of the condition of the dampening form rollers and transfer rollers</li> <li>• Precise adjustment of the parallelism and overall pressure of the dampening form roller(s)</li> </ul>   |
| 4. Ensure the proper operation of the inking system.    | <ul style="list-style-type: none"> <li>• Appropriate verification of the condition of the rollers</li> <li>• Precise adjustment of the parallelism and overall pressure of the form rollers and travel of the ductor roller</li> </ul>   |
| 5. Ensure the proper operation of the printing system.  | <ul style="list-style-type: none"> <li>• Appropriate verification of the plate, blanket and impression cylinders</li> <li>• Precise adjustment of the parallelism of the plate and impression cylinders</li> <li>• Precise adjustment of the overall pressure between the plate, blanket and impression cylinders</li> </ul> |
| 6. Lubricate system components.                         | <ul style="list-style-type: none"> <li>• Choice and appropriate use of lubricants</li> <li>• Correct application of the maintenance program</li> </ul>   |
| 7. Perform minor repairs.                               | <ul style="list-style-type: none"> <li>• Correct identification of operating problems</li> <li>• Appropriate selection and installation of replacement components</li> <li>• Relevance of the adjustments made</li> <li>• Respect of the responsibilities given to the maintenance personnel</li> </ul>                      |

*For the competency as a whole:*

- Accurate interpretation of manuals
- Appropriate use of duplicator or offset press controls
- Appropriate use of hand tools
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

1. Interpret the service manual.

- Locate information.

Writing conventions and information sections in the service manuals of various manufacturers  
Links between blowup parts diagrams and the equipment  
Features and operating principles of the systems and components of a duplicator and offset press

2. Ensure the proper operation of the feeding system.
- Observe differences between the main feeding systems on the market. Operating principles and features of stream feeders and sheet feeders
  - Check the components of the feeding system. Verification of suction valve release, entry of sheet onto register board, push guide, inserting mechanism, cleanliness of feed roller and transfer of sheets to chain delivery
  - Check the synchronization mechanisms of the feeding system. Verification method for various synchronizations
  - Adjust the feed rollers and stop fingers. Adjustment points for parallelism and overall pressure of feed rollers; adjustment of the height of stop fingers and delay mechanism
3. Ensure the proper operation of the dampening system.
- Observe differences between the main dampening systems on the market. Operating principles and features of the main systems: types of rollers, surface and position  
Preparation sequence for each type of dampening system
  - Check the condition of the rollers. Common problems connected with roller condition  
Verification method and criteria used to assess roller surface: hardness of rubberized surfaces, wear and cleanliness of molleton, surface regularity, etc.  
Link between the condition of the rollers and the quality of the transfer
  - Adjust the dampening form rollers. Adjustment points for parallelism and adjustment of overall pressure with the plate cylinder
4. Ensure the proper operation of the inking system.
- Check the condition of the rollers. Operating principles and types of rollers  
Common problems connected with the condition of the inking system rollers  
Verification method and assessment criteria: hardness of rubberized surfaces; roller regularity; position and condition of ball bearings and bearings  
Link between the condition of the rollers and the quality of the transfer
  - Adjust the ink form rollers and the ductor roller. Adjustment points for parallelism and adjustment of overall pressure with the plate cylinder  
Adjustment of the travel of the ductor roller

5. Ensure the proper operation of the printing system.
- Check the plate, blanket and impression cylinders.
    - Operating principles and types of cylinders
    - Common problems connected with the condition of the printing system cylinders
  - Adjust the plate, blanket and impression cylinders.
    - Adjustment points for the parallelism of the plate cylinder and impression cylinder
    - Method for optimizing the printing surface
    - Synchronization of cylinders
6. Lubricate system components.
- Perform lubrication.
    - Features of maintenance manuals
    - Lubricants and location of lubrication points
    - Frequency of lubrication operations and assessment criteria for the lubrication needs of various components
    - Cleaning and lubrication methods
    - Disassembly and reassembly of protection covers
    - Wiping of excess grease and oil
7. Perform minor repairs.
- Determine operating problems.
    - Important link between condition of printing equipment and production costs
    - Verification methods for the components of various systems (see above)
    - Common problems
  - Perform the repair.
    - Locate the component to be replaced
    - Cases requiring a repair request
    - System adjustment (see above)

Competency 4      Duration 120 hours      Credits 8

***Behavioural Competency***

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**Statement of the Competency**

Print text documents using a duplicator.

**Achievement Context**

- Using exposed offset plates, printing supports and prepared inks
- Using dampening solution concentrates, solvents, curing agents and the materials needed to adjust the duplicator
- Using technical documents and printing standards
- Using measuring instruments

**Elements of the Competency**

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**Performance Criteria**

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1. Analyze the production file.

Accurate analysis of technical data relating to the job and the support to be used  
Accurate analysis of the proof

2. Prepare the products.

Appropriate selection of printing support and inks  
Appropriate verification of plate conformity and quality  
Correct preparation of dampening solution

3. Prepare the duplicator.

Correct adjustment of feeding, dampening, inking and printing systems  
Correct pre-adjustment of inking and dampening

4. Print proofs.

Accurate analysis of register  
Conformity with OK to print proof

5. Monitor printing.

Careful check of the conformity of the print job with specifications  
Appropriate manual cleaning of duplicator  
Complete and full recording of information on the print job

6. Clean the duplicator.

Appropriate cleaning of components

*For the competency as a whole:*

- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### Suggestions for Competency-Related Knowledge and Know-How

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

#### 1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proofs.

Printed documents: lines and characters  
Information needed to produce a printed document with text: quantities, inks, supports, plates, etc.  
Characteristics of the proof (mechanical or digital) and of the imposition

#### 2. Prepare the products.

- Organize the work area.

Organization of workstation depending on work surfaces available  
Application of health and safety rules (see competency 2)

- Select printing support and inks.

Unpacking methods for sheet bundles depending on format and thickness  
Paper handling techniques: fanning, jogging and piling  
Inks to be used depending on the type of support and specifications of production file

- Check plate conformity and quality.

Examples of problems encountered: wrong format, improper development, dents, missing information, scratches, etc.

- Prepare the dampening solution.

Preparation method based on manufacturer's instructions

#### 3. Prepare the duplicator.

- Adjust the feeding, dampening, inking and printing systems.

Verification of and adjustment methods for the various systems (see competency 3)  
Adjustment of the feed table, register board and delivery table depending on the type of support  
Transfer of ink from container and pre-adjustment of ink fountain screws  
Plate mounting and registration methods

- Pre-adjust inking and dampening.

Link between the inking system, the dampening system and the result obtained  
Positioning of the dampening solution ratchet and ink ratchet  
Inking of rollers and assessment of the ink film

#### 4. Print proofs.

- Print a proof.

Use of duplicator controls  
Identification of guide edges

- Analyze register and colour registration and get the OK for press.

Key points: position, squareness, density, balance of inking and dampening, etc.  
 Use of a colour chart and linen test magnifier  
 Application of a problem-resolution method  
 Correction of adjustments (see above)  
 Importance of minimizing waste and production time

5. Monitor printing.

- Print the job.

Use of duplicator controls  
 Monitoring of key points based on common problems that occur when printing text  
 Application of a problem-resolution method  
 Correction of adjustments (see above); manual cleaning of duplicator

- Record information.

Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.  
 Identification of waste and production piles

6. Clean the duplicator.

- Select a cleaning product and clean the components of the duplicator.

Types of cleaning products, specification sheets and manufacturer's recommendations  
 Cleaning of feeding, dampening, inking and printing systems





Competency 5      Duration 75 hours      Credits 5

### ***Behavioural Competency***

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#### **Statement of the Competency**

Perform trimming and finishing work.

#### **Achievement Context**

- Using printing supports of various formats and printed sheets
- Using a guillotine, die cutter, folding machine, gathering machine, binding devices and a paper drill
- Using the equipment needed to maintain trimming and finishing machines
- Using technical documents, publishing norms and standards and maintenance programs for trimming and finishing machines
- Using measuring instruments

#### **Elements of the Competency**

1. Analyze the production file.

Accurate analysis of the technical characteristics of the document  
 Accurate analysis of the proof or mockup  
 Appropriate choice of trimming and finishing machines  
 Suitable planning of the work required

2. Cut printing supports or printed sheets.

Accurate calculation of the quantities to be cut and of the cut dimensions  
 Precise adjustment of the guillotine  
 Recognition of grain direction in the support  
 Correct application of paper and cardboard handling techniques  
 Appropriate use of the guillotine software and manual controls  
 Cutting and trimming in conformity with the requirements of the production file

3. Perform a die cut.

Selection of appropriate die  
 Correct adjustment of the feeding system, register and pressure  
 Appropriate use of the die cutter software and manual controls  
 Cutting in conformity with the requirements of the production file

- |   |  |
|---|--|
| 4. Fold printed sheets.                                     | <p>Correct adjustment of feeding system, pressures, distances and squareness</p> <p>Appropriate use of folding machine software and manual controls</p> <p>Folding in conformity with the requirements of the production file</p>                          |
| 5. Gather sections of printed sheets.                       | <p>Adjustment of feeding station of gathering machine to match support format and thickness</p> <p>Appropriate use of gathering machine software and manual controls</p> <p>Gathering in conformity with the requirements of the production file</p>       |
| 6. Bind printed sheets.                                     | <p>Adjustment of wire stitcher to perform saddle stitching or side stitching</p> <p>Appropriate choice and use of glue</p> <p>Appropriate use of binding devices</p> <p>Stitching or gluing in conformity with the requirements of the production file</p> |
| 7. Drill documents.   | <p>Appropriate choice of bit</p> <p>Precise adjustment of front guide, paper stops and height of bit</p> <p>Appropriate use of paper drill</p> <p>Clean, correctly positioned holes</p>  |
| 8. Clean and lubricate the trimming and finishing machines. | <p>Appropriate cleaning of components</p> <p>Choice and appropriate use of lubricants</p> <p>For the competency as a whole:</p> <p>Appropriate use of measuring instruments</p> <p>Compliance with workplace health and safety rules</p>                   |

### **Suggestions for Competency-Related Knowledge and Know-How**

The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

- |   |  |
|---|--|
| 1. Analyze the production file.   |  |
| <ul style="list-style-type: none"> <li>• Analyze the technical characteristics of the document, proof or mockup.</li> </ul> | <p>Characteristics and particularities of the main trimming and finishing techniques</p> <p>Information required for the trimming and finishing of printed sheets, depending on the type of product</p> <p>Characteristics of the proof (mechanical or digital) and the mockup</p> |
| <ul style="list-style-type: none"> <li>• Plan the work to be performed.</li> </ul>  | <p>Selection of trimming and finishing machines based on the requirements of the production file</p> <p>Use of service manuals</p>   |

- Organize the work area.
    - Organization of workstation depending on work surfaces available
    - Application of health and safety rules (see competency 2)
2. Cut printing supports or printed sheets.
- Calculate the quantities to be used or the dimensions of the cut.
    - Costs connected with paper, cardboard and other printing supports
    - Calculation of single and multiple impositions
    - Selection of paper taking into account imposition, grain direction, format, number of sheets, etc.
    - Outline of a cutting plan
  - Adjust the guillotine.
    - Adjustment of blade, guide bar and paper stop
  - Cut or trim.
    - Handling of paper and cardboard of various formats and types
    - Identification of the printable side of various types of paper and cardboard
    - Use of the guillotine software and manual controls
    - Order of cuts based on the type of imposition
    - Verification of cutting and trimming in terms of conformity with the requirements of the production file
3. Perform a die cut.
- Adjust the feeding system, register and pressure of the die cutter.
    - Types of dies and jobs
    - Adjustment of paper guides, suction cup angle, air flow from the blower and spacing, based on the thickness of the support
  - Perform the cut.
    - Use of die cutter controls
    - Production of a sample based on a cut outline
    - Verification of conformity with the production file
4. Fold printed sheets.
- Adjust the feeding system, pressure, distances and squareness of the folding machine.
    - Particularities of various types of fold
    - Links between types of fold and sequence of operations
    - Settings for various types of folds
  - Fold.
    - Use of the controls of the folding machine
    - Production of a sample
    - Verification of conformity with the production file
5. Gather sections of printed sheets.
- Adjust the gathering machine.
    - Types of gathering and gathering machines used
    - Sequence and placement of sheets to match the type of gathering
    - Adjustments to match various types of imposition

- Gather. Use of gathering machine controls  
Production of a sample  
Verification of conformity with the production file
6. Bind printed sheets.
- Prepare for padding or adjust the wire stitcher. Characteristics of padded documents: saddle stitching or side stitching, comb binding and coil binding  
Adjustment of the wire stitcher based on the type of wire, type of imposition and thickness of printed sheets  
Types of glue
  - Wire or glue. Use of the controls of the wire stitcher  
Use of the padding press  
Production of a sample  
Verification of conformity with the production file
7. Drill documents.
- Adjust the paper drill. Choice and sharpening of bit  
Adjustment of paper guides and height of bit
  - Drill. Use of the controls of the paper drill  
Production of a sample  
Verification of conformity with the production file
8. Clean and lubricate the trimming and finishing machines.
- Select a cleaning product and clean the components of the trimming and finishing machines. Types of cleaning products based on types of cleaning  
Manufacturer's specification sheets and recommendations  
Cleaning of components
  - Perform lubrication. See competency 3

Competency 6      Duration 60 hours      Credits 4

***Behavioural Competency***

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**Statement of the Competency**

Prepare inks and plates for offset printing.

**Achievement Context**

- Using final films, ink bases and additives
- Using conventional or digital exposure and processing equipment
- Using measuring instruments and standardized light tables
- Using scales, spatulas and containers
- Using technical documents and colour charts

**Elements of the Competency**

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**Performance Criteria**

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- |   |  |
|---|--|
| 1. Analyze the descriptive specification.         | Accurate interpretation of information on the support format and printing equipment to use<br>Accurate interpretation of the imposition plan<br>Accurate analysis of the technical characteristics of the printed sheets                             |
| 2. Prepare a flat.                                | Accurate interpretation of the characteristics of the final films<br>Accuracy of main lines<br>Accurate and careful assembly of film<br>Observance of limitations of the press and type of job<br>Observance of the imposition plan                  |
| 3. Produce a proof.                               | Determination of appropriate exposure time<br>Correct positioning of flat  |
| 4. Prepare offset plates and check their quality. | Correct positioning of flat or careful transfer of digital file<br>Determination of appropriate exposure time<br>Correct, careful handling of plates<br>Correct determination of exposure and development flaws<br>Relevance of the corrections made |
| 5. Establish ink formulations.                    | Consideration of the characteristics of the printing support<br>Correct determination of quantities to use<br>Appropriate choice of base colours, types of ink and additives<br>Appropriate use of technical documents and colour charts             |

## 6. Mix inks and check their quality.

Correct preparation of materials  
 Accurate weighing of quantities  
 Correct mixing of ink colours and additives  
 Appropriate use of colour charts  
 Appropriate use of proofing press  
 Correct determination of tint and homogeneity flaws  
 Relevance of the corrections made

*For the competency as a whole:*

- Appropriate use of exposure and processing equipment
- Appropriate use of measuring instruments
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

## 1. Analyze the descriptive specification.

- Interpret information.
  - Types of materials and products, particularities and uses
  - Links between materials, equipment and stripping and platemaking operations
  - Role and use of proofs and authorizations at various stages in the printing process
- Interpret an imposition plan.
  - Types of imposition: two-sided, upside down, half-sheet, tumble form, etc.
- Analyze the characteristics of printed sheets.
  - Types of ink, number of colours, etc.

## 2. Prepare a flat.

- Interpret the characteristics of the final films.
  - Colour wheel
  - Photosensitivity of negatives
- Prepare the masking sheet.
  - Method for fixing the masking sheet on the light table
  - Positioning of image and other elements depending on type of press
  - Drawing of main lines
- Produce the flat.
  - Steps in flat production
  - Film opening techniques for single-colour and multicolour flats
  - Identification of common flaws and application of corrective measures

## 3. Produce a proof.

- Determine the exposure time.

Cost of proofs

Exposure time based on plate type, proof type, etc.

Adjustment and use of an exposure frame

- Position the flat and expose the proof.

Precautions for handling the flat

Methods for positioning the flat

Method for producing a blue proof

Use of exposure equipment

## 4. Prepare offset plates and check their quality.

- Position the flat or transfer a digital file.

Cost of plates

Precautions for handling plates

Flat:

Types of plates: aluminum, polymer, paper, etc.

Adjustment of exposure time to match

manufacturer's standards

Exposure steps and use exposure equipment

Digital file:

Transfer of digital file and file formats

- Produce the offset plate.

Flat:

Development and gumming techniques

Identification of common flaws and application of corrective measures

Use of developing equipment

Digital file:

Instructions to the digitizer

Laser processing based on the type of plate and type of platesetter (CTP)

## 5. Establish ink formulations.

- Determine the quantities of ink to use.

Cost of ink

Characteristics of water inks, conventional inks, UV inks, etc.

Base colours, primary and secondary colours

Specific inks for certain types of support

Method used to calculate area depending on types of images and supports

Links between types of ink, printing quality and types of support

Calculation of the weight of each colour mixed based on the colour chart

Types of additives (retarder, varnish, catalyzer, etc.) and printing effects

## 6. Mix inks and check their quality.

- Weigh inks.

Precautions for using inks and avoiding contaminants  
Ink handling techniques  
Weighing using platform scales and digital scales

- Mix ink bases and check colour.

Technique for obtaining an even mix  
Production of a colour gradient on appropriate paper  
Use of a proofing press  
Verification of conformity using a colour chart and sample  
Methods to correct light and dark colours and choice of ink colours to add  
Labelling of mixture, cleaning and storage of materials



Competency 7      Duration 60 hours      Credits 4

***Behavioural Competency***

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**Statement of the Competency**

Apply quality control procedures for offset printing and screen printing.

**Achievement Context**

- Using mechanical and digital proofs, printing supports and dampening solutions
- Using quality standards for the imposition plan, printing standards and publishing standards
- Using measuring instruments: densitometer, pH meter, conductivity meter, viscosity meter, tensiometer, hygrometer, durometer and spectrophotometer
- Using calibration products

**Elements of the Competency****Performance Criteria**

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- |  |  |
|--|--|
| 1. Check and calibrate the measuring instruments, as required.   | Accurate interpretation of technical documents<br>Correct application of calibration procedures for the conductivity meter, pH meter, densitometer and spectrophotometer<br>Correct identification of operating problems   |
| 2. Check mechanical and digital proofs.                          | Accurate analysis of graphic control elements and the colour control bar<br>Careful check of proof accuracy<br>Appropriate use of measuring instruments<br>Identification of all flaws   |
| 3. Check the imposition.   | Accurate interpretation of the imposition plan<br>Careful check of page and image grouping on printed sheets<br>Identification of all imposition errors  |
| 4. Quality control of printing supports and dampening solutions. | Accurate interpretation of technical documents<br>Appropriate use of measuring instruments<br>Correct determination of the causes of problems and the correction measures needed   |
| 5. Complete a quality control report.                            | Detailed presentation of the problems connected with quality and their repercussions on cost<br>Use of appropriate vocabulary<br><br>For the competency as a whole: <ul style="list-style-type: none"> <li>• Observance of costs</li> <li>• Observance of quality standards</li> </ul> |

### Suggestions for Competency-Related Knowledge and Know-How

The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

1. Check and calibrate the measuring instruments, as required.

- Check the measuring instruments and calibrate the conductivity meter, pH meter, densitometer and spectrophotometer.

Characteristics of the densitometer, pH meter, conductivity meter, viscosity meter, tensiometer, hygrometer, durometer and spectrophotometer based on printing quality standards  
Verification and calibration methods for measuring instruments, based on the manufacturer's standards  
Use of calibration products or scales

- Determine operating problems.

2. Check mechanical and digital proofs.

- Analyze the graphic control elements and colour control bar.

Types of proof: *Cromalin*, IRIS, *Color Key*, etc.  
Register marks, types of control targets (GATF, SLUR), etc.  
Reading methods using a densitometer or spectrophotometer

- Identify flaws.

3. Check the imposition.

- Check the page and image grouping on printed sheets.

Types of imposition in offset and screen printing: two-sided, upside down, half-sheet, tumble form, etc.  
Production of a mockup for verification purposes

- Identify imposition errors.

4. Quality control of printing supports and dampening solutions.

- Check the quality of the printing supports.

Verification of certain support characteristics: printable side, squareness, colour, finish, etc.  
Types of printing flaws connected with various paper, cardboard and other support finishes: delamination, picking, drying problems, hickeys, etc.

- Check the quality of the dampening solutions.

Links between: the effectiveness of the solution and the pH; index of conductivity and water quality; pH and oxidization of the plate and ink drying time  
Use of the conductivity meter and pH meter

- Determine the causes of problems and appropriate corrective measures.

## 5. Complete a quality control report.

- Present the problems connected with quality and the repercussions on costs.

Types of reports and associated quality standards  
Types of errors that can occur at each production stage and repercussions on cost compliance (estimate and bid)



Competency 8      Duration 45 hours      Credits 3

***Behavioural Competency***

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**Statement of the Competency**

Print perforated and numbered jobs using a duplicator.

**Achievement Context**

- Using final films, plates and printing supports
- Using ink bases, solvents, curing agents and the materials needed to adjust and maintain the duplicator
- Using technical documents, printing standards and the duplicator maintenance program
- Using measuring instruments

**Elements of the Competency**

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**Performance Criteria**

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- |  |  |
|--|--|
| 1. Analyze the production file.  | Accurate analysis of technical data relating to the job and the support to be used<br>Accurate analysis of the proof<br>Correct determination of the printing sequence   |
| 2. Prepare the products.   | Correct preparation of the printing support<br>Correct preparation of inks and plates<br>Preparation of the dampening solution and appropriate verification of the pH  |
| 3. Prepare the duplicator and the perforating and numbering unit.                  | Correct adjustment of the feeding, dampening, inking and printing systems<br>Correct installation of the perforating and numbering unit<br>Correct pre-adjustment of inking and dampening  |
| 4. Print proofs.   | Accurate analysis of register, colour registration, perforation and numbering<br>Conformity with OK to print proof   |
| 5. Monitor printing.   | Careful check of print conformity<br>Appropriate manual cleaning of duplicator<br>Complete and full recording of information on the print job  |
| 6. Carry out maintenance on the duplicator and the perforating and numbering unit. | Appropriate check of the condition of the safety systems and devices<br>Appropriate cleaning of components<br>Correct application of the maintenance program<br>Relevance of the repairs made<br>Respect for the responsibilities of maintenance personnel |

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

#### 1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proof.
 

Types of perforated and numbered print jobs: invoices, tickets, coupons, cheques, etc.  
Information needed for the production of a perforated and numbered print job: quantities, inks, supports, plates, types of numbering units, ascending and descending numbering, types of perforations, etc.  
Characteristics of the proof (mechanical or digital) and of the imposition
- Determine the printing sequence.
 

Determination of the printing sequence based on the dominant colour, the support and the type of perforation and numbering  
Numbering machine transfer colour

#### 2. Prepare the products.

- Organize the work area.
 

Organization of workstation depending on work surfaces available  
Application of health and safety rules (see competency 2)
- Prepare the printing support, inks and plates.
 

See competencies 5 and 6
- Prepare the dampening solution and check its pH.
 

Main concentrates; water to use; dilution methods  
Verification of the quality of the dampening solution (see competency 7)

## 3. Prepare the duplicator and the perforating and numbering unit.

- Adjust the feeding, dampening, inking and printing systems.
  - Verification of and adjustment methods for the various systems (see competency 3)
  - Adjustment of the feed table, feedboard and delivery table depending on the type of support
  - Transfer of ink from container and pre-adjustment of ink fountain screws
  - Plate mounting and registration methods
- Pre-adjust inking and dampening.
  - Link between the inking system, the dampening system and the result obtained
  - Positioning of the dampening solution ratchet and ink ratchet
  - Inking of rollers and assessment of the ink film
- Install the perforating unit.
  - Installation methods for the perforating blade
  - Installation methods and adjustment of the counterpressure wheels and cylinder
- Install the numbering unit.
  - Installation methods and positioning of the numbering units and strikers
  - Adjustment of the inking unit for the numbering units
  - Starting sequence

## 4. Print proofs.

- Print a proof.
  - Use of duplicator controls
  - Identification of guide edges
- Analyze register and colour registration and get the OK for press.
  - Key points: position, squareness, density, balance of inking and dampening, numbering order and quality, neatness of perforation, etc.
  - Use of measuring instruments (see competency 7)
  - Application of a problem-resolution method
  - Correction of adjustments (see above)
  - Importance of minimizing waste and production time

## 5. Monitor printing.

- Print the job.
  - Use of duplicator controls
  - Monitoring of key points in connection with common problems that occur during the printing of perforated and numbered print jobs
  - Application of a problem-resolution method
  - Correction of adjustments (see above)
  - Manual cleaning of duplicator
- Record information.
  - Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.
  - Identification of waste and production piles

## 6. Carry out maintenance on the duplicator and the perforating and numbering unit.

- Choose a product and clean the various components of the duplicator.      Types of cleaning products, specification sheets and manufacturer's recommendations.  
Cleaning of feeding, dampening, inking, printing, perforating and numbering systems
- Apply the maintenance program.      Maintenance and adjustment of feeding, dampening, inking and printing systems (see competency 3)  
Maintenance and adjustment of the perforating and numbering system and accessories  
Changing of numbering unit wheels
- Perform minor repairs, if necessary.      See competency 3.



Competency 9      Duration 90 hours      Credits 6

***Behavioural Competency***

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**Statement of the Competency**

Use tints and halftones in duplicator printing.

**Achievement Context**

- Using final films, plates and printing supports
- Using ink bases, solvents, curing agents and the materials needed to adjust and maintain a duplicator
- Using technical documents, printing standards and the duplicator maintenance program
- Using measuring instruments

**Elements of the Competency**

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**Performance Criteria**

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- |   |  |
|---|--|
| 1. Analyze the production file.             | Accurate analysis of technical data relating to the job and the support to be used<br>Accurate analysis of the proof<br>Correct determination of the printing sequence   |
| 2. Prepare the products.                    | Correct preparation of the printing support<br>Correct preparation of inks and plates<br>Preparation of the dampening solution and appropriate verification of the pH  |
| 3. Prepare the duplicator.                  | Correct adjustment of the feeding, dampening, inking and printing systems<br>Correct pre-adjustment of inking and dampening  |
| 4. Print proofs.                            | Accurate analysis of register and colour registration<br>Conformity with OK to print proof   |
| 5. Monitor printing.                        | Careful check of print conformity<br>Appropriate manual cleaning of duplicator<br>Complete and full recording of information on the print job  |
| 6. Carry out maintenance on the duplicator. | Appropriate check of the condition of the safety systems and devices<br>Appropriate cleaning of components<br>Correct application of the maintenance program<br>Relevance of the repairs made<br>Respect for the responsibilities of maintenance personnel |

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

#### 1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proof. Particularities of printing with tints and halftones  
Information needed for printing with tints and halftones: screen ruling, types of screen dots, tint percentage, quantities, inks, supports, plates, etc.  
Characteristics of the proof (mechanical or digital) and of the imposition
- Determine the printing sequence. Determination of the printing sequence based on the dominant colour and the support

#### 2. Prepare the products.

- Organize the work area. Organization of workstation depending on work surfaces available  
Application of health and safety rules (see competency 2)
- Prepare the printing support, inks and plates. See competencies 5 and 6
- Prepare the dampening solution and check its pH. Main concentrates  
Dilution methods  
Verification of the quality of the dampening solution (see competency 7)

#### 3. Prepare the duplicator.

- Adjust the feeding, dampening, inking and printing systems. Verification of and adjustment methods for the various systems (see competency 3)  
Adjustment of the feed table, feedboard and delivery table depending on the type of support  
Transfer of ink from container and pre-adjustment of the ink fountain screws  
Plate mounting and registration methods

- Pre-adjust inking and dampening.
    - Link between the inking system, the dampening system and the result obtained
    - Positioning of the dampening solution ratchet and ink ratchet
    - Inking of rollers and assessment of the ink film
4. Print proofs.
- Print a proof.
    - Use of duplicator controls
    - Identification of guide edges
  - Analyze register and colour registration and get the OK for press.
    - Key points: position, squareness, density, balance of inking and dampening, dot gain, piling, etc.
    - Use of measuring instruments (see competency 7)
    - Application of a problem-resolution method
    - Correction of adjustments (see above)
    - Importance of minimizing waste and production time
5. Monitor printing.
- Print the job.
    - Use of duplicator controls
    - Monitoring of key points in connection with common problems that occur when printing tints and halftones
    - Application of a problem-resolution method
    - Correction of adjustments (see above)
    - Manual cleaning of duplicator
  - Record information.
    - Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.
    - Identification of waste and production piles
6. Carry out maintenance on the duplicator.
- Select a cleaning product and clean the components of the duplicator.
    - Types of cleaning products, specification sheets and manufacturer's recommendations
    - Cleaning of feeding, dampening, inking and printing systems
  - Apply the maintenance program.
    - Maintenance and adjustment of feeding, dampening, inking and printing systems (see competency 3)
  - Perform minor repairs, if necessary.
    - See competency 3



Competency 10

Duration 90 hours

Credits 6

***Behavioural Competency***

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**Statement of the Competency**

Print jobs in two colours simultaneously using a duplicator.

**Achievement Context**

- Using final films, plates and printing supports
- Using ink bases, solvents, curing agents and the materials needed to adjust and maintain a duplicator
- Using technical documents, printing standards and the duplicator maintenance program
- Using measuring instruments

**Elements of the Competency**

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**Performance Criteria**

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1. Analyze the production file.

Accurate analysis of technical data relating to the job and the support to be used  
 Accurate analysis of the proof  
 Correct determination of the printing sequence

2. Prepare the products.

Correct preparation of the printing support  
 Correct preparation of inks and plates  
 Preparation of the dampening solution and appropriate verification of the pH

3. Prepare the duplicator and additional inking unit.

Correct installation of the inking unit  
 Correct adjustment of the feeding, dampening, inking and printing systems  
 Correct pre-adjustment of inking and dampening

4. Print proofs.

Accurate analysis of register and colour registration  
 Conformity with OK to print proof

5. Monitor printing.

Careful check of the conformity of the print job with specifications  
 Appropriate manual cleaning of duplicator  
 Complete and full recording of information on the print job

6. Perform document-finishing operations.

Careful check of drying of copies  
 Appropriate use of finishing machines  
 Finishing in conformity with the requirements of the production file

7. Carry out maintenance on the duplicator and additional inking unit.

Appropriate check of the condition of the safety systems and devices  
 Appropriate cleaning of components  
 Correct application of the maintenance program  
 Relevance of the repairs made  
 Respect for the responsibilities of maintenance personnel

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proof. Particularities of simultaneous two-colour printing  
 Information needed for simultaneous two-colour printing: quantities, inks, supports, plates, etc.  
 Characteristics of the proof (mechanical or digital) and of the imposition
- Determine the printing sequence. Impact of contamination based on possible colour sequences  
 Determination of the printing sequence based on the dominant colour, ink tack and support

2. Prepare the products.

- Organize the work area. Organization of workstation depending on work surfaces available  
 Application of health and safety rules (see competency 2)
- Prepare the printing support, inks and plates. See competencies 5 and 6  
 Addition of additives based on ink tack  
 Plate parity
- Prepare the dampening solution and check its pH. Main concentrates; water to use; dilution methods  
 Verification of the quality of the dampening solution (see competency 7)

## 3. Prepare the duplicator and additional inking unit.

- Install inking unit.
  - Characteristics and operating principles of the second printing head
  - Engagement and disengagement techniques
  
- Adjust the feeding, dampening, inking and printing systems.
  - Verification of and adjustment methods for the various systems (see competency 3)
  - Adjustment of the feed table, feedboard and delivery table depending on the type of support
  - Transfer of ink from container and pre-adjustment of ink fountain screws
  - Plate mounting and registration methods
  
- Pre-adjust inking and dampening.
  - Link between the inking system, the dampening system and the result obtained
  - Positioning of the dampening solution ratchet and ink ratchet
  - Inking of rollers and assessment of the ink film
  - Balancing of the dampening solution and ink based on the first printing unit

## 4. Print proofs.

- Print a proof.
  - Use of duplicator controls
  - Identification of guide edges
  
- Analyze register and colour registration and get the OK for press.
  - Key points: position, squareness, density, balance of inking and dampening, dot gain, piling, etc.
  - Use of measuring instruments (see competency 7)
  - Application of a problem-resolution method
  - Correction of adjustments (see above)
  - Importance of minimizing waste and production time

## 5. Monitor printing.

- Print the job.
  - Use of duplicator controls
  - Monitoring of key points in connection with common problems that occur during simultaneous two-colour printing
  - Application of a problem-resolution method
  - Correction of adjustments (see above)
  - Manual cleaning of duplicator
  
- Record information.
  - Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.
  - Identification of waste and production piles

## 6. Perform document-finishing operations.

- Use finishing machines.
  - See competency 5.

## 7. Carry out maintenance on the duplicator and additional inking unit.

- |   |  |
|---|--|
| • Select a cleaning product and clean the components of the duplicator. | Types of cleaning products, specification sheets and manufacturer's recommendations<br>Cleaning of feeding, dampening, inking and printing systems |
| • Apply the maintenance program.  | Maintenance and adjustment of feeding, dampening, inking and printing systems (see competency 3)   |
| • Perform minor repairs, if necessary.                                  | See competency 3   |



Competency 11      Duration 90 hours      Credits 6

### ***Behavioural Competency***

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#### **Statement of the Competency**

Print polychromatic jobs using a screen printing press.

#### **Achievement Context**

- Using film positives, screens and printing supports
- Using ink bases, solvents, curing agents and the materials needed to adjust and maintain the press
- Using exposure and development equipment
- Using technical documents, printing standards and the press maintenance program
- Using measuring instruments

#### **Elements of the Competency**

1. Analyze the production file.

Accurate analysis of technical data relating to the job and the support to be used  
 Accurate analysis of the proof  
 Correct determination of the printing sequence

2. Prepare the screens.

Appropriate choice of screens  
 Proper degreasing of screens  
 Proper choice and application of emulsion  
 Determination of appropriate exposure time  
 Correct, careful handling of screens  
 Appropriate use of exposure and development equipment  
 Correct determination of exposure and development flaws and application of appropriate corrective measures  
 Complete masking of non-printing parts

3. Prepare the products.

Appropriate selection of printing support  
 Correct preparation of inks

4. Prepare the screen printing press.

Careful installation of screen  
 Accurate positioning of feed guides  
 Appropriate choice of squeegee  
 Proper installation of squeegee and flood bar  
 Precise adjustment of off-contact  
 Careful pouring of ink  
 Correct adjustment of travel and pressure of squeegee and flood bar

5. Print proofs.

Accurate analysis of register on support and colour registration  
 Conformity with OK to print proof

- |  |   |
|--|---|
| 6. Monitor printing.                                   | <p>Accurate positioning of image with respect to height, width and squareness</p> <p>Regular feeding of sheets into press</p> <p>Careful check of the conformity of the print job with specifications</p> <p>Appropriate manual cleaning of screen</p> <p>Complete and full recording of information on the print job</p> |
| 7. Clean the screen printing press and screens.        | <p>Appropriate cleaning of components</p> <p>Removal of maximum amount of ink from screens</p> <p>Proper washing of screens</p> <p>Methodical use of screen-claiming products</p> <p>Complete elimination of ghosting</p> <p>Proper storage of screens</p>  |
| 8. Carry out maintenance on the screen printing press. | <p>Correct application of the maintenance program</p>   |

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

1. Analyze the production file.
  - Analyze the technical data relating to the job, the support to be used and the proof.
 

Particularities of polychromatic printing

Information needed for polychromatic printing: quantities, inks, supports, frame, silk, etc.

Characteristics of the proof (mechanical or digital) and of the imposition
  - Determine the printing sequence.
 

Determination of the printing sequence based on the ink and support

## 2. Prepare the screens.

- Select and degrease the screens.
  - Use of screen classification
  - Choice of screens based on the type of ink, type of image, surface and support
  - Verification of screens: cleanliness, dryness, imperfections, etc.
  - Types of degreasing products and use of a pressure pump
  
- Select and apply the emulsion.
  - Categories of emulsion: capillary film and direct emulsion
  - Preparation of the direct emulsion
  - Techniques for using a coating squeegee
  
- Determine the exposure time, and expose and develop screens.
  - Links between the type of light and the various photosensitive materials used in screen printing
  - Positioning of the film on the silk depending on the image and equipment characteristics
  - Use of an exposure frame
  - Determination of exposure time and screen development techniques depending on the type of emulsion
  
- Correct exposure and development flaws, if any, and complete masking.
  - Identification of common imperfections and application of corrective measures
  - Masking of non-printing parts

## 3. Prepare the products.

- Organize the work area.
  - Organization of workstation depending on work surfaces available
  - Application of health and safety rules (see competency 2)
  
- Select the printing support.
  - Types of supports: papers and cardboards of various kinds, textiles (cotton, linen, canvas and other), plastics (ABS, Styrene, *Corroplast*, acrylic and others) and metals (aluminum, stainless steel, printed circuits, copper and others)
  - Cleaning of printing support with an air jet, tack cloth or antistatic bar

- Prepare the inks.
  - Links between types of inks, print quality and various types of support
  - Characteristics of opaque and transparent water inks, conventional inks, UV inks, inks for textiles, etc.
  - Specific inks for certain types of support
  - Method used to calculate area depending on types of images and supports
  - Addition of additives and solvents
  - Weighing of inks and technique for obtaining a homogeneous mixture (see competency 6)
  - Manual test using a squeegee and a screen
  - Verification of conformity with the requirements, using a colour chart and a sample
  - Methods to correct light and dark colours and choice of ink colours to add
  - Labelling of mixture, cleaning and storage of materials
  
- 4. Prepare the screen printing press.
  - Install the screen and position the feed guides.
    - Installation methods for the screen, depending on its dimensions
    - Fabrication of guides
    - Methods for prepositioning and positioning guides
  
  - Select the squeegee and install it with the flood bar.
    - Types of squeegee: hardness, length and angle
    - Squeegee sharpening
    - Choice of squeegee based on type of print job
    - Installation of squeegee and flood bar
  
  - Adjust the off-contact.
    - Adjustment of the off-contact based on the thickness of the support
  
  - Adjust travel and pressure of squeegee and flood bar.
    - Adjustment of the travel of the squeegee and flood bar based on the dimensions of the print
    - Transfer of ink from container
    - Adjustment of the pressure of the squeegee to create a clean print
    - Adjustment of the pressure of the flood bar based on the ink deposit
  
- 5. Print proofs.
  - Print a proof.
    - Use of the controls of the screen print press
    - Identification of guide edges

- Analyze register on the support and colour registration and get the OK for press.

Key points: height, width, squareness, ink density, screen dot percentage, register marks, ink adherence, drying, etc.  
 Use of measuring instruments (see competency 7)  
 Application of a problem-resolution method  
 Correction of adjustments (see above)  
 Importance of minimizing waste and production time
  
- 6. Monitor printing.

  - Feed the press and print the job.

Importance of rhythm  
 Use of the controls of the screen print press  
 Monitoring of key points in connection with common problems that occur in polychromatic printing  
 Application of a problem-resolution method  
 Drying methods: air drying, warm air-stream drying and UV drying  
 Correction of adjustments (see above)  
 Manual cleaning of screen
  
  - Record information.

Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.  
 Identification of waste and production piles
  
- 7. Clean the screen printing press and screens.

  - Clean components.

Cleaning of squeegee and flood bar: choice and use of cleaning products depending on the type of ink used  
 Cleaning of press bed: preservation of surface quality and zero reset of microadjustments  
 Cleaning of press casing
  
  - Recover ink and clean screens.

Recovery of ink depending on the presence of additives, solvents and contaminants  
 Labelling of container  
 Cleaning products depending on the type of ink and future use of screen
  
  - Remove stencil from screenprinting frame and store frame.

Choice and use of screen-claiming products  
 Screen-claiming method and precautions taken  
 Ghosting and consequences for future print jobs  
 Storage and protection of screens
  
- 8. Carry out maintenance on the screen printing press.

  - Apply the maintenance program.

Maintenance and adjustment of the press bed



Competency 12

Duration 90 hours

Credits 6

***Behavioural Competency***

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**Statement of the Competency**

Print four-colour jobs using a screen printing press.

**Achievement Context**

- Using film positives, screens and printing supports
- Using ink bases, solvents, curing agents and the materials needed to adjust and maintain the press
- Using exposure and development equipment
- Using technical documents, printing standards and the press maintenance program
- Using measuring instruments

**Elements of the Competency**

---

1. Analyze the production file.

Accurate analysis of technical data relating to the job and the support to be used  
 Accurate analysis of the proof  
 Correct determination of the printing sequence

2. Prepare the screens.

Appropriate choice of screens  
 Proper degreasing of screens  
 Proper choice and application of emulsion  
 Determination of appropriate exposure time  
 Correct, careful handling of screens  
 Appropriate use of exposure and development equipment  
 Correct determination of exposure and development flaws and application of appropriate corrective measures  
 Complete masking of non-printing parts

3. Prepare the products.

Correct preparation of the printing support  
 Correct preparation of inks

4. Prepare the screen printing press.

Careful installation of screen  
 Accurate positioning of feed guides  
 Appropriate choice of squeegee  
 Proper installation of squeegee and flood bar  
 Precise adjustment of off-contact  
 Careful pouring of ink  
 Correct adjustment of travel and pressure of the squeegee and flood bar

5. Print proofs.

Accurate analysis of register on the support and colour registration  
 Conformity with OK to print proof

- |  |   |
|--|---|
| 6. Monitor printing.                                   | <p>Accurate positioning of image with respect to height, width and squareness</p> <p>Regular feeding of sheets into press</p> <p>Careful check of the conformity of the print job with specifications</p> <p>Appropriate manual cleaning of screen</p> <p>Complete and full recording of information on the print job</p> |
| 7. Clean the screen printing press and screens.        | <p>Appropriate cleaning of components</p> <p>Removal of maximum amount of ink from screens</p> <p>Proper washing of screens</p> <p>Methodical use of screen-claiming products</p> <p>Complete elimination of ghosting</p> <p>Proper storage of screens</p>  |
| 8. Perform finishing operations.                       | <p>Complete check of drying of copies</p> <p>Appropriate use of finishing machines</p> <p>Finishing in conformity with the production file</p>  |
| 9. Carry out maintenance on the screen printing press. | <p>Correct application of the maintenance program</p>   |

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

- |   |  |
|---|--|
| 1. Analyze the production file.   |  |
| <ul style="list-style-type: none"> <li>• Analyze the technical data relating to the job, the support to be used and the proof.</li> </ul> | <p>Particularities of four-colour printing</p> <p>Information needed for four-colour printing: quantities, inks, supports, frame, silk, etc.</p> <p>Characteristics of the proof (mechanical or digital) and of the imposition</p> |
| <ul style="list-style-type: none"> <li>• Determine the printing sequence.</li> </ul>  | <p>Determination of the printing sequence based on the ink and support</p>   |



## 2. Prepare the screens.

- Select and degrease the screens.  
Use of screen classification  
Choice of screens based on the type of ink, image, surface and support  
Verification of screens: cleanliness, dryness, imperfections, etc.  
Types of degreasing products and use of a pressure pump
- Select and apply the emulsion.  
Categories of emulsion: capillary film and direct emulsion  
Preparation of the direct emulsion  
Techniques for using a coating squeegee
- Determine the exposure time, and expose and develop screens.  
Links between the type of light and the various photosensitive materials used in screen printing  
Positioning of the film on the silk depending on the image and equipment characteristics  
Use of an exposure frame  
Determination of exposure time and screen development techniques depending on the type of emulsion
- Correct exposure and development flaws, if any, and complete masking.  
Identification of common imperfections and application of corrective measures  
Masking of non-printing parts

## 3. Prepare the products.

- Organize the work area.
  - Organization of workstation depending on work surfaces available
  - Application of health and safety rules (see competency 2)
  
- Prepare the printing support.
  - See competency 5
  
- Prepare the inks.
  - Links between types of inks, print quality and various types of support
  - Characteristics of transparent water inks, conventional inks, UV inks, inks for textiles, etc.
  - Specific inks for certain types of support
  - Method used to calculate area depending on types of images and supports
  - Addition of additives and solvents
  - Weighing of inks and technique for obtaining a homogeneous mixture (see competency 6)
  - Manual test using a squeegee and a screen
  - Verification of conformity with the requirements, using a colour chart and a sample
  - Methods to correct light and dark colours and choice of ink colours to add
  - Labelling of mixture, cleaning and storage of materials

## 4. Prepare the screen printing press.

- Install the screen and position the feed guides.
  - Installation methods for the screen, depending on its dimensions
  - Fabrication of guides
  - Methods for repositioning and positioning guides
  
- Select the squeegee and install it with the flood bar.
  - Types of squeegee: hardness, length and angle
  - Squeegee sharpening
  - Choice of squeegee based on type of print job
  - Installation of squeegee and flood bar
  
- Adjust the off-contact.
  - Adjustment of the off-contact based on its thickness
  
- Adjust travel and pressure of squeegee and flood bar.
  - Adjustment of the travel of the squeegee and flood bar based on the dimensions of the print
  - Transfer of ink from container
  - Adjustment of the pressure of the squeegee to create a clean print
  - Adjustment of the pressure of the flood bar based on the ink deposit

## 5. Print proofs.

- Print a proof.
  - Use of the controls of the screen print press
  - Identification of guide edges

- Analyze register on the support and colour registration and get the OK for press.
    - Key points: height, width, squareness, ink density, screen dot percentage, register, ink adherence, drying, etc.
    - Use of measuring instruments (see competency 7)
    - Application of a problem-resolution method
    - Correction of adjustments (see above)
    - Importance of minimizing waste and production time
6. Monitor printing.
- Feed the press and print the job.
    - Importance of rhythm
    - Use of the controls of the screen print press
    - Monitoring of key points in connection with common problems that occur during four-colour printing
    - Application of a problem-resolution method
    - Drying methods: air drying, warm air-stream drying and UV drying
    - Correction of adjustments (see above)
    - Manual cleaning of screen
  - Record information.
    - Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.
    - Identification of waste and production piles
7. Clean the screen printing press and screens.
- Clean components.
    - Cleaning of squeegee and flood bar: choice and use of cleaning products depending on the type of ink used
    - Cleaning of press bed: preservation of surface quality and zero reset of microadjustments
    - Cleaning of press casing
  - Recover ink and clean screens.
    - Recovery of ink depending on the presence of additives, solvents and contaminants
    - Labelling of container
    - Cleaning products depending on the type of ink and future use of screen
  - Remove stencil from screenprinting frame and store frame.
    - Choice and use of screen-claiming products
    - Screen-claiming method and precautions taken
    - Ghosting and consequences for future print jobs
    - Storage and protection of screens
8. Perform finishing operations.
- Use finishing machines.
    - See competency 5
9. Carry out maintenance on the screen printing press.
- Apply the maintenance program.
    - Maintenance and adjustment of the press bed



Competency 13      Duration 90      hours      Credits 6

### ***Behavioural Competency***

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#### **Statement of the Competency**

Print four-colour jobs using a duplicator.

#### **Achievement Context**

- Using final films, plates and printing supports
- Using ink bases, solvents, curing agents and the materials needed to adjust and maintain a duplicator
- Using technical documents, printing standards and the duplicator maintenance program
- Using measuring instruments

#### **Elements of the Competency**

#### **Performance Criteria**

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1. Analyze the production file.

Accurate analysis of technical data relating to the job and the support to be used  
 Accurate analysis of the proof  
 Correct determination of the printing sequence

2. Prepare the products.

Correct preparation of the printing support  
 Correct preparation of inks and plates  
 Preparation of the dampening solution and appropriate verification of the pH

3. Prepare the duplicator.

Correct adjustment of the feeding, dampening, inking and printing systems  
 Correct pre-adjustment of inking and dampening

4. Print proofs.

Accurate analysis of register and colour registration  
 Conformity with OK to print proof

5. Monitor printing.

Careful check of the conformity of the print job with specifications  
 Appropriate manual cleaning of duplicator  
 Complete and full recording of information on the print job

6. Perform document finishing operations.

Careful check of drying of copies  
 Appropriate use of finishing machines  
 Finishing in conformity with the requirements of the production file

## 7. Carry out maintenance on the duplicator.

Appropriate check of the condition of the safety systems and devices  
 Appropriate cleaning of components  
 Correct application of the maintenance program  
 Relevance of the repairs made  
 Respect for the responsibilities of maintenance personnel

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

## 1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proof.

Additive and subtractive colour synthesis  
 Possibilities and limitations of four-colour printing based on the type of press and the support used  
 Principles for applying screen angles  
 Information needed for four-colour printing: screen ruling, types of screen dots, tint percentage, quantities, inks, supports, plates, etc.  
 Characteristics of the proof (mechanical or digital) and of the imposition

- Determine the printing sequence.

Impact of contamination based on possible colour sequences  
 Determination of the printing sequence based on the dominant colour, ink tack and support

## 2. Prepare the products.

- Organize the work area.

Organization of workstation depending on work surfaces available  
 Application of health and safety rules (see competency 2).

- Prepare the printing support, inks and plates.

See competencies 5 and 6  
 Addition of additives based on ink tack  
 Plate parity

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Prepare the dampening solution and check its pH.</li> </ul>  | <p>Main concentrates; water to use; dilution methods<br/>Verification of the quality of the dampening solution (see competency 7)</p>   |
| <p>3. Prepare the duplicator.</p> <ul style="list-style-type: none"> <li>• Adjust the feeding, dampening, inking and printing systems.</li> </ul> | <p>Verification of and adjustment methods for the various systems (see competency 3)<br/>Adjustment of the feed table, feedboard and delivery table depending on the type of support<br/>Transfer of ink from container and pre-adjustment of ink fountain screws<br/>Plate mounting and registration methods</p> |
| <ul style="list-style-type: none"> <li>• Pre-adjust inking and dampening.</li> </ul>  | <p>Link between the inking system, the dampening system and the result obtained<br/>Positioning of the dampening solution ratchet and ink ratchet<br/>Inking of rollers and assessment of the ink film</p>  |
| <p>4. Print proofs.</p> <ul style="list-style-type: none"> <li>• Print a proof.</li> </ul>  | <p>Use of duplicator controls<br/>Identification of guide edges</p>   |
| <ul style="list-style-type: none"> <li>• Analyze register and colour registration and get the OK for press.</li> </ul>                            | <p>Key points: position, squareness, density, balance of inking and dampening, dot gain, piling, etc.<br/>Use of measuring instruments (see competency 7)<br/>Application of a problem-resolution method<br/>Correction of adjustments (see above)<br/>Importance of minimizing waste and production time</p>     |
| <p>5. Monitor printing.</p> <ul style="list-style-type: none"> <li>• Print the job.</li> </ul>  | <p>Use of duplicator controls<br/>Monitoring of key points in connection with common problems that occur during four-colour printing<br/>Application of a problem-resolution method<br/>Correction of adjustments (see above)<br/>Manual cleaning of duplicator</p>   |
| <ul style="list-style-type: none"> <li>• Record information.</li> </ul>   | <p>Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.<br/>Identification of waste and production piles</p>   |
| <p>6. Perform document finishing operations.</p> <ul style="list-style-type: none"> <li>• Use finishing machines.</li> </ul>                      | <p>See competency 5</p>   |

## 7. Carry out maintenance on the duplicator.

- Select a cleaning product and clean the components of the duplicator.

Types of cleaning products, specification sheets and manufacturer's recommendations  
Cleaning of feeding, dampening, inking and printing systems

- Apply the maintenance program.

Maintenance and adjustment of feeding, dampening, inking and printing systems (see competency 3)

- Perform minor repairs, if necessary.

See competency 3



Competency 14      Duration 75 hours      Credits 5

***Behavioural Competency***

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**Statement of the Competency**

Print solids using a duplicator.

**Achievement Context**

- Using final films, plates and printing supports
- Using ink bases, solvents, curing agents and the materials needed to adjust and maintain a duplicator
- Using technical documents, printing standards and the duplicator maintenance program
- Using measuring instruments

**Elements of the Competency**

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**Performance Criteria**

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1. Analyze the production file.	Accurate analysis of technical data relating to the job and the support to be used Accurate analysis of the proof Correct determination of the printing sequence
2. Prepare the products.	Correct preparation of the printing support Correct preparation of inks and plates Preparation of the dampening solution and appropriate verification of the pH
3. Prepare the duplicator.	Correct adjustment of the feeding, dampening, inking and printing systems Correct pre-adjustment of inking and dampening
4. Print proofs.	Accurate analysis of register and colour registration Conformity with OK to print proof
5. Monitor printing.	Careful check of conformity of print job with specifications Appropriate manual cleaning of duplicator Complete and full recording of information on the print job
6. Perform document finishing operations.	Careful check of drying of copies Appropriate use of finishing machines Finishing in conformity with the requirements of the production file

## 7. Carry out maintenance on the duplicator.

Appropriate check of the condition of the safety systems and devices  
 Appropriate cleaning of components  
 Correct application of the maintenance program  
 Relevance of the repairs made  
 Respect for the responsibilities of maintenance personnel

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### Suggestions for Competency-Related Knowledge and Know-How

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

## 1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proof.
 

Particularities of print jobs involving solids  
 Information needed for the production of a print job involving solids: quantities, inks, supports, plates, etc.  
 Characteristics of the proof (mechanical or digital) and of the imposition
- Determine the printing sequence.
 

Determination of the printing sequence based on the dominant colour and the support

## 2. Prepare the products.

- Organize the work area.
 

Organization of workstation depending on work surfaces available  
 Application of health and safety rules (see competency 2)
- Prepare the printing support, inks and plates.
 

See competencies 5 and 6  
 Addition of additives based on ink tack
- Prepare the dampening solution and check its pH.
 

Main concentrates; water to use; dilution methods  
 Verification of the quality of the dampening solution (see competency 7)

## 3. Prepare the duplicator.

- Adjust the feeding, dampening, inking and printing systems.

Verification of and adjustment methods for the various systems (see competency 3)  
Adjustment of the feed table, feedboard and delivery table depending on the type of support  
Addition of anti-setoff powder  
Transfer of ink from container and pre-adjustment of ink fountain screws  
Plate mounting and registration methods

- Pre-adjust inking and dampening.

Link between the inking system, the dampening system and the result obtained  
Positioning of the dampening solution ratchet and ink ratchet  
Inking of rollers and assessment of the ink film

## 4. Print proofs.

- Print a proof.
- Analyze register and colour registration and get the OK for press.

Use of duplicator controls  
Identification of guide edges

Key points: position, squareness, density, balance of inking and dampening, dot gain, piling, etc.  
Use of measuring instruments (see competency 7)  
Application of a problem-resolution method  
Correction of adjustments (see above)  
Importance of minimizing waste and production time

## 5. Monitor printing.

- Print the job.

Use of duplicator controls  
Monitoring of key points in connection with common problems that occur during the printing of flats  
Application of a problem-resolution method  
Correction of adjustments (see above)  
Manual cleaning of duplicator

- Record information.

Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.  
Identification of waste and production piles

## 6. Perform document finishing operations.

- Use finishing machines.

See competency 5

## 7. Carry out maintenance on the duplicator.

- Select a cleaning product and clean the components of the duplicator.

Types of cleaning products, specification sheets and manufacturer's recommendations  
Cleaning of feeding, dampening, inking and printing systems

- Apply the maintenance program. Maintenance and adjustment of feeding, dampening, inking and printing systems (see competency 3)
- Perform minor repairs, if necessary. See competency 3

Competency 15      Duration 30 hours      Credits 2

## ***Situational Competency***

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### **Statement of the Competency**

Apply job-search techniques.

### **Elements of the Competency**

- Be familiar with the various aspects of the job search.
- Consult sources of information.
- Prepare documents for the job search.
- Plan a job search.

### **Learning Context**

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#### **Information Phase**

- Learning the steps to follow in order to find a job.
- Becoming familiar with various sources of information that may be consulted before or during the preparation of documents used in a job search.
- Making a list of potential employers.
- Learning about employers' hiring criteria in different types of print shops.
- Experimenting with interview techniques.

#### **Participation Phase**

- Planning the steps to be taken in a job search.
- Writing a résumé and a cover letter.
- Following the procedures outlined in their job-search plan.
- Keeping a log of the steps in their job-search plan and the steps they have taken.

#### **Synthesis Phase**

- In a group meeting and using their log as a reference, commenting on the relevance of the documents used and the effectiveness of their job search.

### **Instructional Guideline**

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- Provide students with reference materials and examples likely to help them in their job search.
- Explain to students the different ways of using the reference materials.
- Refer students to resource persons who can help them in their job search.
- Set aside sufficient time and provide the means for students to prepare their job-search plan.
- Monitor the students' progress throughout the job-search process.
- Encourage communication and cooperation among the students.
- Encourage independence.

## Participation Criteria

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### Information Phase

- Consult the information made available to them.
- Gather information.

### Participation Phase

- Write a résumé and cover letter in the proper format containing information about their work experience, training and competencies, as well as personal information.
- Submit a log containing information on each step in their job-search plan as well as a description of the steps taken.

### Synthesis Phase

- Comment on the relevance of the documents used and the effectiveness of their job search.

## Suggestions for Competency-Related Knowledge and Know-How

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each phase of the learning context, along with their attendant guidelines.

### Information Phase

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Learn the steps to follow in order to find a job.</li> </ul>                            | <p>Steps in a job search:<br/>consultation of a list of companies and places of business, drafting of a cover letter and résumé, preparation for an interview</p>  |
| <ul style="list-style-type: none"> <li>• Consult sources of information.</li> </ul>  | <p>Information needed to prepare the documents used in a job search</p>  |
| <ul style="list-style-type: none"> <li>• Make a list of potential employers and learning about their hiring criteria.</li> </ul> | <p>Reference sources used to identify and select employers<br/>Links between the requirements of the occupation and the hiring criteria</p>  |
| <ul style="list-style-type: none"> <li>• Experiment interview techniques.</li> </ul>   | <p>Types of interviews<br/>Preparation for an interview: gathering of information on the company, assembly of personal documents, typical questions, etc.<br/>Need to dress appropriately for the circumstances and to make a good first impression<br/>Behaviour and attitudes to adopt: introduction, greeting, polite form of address, discretion, questions at the right moment, demonstration of interest, highlighting of personal strengths, etc.</p> |

## Participation Phase

- Write a résumé and cover letter.

Headings for the résumé: personal information, education and training, work experience, etc.  
Rules for writing a résumé  
Contents of a cover letter  
General principles for writing a letter: lively style, short sentences and paragraphs, etc.  
Résumé and cover letter models  
Word-processing software

- Follow the procedures outlined in the job-search plan.
- Keep a log of the steps in their job-search plan and the steps they have taken.

Mail-out, phone calls and follow-up calls

Utility of a log  
Structure and content of a log: steps taken and difficulties encountered

## Synthesis Phase

- Comment on the relevance of the documents used and the effectiveness of the job search.





Competency 16      Duration 120 hours      Credits 8

## ***Behavioural Competency***

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### **Statement of the Competency**

Print polychromatic jobs and jobs involving solids in 14x20 inch format using a computerized offset press and two-colour press.

### **Achievement Context**

- In a team
- Using final films, a digital file or a plate and printing supports
- Using ink bases, dampening solution concentrates, solvents, curing agents and the materials needed to adjust and maintain the press
- Using technical documents, printing standards and the press maintenance program
- Using measuring instruments

### **Elements of the Competency**

1. Analyze the production file.

Accurate analysis of technical data relating to the job and the support to be used  
Accurate analysis of the proof  
Correct determination of the printing sequence  
Suitable planning of the work required

2. Prepare the products.

Correct preparation of the printing support  
Correct preparation of inks and plates  
Preparation of the dampening solution and appropriate verification of the pH

3. Prepare the press.

Appropriate check of blanket conformity  
Correct adjustment of the feeding, dampening, inking and printing systems  
Correct pre-adjustment of inking and dampening  
Correct adjustment of the plate positioning systems  
Appropriate check of the operation of the anti-setoff system

4. Print proofs.

Accurate analysis of register and colour registration  
Conformity with OK to print proof

5. Monitor printing.

Careful check of the conformity of the print job with specifications  
Correct application of a cleaning method  
Complete and full recording of information on the print job

6. Carry out maintenance on the press.

Appropriate check of the condition of the safety systems and devices  
 Appropriate cleaning of components  
 Correct application of the maintenance program  
 Relevance of the repairs made  
 Respect for the responsibilities of maintenance personnel

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Appropriate use of the press software
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proof.

Particularities of polychromatic printing and printing of solids using a two-colour offset printing press  
 Information needed for the polychromatic printing and printing of solids: quantities, inks, supports, plates, etc.  
 Characteristics of the proof (mechanical or digital) and of the imposition

- Determine the printing sequence.

Impact of contamination based on possible colour sequences  
 Determination of the printing sequence based on the dominant colour, ink tack and support

- Plan the teamwork.

Importance of the quality of the work completed and of interpersonal communication  
 Sharing of tasks between team members  
 Attitudes to display during the production process

2. Prepare the products.

- Organize the work area.
  - Organization of workstation depending on work surfaces available
  - Application of health and safety rules (see competency 2)
  
- Prepare the printing support, inks and plates.
  - See competencies 5 and 6
  - Addition of additives based on ink tack
  - Plate parity
  
- Prepare the dampening solution and check its pH.
  - Main concentrates; water to use; dilution methods
  - Verification of the quality of the dampening solution (see competency 7)

3. Prepare the press.

- Check the blankets.
  - Methods for checking blankets and surface integrity
  
- Adjust the feeding, dampening, inking and printing systems.
  - Verification of and adjustment methods for the various systems (see competency 3)
  - Adjustment of the feed table, stream feeder and delivery table depending on the type of support
  - Transfer of ink from container and pre-adjustment of ink fountains
  
- Pre-adjust inking and dampening.
  - Link between the inking system, the dampening system and the result obtained
  - Adjustment of general flow of the dampening solution and ink
  - Inking of rollers and assessment of the ink film
  
- Adjust the plate positioning systems.
  - Plate packing, mounting and registration methods based on the colour sequence
  - Use of packing comparator
  - Zero reset of printing systems
  
- Check the operation of the anti-setoff system.
  - Distribution of anti-setoff powder based on the characteristics of the print job

4. Print proofs.

- Print a proof.
  - Use of the control panel of the computerized press
  - Identification of guide edges
  
- Analyze register and colour registration and get the OK for press.
  - Key points: position, squareness, density, balance of inking and dampening, dot gain, piling, trapping, etc.
  - Use of measuring instruments (see competency 7)
  - Application of a problem-resolution method
  - Correction of adjustments (see above)
  - Importance of minimizing waste and production time

5. Monitor printing.

- Print the job.

Use of the control panel of the computerized press  
Monitoring of key points in connection with common problems that occur during the polychromatic printing and the printing of solids  
Application of a problem-resolution method  
Correction of adjustments (see above)  
Application of a cleaning method and use of appropriate solvents or curing agents

- Record information.

Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.  
Identification of waste and production piles

6. Carry out maintenance on the press.

- Select a cleaning product and clean the components of the press.

Types of cleaning products, specification sheets and manufacturer's recommendations  
Cleaning of feeding, dampening, inking and printing systems

- Apply the maintenance program.

Maintenance and adjustment of feeding, dampening, inking and printing systems (see competency 3)

- Perform minor repairs, if necessary.

See competency 3

Competency 17      Duration 120 hours      Credits 8

***Behavioural Competency***

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**Statement of the Competency**

Print four-colour jobs in 14x20 inch format using a computerized offset press and two-colour press.

**Achievement Context**

- In a team
- Using final films, a digital file or a plate and printing supports
- Using ink bases, dampening solution concentrates, solvents, curing agents and the materials needed to adjust and maintain the press
- Using technical documents, printing standards and the press maintenance program
- Using measuring instruments

**Elements of the Competency**

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1. Analyze the production file.

Accurate analysis of technical data relating to the job and the support to be used  
 Accurate analysis of the proof  
 Correct determination of the printing sequence  
 Suitable planning of the work required

2. Prepare the products.

Correct preparation of the printing support  
 Correct preparation of inks and plates  
 Preparation of the dampening solution and appropriate verification of the pH

3. Prepare the press.

Appropriate check of blanket conformity  
 Correct adjustment of the feeding, dampening, inking and printing systems  
 Correct pre-adjustment of inking and dampening  
 Correct adjustment of the plate positioning systems  
 Appropriate check of the operation of the anti-setoff system

4. Print proofs.

Accurate analysis of register and colour registration  
 Conformity with OK to print proof

5. Monitor printing.

Careful check of the conformity of the print job with specifications  
 Correct application of a cleaning method  
 Complete and full recording of information on the print job

6. Carry out maintenance on the press.

Appropriate check of the condition of the safety systems and devices  
 Appropriate cleaning of components  
 Correct application of the maintenance program  
 Relevance of the repairs made  
 Respect for the responsibilities of maintenance personnel

*For the competency as a whole:*

- Appropriate use of measuring instruments
- Appropriate use of the press software
- Determination of causes of problems and application of appropriate corrective measures
- Optimization of inking and dampening
- Minimization of waste
- Compliance with setup times
- Compliance with printing standards
- Compliance with workplace health and safety rules

### **Suggestions for Competency-Related Knowledge and Know-How**

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The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each element of the competency, along with their attendant guidelines.

1. Analyze the production file.

- Analyze the technical data relating to the job, the support to be used and the proof.

Particularities of four-colour printing using a two-colour offset printing press  
 Information needed for four-colour printing: quantities, inks, supports, plates, etc.  
 Characteristics of the proof (mechanical or digital) and of the imposition

- Determine the printing sequence.

Impact of contamination based on possible colour sequences  
 Determination of the printing sequence based on the dominant colour, ink tack and support

- Plan the teamwork.

Importance of the quality of the work completed and of interpersonal communication  
 Sharing of tasks between team members  
 Attitudes to display during the production process

2. Prepare the products.

- Organize the work area.

Organization of workstation depending on work surfaces available  
 Application of health and safety rules (see competency 2)

- Prepare the printing support, inks and plates. See competencies 5 and 6  
Addition of additives based on ink tack  
Plate parity
  - Prepare the dampening solution and check its pH. Main concentrates; water to use; dilution methods  
Verification of the quality of the dampening solution (see competency 7)
3. Prepare the press.
- Check the blankets. Methods for checking blankets and surface integrity
  - Adjust the feeding, dampening, inking and printing systems. Verification of and adjustment methods for the various systems (see competency 3)  
Adjustment of the feed table, stream feeder and delivery table depending on the type of support  
Transfer of ink from container and pre-adjustment of ink fountains
  - Pre-adjust inking and dampening. Link between the inking system, the dampening system and the result obtained  
Adjustment of general flow of the dampening solution and ink  
Inking of rollers and assessment of the ink film
  - Adjust plate-positioning systems. Plate packing, mounting and registration methods based on the colour sequence  
Use of packing comparator  
Zero reset of printing systems
  - Check the operation of the anti-setoff system. Distribution of anti-setoff powder based on the characteristics of the print job
4. Print proofs.
- Print a proof. Use of the control panel of the computerized press  
Identification of guide edges
  - Analyze register and colour registration and get the OK for press. Key points: position, squareness, density, balance of inking and dampening, dot gain, piling, trapping, etc.  
Use of measuring instruments (see competency 7)  
Application of a problem-resolution method  
Correction of adjustments (see above)  
Importance of minimizing waste and production time

## 5. Monitor printing.

- Print the job.

Use of the control panel of the computerized press  
Monitoring of key points in connection with common problems that occur during four-colour printing  
Application of a problem-resolution method  
Correction of adjustments (see above)  
Application of a cleaning method and use of appropriate solvents or curing agents

- Record information.

Recording of information: duration, problems encountered, quantity of supports and ink used, number of copies printed, etc.  
Identification of waste and production piles

## 6. Carry out maintenance on the press.

- Select a cleaning product and clean the components of the press.

Types of cleaning products, specification sheets and manufacturer's recommendations  
Cleaning of feeding, dampening, inking and printing systems

- Apply the maintenance program.

Maintenance and adjustment of feeding, dampening, inking and printing systems (see competency 3)

- Perform minor repairs, if necessary.

See competency 3



Competency 18      Duration 120 hours      Credits 8

## ***Situational Competency***

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### **Statement of the Competency**

Integrate into the workplace.

### **Elements of the Competency**

- Familiarize themselves with their role in the workplace.
- Carry out tasks in a company.
- Become aware of the different changes in perception that result from a practicum in the workplace.

### **Learning Context**

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#### **Information Phase**

- Learning about the terms and conditions of the practicum.
- Preparing to undergo a work experience in a printshop.

#### **Participation Phase**

- Performing or taking part in various work-related tasks.
- Requesting feedback on their work performance and behaviour during the practicum.
- Giving an account of their observations with respect to the work environment and the tasks carried out during the practicum.

#### **Synthesis Phase**

- Identifying the aspects of the occupation that match or do not match their training.
- Identifying the strengths and weaknesses in their performance and behaviour.
- Discussing the influence of this experience on choice of a future job: aptitudes and interests.

### **Instructional Guideline**

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- Maintain close collaboration between the school and the company.
- Make it possible for students to perform occupational tasks.
- Ensure that the students are supervised on an ongoing basis by a designated person at the practicum site.
- Provide students with regular support and follow-up.
- Intervene if problems or difficulties arise.
- Encourage discussion among the students.

### **Participation Criteria**

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#### **Information Phase**

- Listen to explanations carefully.
- Take the information into account while preparing for the practicum.

**Participation Phase**

- Comply with the host company's instructions concerning the tasks that a trainee can perform, work schedules, workplace health and safety rules and rules of professional ethics.
- Take note of feedback concerning their performance and behaviour during the practicum.

**Synthesis Phase**

- Discuss their experience in the workplace with other students.

**Suggestions for Competency-Related Knowledge and Know-How**

The following is a summary of the knowledge, skills, strategies, attitudes and perceptions related to each phase of the learning context, along with their attendant guidelines.

**Information Phase**

- Learn about the terms and conditions of the practicum.
- Prepare to undergo a work experience in a printshop.

Objectives and duration of the practicum  
Instructional Guideline  
Participation requirements and criteria  
Agreement on practicum terms and conditions

Organization of the company  
Work schedule and specific instructions

**Participation Phase**

- Perform or take part in various work-related tasks.
- Request feedback on their work performance and behaviour during the practicum.
- Give an account of their observations with respect to the work environment and the tasks carried out during the practicum.

Performance of or participation in tasks  
Workplace health and safety rules  
(see competency 2)

Importance of performance  
Attitudes and behaviours appreciated by employers  
Receptiveness to criticism

Use of a log: overview of the company and first impressions, observations, list of tasks performed, specific situation during the practicum and reactions.

**Synthesis Phase**

- Identify the aspects of the occupation that match or do not match their training.
- Identify the strengths and weaknesses in their performance and behaviour.
- Discuss the influence of this experience on choice of a future job: aptitudes and interests.

Comparison between the training and the tasks performed during the practicum (see competency 1)

Rules for group discussions and definition of interests and aptitudes (see competency 1)





Achieve Succeed Exercise Share Read Learn Persevere