SILgraphic

Supporting Professional Development and Innovation in the Graphic Industry

Competency standards in graphic design:
**Book, Mapping, Corporate identity,
Print quality, Silk-screen printing, Visuals for press**

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The competency standard structure

The common competence

Unit A – Produce the specifications of the project according to the customer needs

Knowledge requirement

Agreements and contracts
- Their advantages and disadvantages compared with your field of activities.
- Organisational and regulatory requirements.

Communication
- Principles and processes of an efficient communication.
- Returns carried out by customers.

Relations with customers

- Focus on customers' needs.
- The principles of an efficient negotiation.

Information processing
- Principles of secrecy.

The organisational context
- The information about products and services related to your field of responsibility.

Scheduling
- The principles of activity scheduling to meet customers' requirements.
- The principles of an effective management of time and resources.

Quality
- Control of the quality of the work coming within your field of responsibility.
- Principles and methods of quality assurance.

Range statement

Customers
- Internal.
- External.
- Customers acquainted with your products or services.
- Customers little acquainted with your products or services.

Collaborators
- Members of your team.
- Immediate superiors.
- Experts.
- Suppliers.

Archiving system
- Manual.
- Electronic.

Performance evidence

Products/Results
- Proposals and answers to call for tenders.
- Correspondence with customers and other persons who made their contribution.
- Relevant meeting notes and reports.
- Job specifications.
- Contracts and agreements.
- Working plans.
- Team briefing notes.
- Assessment of required resources.
- Mails and notes about identified issues, corrective actions and modifications of the ensuing plans.

Written and oral reports describing
- How you encouraged customers to define their needs,
- How you drew up proposals to answer customers' needs,
- The factors taken into account to ensure that the agreements are compliant with regulatory and organisational requirements,
- The consultation processes and the people involved,
- The way you drew up the plan and the estimation of costs,
- The degree of balance between customers' needs and operation plans, considering possible modifications,
- Your plans and priorities about quality continuous improvement,
- How you initiated corrective actions.

Competence element 1

To match with customers' needs

Performance criteria
1. Identify customers' needs.
2. Give customers opportunities to define their needs.
3. Suggest to customers clear and accurate pieces of information about the characteristics and advantages of your services or products.
4. Draw up detailed specifications that consider al the relevant information used to fulfil their requirements.
5. Reach agreements with your customers, compliant with the regulatory and organisational requirements and including relevant information about activities essential to meet their needs.
6. Process, store and use the information provided by customers in accordance with the regulatory and organisational requirements.

Competence element 2

To schedule to meet customers' needs

Performance criteria
1. Give the appropriate persons opportunities to help scheduling activities.
2. Consider your experience about past activities, the availability of current resources and the future circumstances likely to impede the progression of plans.
3. Meet customers' needs within the time allowed.
4. Coherently schedule the objectives involving the resources and the policy of your organisation.
5. Present your plans to the concerned parties appropriated and within the time allowed.
6. Confirm at regular intervals people's understanding about the plans as well as their commitment.

Competence element 3

To make sure that products and services meet customers' needs

Performance criteria
1. Offer to the appropriate persons the opportunities to control the quality of products and services and to put forward recommendations for their improvement.
2. Control product and service quality in a continuous way and in accordance with the organisational procedures.
3. Help the appropriate persons maintaining and improving quality.
4. Often communicate with customers to develop a relationship based upon mutual trust and respect.
5. Offer customers opportunities to consider again their level of satisfaction.
6. Communicate with your customers in a clear, accurate and quick manner when significant changes are made on the suggested products or services.
7. Act promptly and efficiently when products, services or processes do not meet the requirements about which you jointly came to an agreement.

8. Endeavour for the archives relating to customer service and quality to be compliant with the organisational procedures and the regulatory requirements.

The specialised competences

Sector: Book

To conceive and to produce the layout for the book

The production process diagram:

Phase 1 — To define product characteristic

- The analize the customer needs
- To identify principal elements of book
  - To choose the format
  - To choose the tipe of paper for internal and cover
  - To choose the types
  - To choose the binding
- To realize the work order
- To sign a formal agreement
- To prepare a paper dummy

Phase 2 — To prepare the rough

- To set the texte
- To scan the pictures
- To prepare a layout with texte and pictures
- To conceive the cover
  - To use suitables software
  - To verifie the correspondence of the product with the specifications of work order
- To make a rough
- Customer approval
- Rough

Phase 3 — To draw up the layout

- To made the corrections
  - To use a software for the corrections
  - To use a software of pictures retouching
- To prepare the file with a vector software
- To prepare the layout
- To ask the customer approval
- Layout for the press proof

Phase 4 — To prepar for printing

- To make the last corrections (if necessary)
- To calibrate colors
- To verify before printing
- To print a sheet (digital or other)
- Customer approval
- File for printing

Unit B– To produce the pre-layout

Knowledge requirement

- the set up of the text according to the product to achieve;
- the iconography;
- the method to prepare a blanco, a dummy;
- a grid, a sketch of the layout;
- the procedures to conceive the covers and jackets;
- the procedures of acquirement of the pictures;
- the typography and the semiotics;
- the principles of the layout of the pictures and the text;
- the correspondence of the product with the specifications.

Range statement

- computer material
- software varied retouching of picture, of illustration, of layout;
- digital camera;
- notebook of sketch, felts, pencils of colour…
- nuanciers;
- scanner;
- on the workplace;
- orthographic correction software.

Performance evidence

- tests of digital pictures;
- sketches of layout with text and pictures;
- sketches for the cover;
- tests of composition with different styles;
- a palette of argued colour;
- a pre-layout corresponding to the specifications.

Element of competency B1

To prepare the pictures and the text

Performance criteria
- to identify the style of the corresponding types to the orders;
- to import or to seize the text
- to correct spelling and the typography of the text;
- to select the pictures according to the specifications approved by the customer;
- to digitalize and to import the selected pictures;
- to import the illustrations in C.S. to 100%.

Element of competency B2

To conceive the paging of the pre-layout

Performance criteria
- to make a sketch of the pages types;
- to prepare the grid of layout;
- to make the layout of the pages types;
- to calibrate text and pictures

Element of competency B3

To conceive the cover

Performance criteria
- to achieve a sketch of the cover according to the thematic of the product;
- to choose an applicable iconography
- to direct the fashion design of the cover
- to achieve some illustrations;
- to produce the layout of the cover.

Elements of competency B4

To propose and to correct the pre-layout in agreement with the remarks of the customers

Performance criteria
- to verify the correspondence of the layout and cover to the specifications;
- to correct according to the case;
- to prepare a test for the customer of the elements types (pages and cover).

Unit C – To produce the assembly of the proof

Knowledge requirement

- procedures of retouching of pictures;
- procedures of the complex layouts: of which the indexing, the tables of matters, imposition;
- procedures of control and fast corrections;
- procedure of conversion and export of file;
- control of correspondence of the products with the work order.

Range statement

- computer material;
- suitable software;
- on the workplace;
- tool of control.

Performance evidence

- proof of capacity to make corrections of text and layout quickly;
- files to the good format of pictures touched up on the suitable software;
- file of the application with which the layout has been achieved;
- a colour impression ;
- a comparative with the specifications.

Element of competency C1

To touch up the pictures and to correct the text and the layout

Performance criteria
- to correct the text quickly according to the customer's remarks;
- to modify and to correct the layouts quickly;
- to control the spaces and the typography according to the rules;
- to digitalize the pictures to the measurements of the pre-layout validated by the customer;
- to touch up the pictures according to the customer's indications;
- to organize the pictures according to the customer's indications.

Element of competency C2

To produce the installation of the layout

Performance criteria
- to produce the totality of the layout;
- to master the functions" Book" of the suitable applications;
- to master the functions Table of matter and indexing;
- to prepare imposition;
- to produce the layout of the cover;
- to master the formats of export.
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Element of competency C3

To produce the final layout of the model validated by the customer.

Performance criteria
- to print the layout;
- to print the cover;
- to verify the corrections asked by the customer.

Sector : Mapping

Drawing and producing maps and drawings from a cartographic database

The production process diagram:

Déterminer les spécifications de la carte ou du plan

Analyser les besoins du client → Réaliser le cahier des charges → Déterminer les droits d'utilisation → Contractualiser le projet → **Spécifications de la carte ou du plan**

Choisir une ou plusieurs bases de données cartographiques

Élaborer la maquette de la carte ou du plan

Importer les données *(selon la base)*

Saisir les données → Retoucher la base dans un logiciel dédié *Si besoin*

Schématiser les principaux tracés

Définir la chartre graphique

Concevoir des pictogrammes → Réaliser des pictogrammes avec un logiciel vectoriel

Préparer et organiser les calques dans le logiciel de travail

Dessiner une partie représentative des tracés de la carte ou du plan à l'aide des outils de tracé

Créer des symboles

Créer des motifs

Organiser le texte

Attribuer les aplats pour préparer un effet 3D → Traduire les aplats en 3D

Faire valider la maquette par le client → **Maquette validée**

Apporter les corrections nécessaire *si besoin*

Réaliser l'ensemble de la carte ou du plan

Dessiner la totalité des tracés de la carte ou du plan à l'aide des outils de tracé

Mémoriser des vues *grandes surfaces*

Utiliser des symboles et des motifs

Créer les légendes

Créer un index *plan*

Imprimer une sortie pour être valider par le client → **Carte ou plan réalisé**

Vérifiers les données et corriger éventuellement

Préparer pour l'impression

Corrections suivant les remarques du client

Attribuer le profil colorimétrique du mode d'édition

Générer un fichier pour le type d'édition voulu

Faire une épreuve de contrôle

Faire valider l'épreuve de contrôle par le client → **Carte ou plan prêt l'impression**

Créer et préparer une carte ou un plan à la publication

Related skills and abilities

- A solid cartographic knowledge in order to analyze the demand of the customer and to possibly advice him:
- – depending on the various types of cartographic bases that exist;
- – depending on the identification of the potential users of the map or plan and the understanding of their needs;
- – listening to and advising the customer;
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- knowledge of the methods in terms of user rights and image rights, including the current legislation involving image rights and copyright in the countries where the product is to be distributed;
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- knowledge of the graphic chain, the various processes and technical means set up to manufacture products within the assigned costs and in the allotted times including the various service providers working in the manufacturing process and the media chosen for the final work;
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- knowledge of the processes involved in drawing up an estimate.

Prerequisites

- the use of image retouching software;
- mastery of vector drawing techniques with appropriate software;
- knowledge of the procedures for preparing the outlines of the map or plan, i.e.: transfer, digitizing processes and adjustments, map assembly, cartographic database mixing, image retouching, etc;
- color control;
- networked working procedures;
- knowing how talk with the customer to make fast corrections according to his remarks

From the information contained in the acquired bases, the map-maker selects the elements he will have to draw over again. This is "thematic" information that will define the final rendering of the map.
The three standard subdivisions are: administrative, physical or road-related. In most cases, they are compiled in the same file whether it is on paper or is computer media.

Unit B – Producing the map or plan

Knowledge requirement

- Definition of the important parts of the cartographic base;
- knowledge of the procedures for preparing the outlines of the map or plan, i.e.: transfer, digitizing processes and adjustments, map assembly, cartographic database mixing, image retouching, etc;
- connotation of the imported layout processing proceedings;
- knowledge of the international pictographic standards;
- methods of creating and managing symbols and patterns;
- knowledge of the typography: choice of typographic characters, typographical rules in the language used in the country where the product is published, hierarchy of information;
- model preparation procedures: thumbnails and samples of maps or drawings;
- methods of work on large surface areas;
- procedures for producing a three-dimensional map;
- indexing procedures;
- point coordination procedures;

Range statement

- Habitual transfer equipment (lightbox, drawing table, tracing paper, transparent   medium such as rhodoid film, drawing pen, eraser) ;
- computer equipment: scanner, picture retouching software, printer;
- drawing and computer art studio;
- vector software (functions: tracings, colours, contours, patterns, symbols, appropriate tools: layouts, forms, deformations and view manager);
- 3D interpretation software;
- databases containing information about the validity of the information displayed on the map or plan (geographical, demographical, etc.) ;
- GIS

Performance evidence

- pPresentation of at least two different cartographic databases;
- the steps for the production of drawn and printed maps or plans;
- the computer file as proof of the attitude to manage and organize the work;
- corrections to a map or plan in an allotted time.

Element of competence B1

Schematizing the main layouts

Performance criteria
- Preparing the map or plan methodically in order to subsequently make fast and efficient corrections;
- transferring the cartographic base with a drawing pen onto transparent film or tracing paper;
- digitizing retracing sheet(s) to the appropriate settings;
- recording the bitmap files according to the organization of the elements;
- digitizing the map backgrounds to be assembled;
- retouching the map backgrounds;
- schematizing the layouts on the retouching software being used;
- checking the validity of the digitized layouts and the computerized data.

Element of competence B2

Defining the graphics charter

Performance criteria
- Defining and choosing the colours according to the thematic of the map to be produced;
- defining the thickness of the lines appropriate to the elements to the depicted on the map or the plan;
- choosing the typography for hierarchizing the information to appear on the map;
- selecting the pictograms or symbols appropriate to the thematic of the document;
- defining the quality of the medium that will be used according to the needs;

Element of competence B3

Preparing and organizing the layers or tracings in a specialized software

Performance criteria
- Preparing and organizing the tracings on which the various layers will be placed;
- naming the layers according to the elements depicted;
- hierachizing the layers;
- automating the creation of the layers by means of scripts;
- defining and choosing the colors according to the thematic of the map to be produced;
- defining the thickness of the lines appropriate to the elements to be depicted on the map or the plan;
- choosing the typography for hierarchizing the information to appear on the map;
- selecting the pictograms or symbols;
- creating and producing the pictograms.

Element of competence B4

Producing the map or plan validated by the customer

Performance criteria
- Importing digitized images or files coming from a previously vectorized cartographic database;
- organizing the work on large surface areas;
- drawing method the cuddly with vector or tracing tools all the elements of the model or presentation according to their specific aspects
- colouring the various elements according to the graphic charter;
- attributing backgrounds or contours to the layouts;
- creating and using patterns;
- creating pictograms;
- creating and applying symbols;
- using a database for classifying towns according to their population factors.
- hierachizing and placing texts and legends in accordance with the defined graphic charter;
- presenting a model, a thumbnail or a sample representing all the elements of the map or plan to be validated by the customer;
- indexing the names when it concerns a city map;
- using Boolean functions for managing the city maps;
- attributing coordinates to a point of view for geo- localizing;
- carrying out the layout for export to a software allowing 3-D interpretation;
- checking the pertinence of all the information and submitting it to the customer for fast correction according to the validity of the information or remarks made by the customer

Unit C – Preparing the document for printing.

Knowledge requirement

- Preparing the file according to the type of print job;
- checking the colors (print quality)
- procedures for recording file formats;
- presentation of several suitable files;
- presentation of a camera ready copy.

Range statement

- Computer equipment:
- matchprint or equivalent
- computer art studio

Performance evidence

- presentation of several suitable files;
- presentation of a camera ready copy.

Element of competence C1

Checking the print quality factors

Performance criteria
- See Print Quality

Element of competence C2

Producing a final proof

Performance criteria
- Proof according to the type of print job validated by the customer;
- file in the format appropriate to the print mode with media.

Sector: Corporate identity

To produce a full corporate image

The production process diagram:

| 5 days | 5 days | 2 days | 5 days | 2 days | 2 days | 5 days | 2 days | 7 days | 2 days | 3 days |

| Meeting with client (general briefing) | drawing up a budget (creative and production) | Budget approval | Studying competitors | Drawing up logo | Building maquettes of proposals | Meeting with clients aiming approval | Developing applications of corporate image | Meeting with clients aiming at approval of applications | Developing graphics guidelines | Final approval by the client | Producing document for final printing of applications and graphic guidelines |

Develop corporate identity

Unit B – Produce the corporate identity

Knowledge requirement

- Typography
- form and balance of space(s)
- psychology of colour
- visual communication
- creativity
- analyzes existing elements
- drafting of a project, elements and impact

Range Statement

- Draft paper / notebook
- scanner
- computer
- C.A.P software
- printer
- Internet
- typographic catalogues
- pantone catalogue
- office material
- specific material for sketches

Performance evidence

- Sketches of logos, using the different elements, showing the relation form/typography and colours;
- 3 formal and distinct proposals with 3 colours studies each;
- logo typography printed on different typographic types adequate to the chosen form and to the client's briefing;
- 3 digitalized proposals re-drawn and adequate, using Bezier curves, composition and alteration of simple forms;
- print of A4, colour, for each proposal choosing a different typography, according to the study of the relation form/typography as carried-out;
- the 3 proposals printed in colour and applied with the final versions of colour, black and white, grey scale and negative in two different sizes;
- name, address, elements of public revenue (taxes...), names and functions of the pieces of the stationery;
- the stationery pieces, with logo and information defined in advance must be applied and colour printed, without reduction and set separately on semi-rigid support A3 and A4.

Element of competency B1

Draw-up the corporate image in accordance with client's requirements

- Draw logo sketches showing the relation form/typography;
- choose proposals following the briefing;
- digitalize the chosen proposals in a correct resolution and format;
- import the digitalized proposals to a vector software;
- re-draw and adjust, accurately, the digitalized proposals;
- carry-out research on typographic fonts appropriate to the chosen form and the client's briefing;
- apply, to each chosen proposal, a different typography, according to the study of the relation form/typography;
- develop the black and white versions, grey scale and negative of each proposal;
- develop colour studies applied to each chosen proposal;
- choose a solution for colour for each proposal;
- print proposals with final solutions of colour, grey scale and negative.

Elements of competency B2

Develop applications of corporate image in accordance with client's requirements

- Collect and choose information to be set on the pieces;
- apply logo and information on the stationery;
- printings to verify formal and contents aspects;
- carry-out necessary final adjustments;
- produce well finished samples of the pieces to give to the client;
- write a base line;
- control the orthography of the names and addresses and contacts of the company.

Unit C – Prepare the corporate identity for printing and develop guidelines

Knowledge requirement

- The elements to be included in the guidelines;
- preparation of the file according to the required format for the digital printing or offset printing;
- print quality.

Range Statement

- Draft paper / notebook;
- scanner;
- computer;
- C.A.P software;
- printer;
- Internet;
- typographic catalogues;
- pantone catalogue;
- office material;
- specific material for sketches.

Performance evidence

- The stationery, EPS and PDF – must obey to the following: – cut marks and correction targets, printing system, typography used and definition of forms.
- a guideline, PDF, A4, accurately defining the following:

  a. in what concerns the logo – typography, construction of the symbol, relation typography/symbol, colours used according to the environment, colour and form, resolution upon photographic and colour backgrounds, minimum sizes for utilization

  b. in terms of stationery (letter paper, follow-up, fax paper, envelope, personal card, greetings card) – typography, distances and measures of the different elements, colours and correspondent percentage, technical specifications of the support to be used

Element of competency C1

Develop graphic guidelines for client approval

- Assemble the elements that compose the graphic charter;
- design the graphic charter;
- print samples to verify formal and contents aspects;
- make final necessary adjustments;
- produce a well finished sample to give to the client.

Element of competency C2

Produce documents for final printing

- Produce digital documents of the stationery, having in mind;
- record, digital support (CD/DVD) to be sent to the graphic company;
- verify the quality and the elements to be included in the record.

Sector: Print Quality

Control the print quality during the production of printed material

The production process diagram:

Prerequisites

- Basic knowledge in Mathematics
- Basic knowledge in Physics
- Basic computer skills

Unit B Carry-out objective quality tests

Knowledge requirement

- Basic knowledge
  Printing process (Screening, CtP, Different print presses), Colour (General aspects, Colour systems, Profiling, CMS, ICC profile), Human colour vision, different scaling methods, different types of image comparison, making a questionnaire
- Basic quality factors
  Colour gamut, Sharpness, Contrast, Colour difference E̱, Gloss, Mottle, Miss-registration, Resolution
- Measurement Equipments
  Densitometer, Spectrophotometer
- Using the standards
  The ISO and other national and international standard values
- Basic knowledge in statistic
  Mean value, Correlation, standard deviation, statistical diagrams

Range statement

- Published documents on print quality factors;
- instruction book of the machinery being used;
- basic book on Colour;
- book on statistics;
- densitometer, Spectrophotometer, Gloss meter, Contrast meter, software for measuring the mottle;
- standard environment for measuring, e.g. standard light source, and background;
- computer;
- software for illustrations, for example the colour gamut illustrations;
- software for statistical calculations;
- published materials;
- standard images (for instance ISO) that are aimed for different purposes;
- standard tables and diagrams for the evaluated parameters.

Performance evidence

A document that:

– Describes why these quality parameters were selected;

– illustrates the measurement results by appropriate tools, e.g. Tables, Diagrams, Graphs;

– includes the calculation and illustrations, for example, calculation of Colour difference E or colour gamut volume and the illustration of the colour gamut;

– discusses the results, for example are they acceptable, or out of the acceptance range, unexpected or expected, with respect to the standards.

Elements of competency B1
Select the quality parameters being measured

Performance criteria
Choose the quality parameters with respect to: CtP, Screening, Printing press.

Elements of competency B2
Choose the test images to be used

Performance criteria
- Choose the images with respect to the standards;
- choose the machinery with respect to the quality parameters being evaluated;
- calibrate the machineries.

Elements of competency B3
Perform the measurements

Performance criteria
- Perform the measurements.

Elements of competency B4
Do the calculations

Performance criteria
- Do the calculations using the measured data.

Unit C – Carry out subjective quality tests

Knowledge requirement

- Basic knowledge:
  printing process (Screening, CtP, Different print presses), colour (General aspects, Colour systems, Profiling, CMS, ICC profile), human colour vision, different scaling methods, different types of image comparison, making a questionnaire
- Basic quality factors:
  colour gamut, sharpness, contrast, colour difference E, gloss, mottle, miss-registration, resolution
- Measurement Equipments:
  densitometer, spectrophotometer
- Using the standards:
  the ISO and other national and international standard values
- Basic knowledge in statistics:
  mean value, Correlation, standard deviation, statistical diagrams.

Range statement

- Published documents on print quality factors;
- standard images (for instance ISO) that are aimed for different purposes;
- standard tables and diagrams for the evaluated parameters;
- standard environment for measuring, e.g. standard light source, and background;
- densitometer, Spectrophotometer, Gloss meter, Contrast meter, software for measuring the mottle;
- instruction book of the machinery being used;
- basic book on Colour;
- computer;
- software for illustrations, for example the colour gamut illustrations;
- published materials;
- a book on statistics;
- software for statistical calculations.

Performance evidence

A document that:

– describes why these parameters were selected with respect to the context of the evaluation;

– illustrates the results of the test panel judgement by appropriate tools, e.g. Tables, Diagrams, Graphs;

– describes how the results are, unexpected or expected, with respect to the standards.

Elements of competency C1
Prepare the subjective quality tests

Performance criteria
- Choose the test panel;
- choose the quality parameters being judged;
- prepare the questionnaire.

Elements of competency C2
Choose the test images to be used

Performance criteria
- Choose the test images with respect to the standards;
- prepare the correct visual test environment, lighting, the test images, and the background.

Elements of competency C3
Perform the quality test

Performance criteria
- Prepare the time schedule for each member of the test panel;
- perform the test.

Unit D – Evaluate the print quality

Knowledge requirement

- Basic knowledge:
  printing process (Screening, CtP, Different print presses), colour (General aspects, Colour systems, Profiling, CMS, ICC profile), human colour vision, different scaling methods, different types of image comparison, making a questionnaire.
- Basic quality factors:
  colour gamut, sharpness, contrast, colour difference E, gloss, mottle, miss-registration, resolution.
- Measurement Equipments:
  densitometer, spectrophotometer
- Using the standards:
  the ISO and other national and international standard values.
- Basic knowledge in statistics:
  mean value, correlation, standard deviation, statistical diagrams.

Range statement

- Published documents on print quality factors;
- standard images (for instance ISO) that are aimed for different purposes;
- densitometer, Spectrophotometer, Gloss meter, Contrast meter, software for measuring the mottle;
- instruction book of the machinery being used;
- standard environment for measuring, e.g. standard light source, and background;
- basic book on Colour;
- computer;
- software for illustrations, for example the colour gamut illustrations;
- published materials;
- standard images (for instance ISO) that are aimed for different purposes;
- standard light sources;
- a book on statistics;
- software for statistical calculations;
- standard tables and diagrams for the evaluated parameters;
- published materials.

Performance evidence

A document that includes:

- the results of the subjective and objective tests;
- comparison between the measurements and the visual tests;
- conclusions;
- recommendations.

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Elements of competency D1

Apply statistical tools

Performance criteria
- Choose the statistical tools with respect to the quality parameter;
- apply the tools using the data from Units A and B.

Elements of competency D2

Compare the test results

Performance criteria
- interpret the test results with respect to the calculated statistical values or diagrams;
- summarize the interpretations, for example a correlation factor less than 0.5 indicates for almost no correlation;
- for instance, the correlation factor can be used to compare the result of objective and subjective tests.

Elements of competency D3

Produce print quality conclusions and recommendations

Performance criteria
- conclude the results from the measurements and visual tests considering the statistical tools being used and with respect to the standard values for each quality parameter.

Sector: Silk-screen printing

Pre-print process for silk-screen printing

The production process diagram:

Analysis of the document to be silk-screened

Plain ink image

Semitone image

Image with semitones + Plain inks

Pre-print specifications

Image resolution (definition)

Colour separation

Process of obtaining stencils

Digital processes
(Filming with and without RIP)

Manual processes,
Reprographic & photographic

Photo-mechanics photoliths

Reprography – Photography

Heat-transfer photoliths

Trimming films, felt pens, &
photopaque paints. Grease
pencils etc.

INKJET photoliths

Quality control

Mounting & register

Computer to Screen

To screen

Preliminary requirements

- Knowing how to use image-processing software (Photoshop);
- knowing how to use vectorial software (Freehand, Ilustrator);
- knowing how colour is produced (additive synthesis, subtractive synthesis);
- notions of the basic processes in photography;
- a flair for technical drawing and basic manual drawing;
- a flair for computer drawing.

Unit B – Analysing and assessing the document

Knowledge requirement

- Analysis of the image;
- knowledge of different substrates, their possibilities and limits, as well as their characteristics;
- choice of colour separation procedure (digital and/or manual procedures);

Range statement (Where and what with)

- Preprint workshop;
- light table;
- magnifier or thread count;
- lines per inch, screen angle and resolution reference calculator.

Performance evidence

- Analysing from three to four types of different images and proposing the most appropriate solutions;
- process detail depending on the type of document that is to be assessed;
- image and screen resolution parameters that you will be using, as well as the lines per inch and the reason for all this.

Element of competency B1

Analysing the type of image and colour separation.

Performance criteria
- Defining whether the image will be reproduced as plain ink or by using line-screens or by combining both methods;
- listing the colour layers that the selected method will require.

Element of competency B2

Selecting the substrate

Performance criteria
- Advising the customer about the appropriate substrate depending on their requirements;
- adapting the pre-print to the characteristics of the selected substrate.

Element of competency B3

Establishing values that match the quality requirements for the printed image

Performance criteria
- Calculating the screen ruling by bearing in mind the maximum limits regarding the number of threads per centimetre for the silk-screen mesh;
- calculating the image resolution required for stencilling;
- deciding on the characteristics of the mesh to be used depending on the substrate and the type of silk-screen printing.

Unit C – Digitalising the document and processing the image

Knowledge requirement

- Digitalising the document with the right parameters;
- mastery of the treatment of colour and tone density;
- mastery of the colour profiles and of handling them;
- the specific image processing characteristics depending on the selected substrate.

Range statement (Where and what with)

- Infography workshop;
- professional computer for graphics;
- professional scanner;
- original viewer; with a grey neutral background and light for slides.

Performance evidence

- Digitalising from three to four types of different images depending on the established requirements;
- a CD with a rough digitalised version of the documents, and a copy of each one after the image has been processed;
- detail of the process depending on the type of document that is to be digitalised;
- detail of the image treatment process proposed in each case.

Element of competency C1

Digitalising the document

Performance criteria

- Defining the digitalisation resolution and the enlargement percentage (depending on the maximum optical resolution of the scanner);
- calculating the size and output resolution of the document depending on the limits of the scanner and the size and final resolution of the image;
- deciding what corrections will be made in the digitalisation process;
- defining the digitalisation colour profile.

Element of competency C2

Processing the image

Performance criteria

- Defining the colour profile that the image needs to be provided with;
- changing the colour profile parameters if necessary;
- allocating the required dot gain in accordance with the absorption capacity of the substrate;
- correcting the tonality and contrast as required depending on the basic colour of the substrate by bearing in mind how this influences the final result.

Unit D Obtaining the stencil. (option b)

Knowledge requirement

- Mastery of digital colour separation procedures:

    o mastering the PREFLIGHT process;
    o separating colours and line-screening: RIP; image processing software;
    o obtaining stencils by various methods;
    o photo-mechanics;
    o IKJET printing;
    o heat transfer;
    o obtaining images directly on the mesh: Computer to Screen.

- Mastery of photographic and reprographic colour separation procedures:

    o knowledge of various kinds of sensitive film;
    o mastery of enlargement/reduction parameters;
    o use of colour-distinguishing filters;
    o use of angled line-screens;
    o developing systems.

- Mastery of manual colour separation procedures:

    o basic manual and technical drawing skills;
    o usefulness of a variety of substrates for stencils;
    o use of painting and drawing tools and opaquers;
    o making and/or placing the colour separation register crosses.

- Checking the quality of stencils.
- Mounting and retouching stencils.

Range statement

- Infography, photo-mechanics, & mounting workshop and laboratory;
- professional computer with a screen that is suitable for graphics;
- RIP Software;
- image processing software;
- filmer;
- professional INKJET printer to obtain stencils;
- heat-transfer printer;
- computer to screen filmers;
- photography enlarger;
- reprographic camera;
- sensitive films;
- line-screens with different lines per inch and screen angles;
- trays;
- liquids for photographic processes;
- substrates for stencils: Polyester, Acetate, masking film, etc.;
- drawing instruments: Brushes, Drawing pens, trimming tools, metal rulers, set squares, etc.;
- opaquers: Photographic opaque, Indian ink, grease pencils, etc. ;
- drawing board;
- light table;
- magnifier or thread count;
- densitometer;

Performance evidence

- From three to four types of different images will be proposed with which stencils can be obtained;
- presenting a stencil for each type of method used to obtain stencils;
- writing down in detail which type of separation of colours has been carried out and the screen ruling, screen angle and resolution values that have been allocated and why;
- checking the quality of the stencils and showing that they are correct.

Element of competency D1

Separating colours in the RIP

Performance criteria
- Defining the separation of colours;
- defining the filming resolution;
- defining the screen ruling and screen angle for semitone images;
- defining the shape of the line-screen for semitone images;
- deciding on the type of cutting lines, register marks and the separation names and activating them;
- filming order for the selected process: photo-mechanics, INKJET, heat-transfer, direct to screen.

Element of competency D2

Separating colours using image-processing software (if RIP software is not available)

Performance criteria
- Deciding on the type of cutting lines, register markings and the separation names and placing them in the document to be filmed;
- separating colours and turning them into independent documents;
- line-screening each colour with the right angle frequency, screen ruling and dot shape values for semitone images;
- filming order for the selected process: Photo-mechanics, INJEKT, Heat-transfer, Direct to screen;

Element of competency D3

Obtaining stencils using photographic and reprographic methods

Performance criteria
- Selecting the type of sensitive film;
- calculating the enlargement/reduction factor that is required;
- deciding on the contrast option (program) for the reprographic camera;
- separating colours in the reprographic camera (and line-screening for semitone images);
- producing enlargements from negatives with a photography enlarger;
- processing the sensitive film.

Element of competency D4

Obtaining stencils manually.

Performance criteria
- Selecting the right substrate for each kind of stencil;
- separating colours manually using drawing and painting tools;
- making or placing register markings on each colour separation.

Element of competency D5

Checking the quality of the stencil

Performance criteria

- Making a preliminary assessment of the quality of the stencil with the help of a magnifier or a thread count;
- checking that the density of the spot is correct using a densitometer;
- checking the screen ruling with a *reference line-screen*;
- checking the dot shape with the thread count;
- mounting the colour separations for:
  - checking whether the register is correct;
  - the moiré.

Sector : Infographics (Visuals) for press
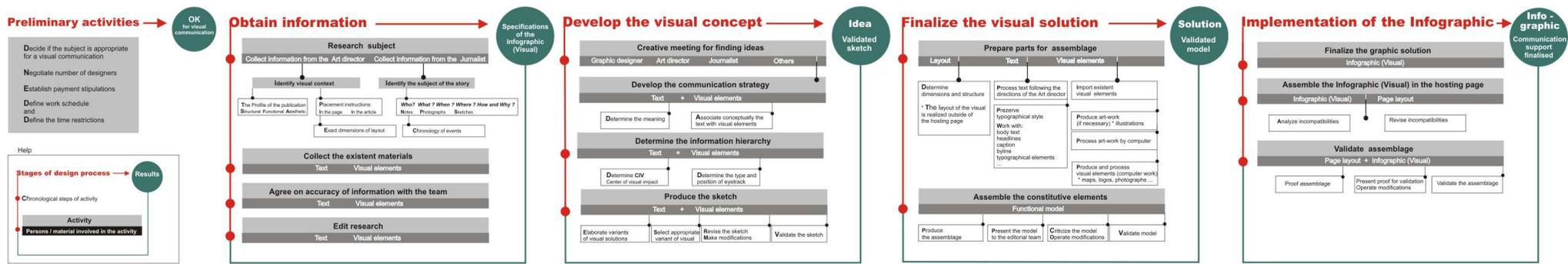
Produce Infographics (Visuals) for the pages of a newspaper

The production process diagram:

Infographics (Visuals) for the press

Types of Infographics (Visuals) produced by graphic designers

	graphs and charts	logos	maps	diagrams
	Line Graphs Bar charts Pie Charts Pictographs			Simple (text and image) Mixed (text , image, other types of Infographics)
Type of communication for the journalistic subject	*How much ?* Statistics / Quantitative comparisons / Percentage	*Who ?* Identity / Reading orientation	*Where ?* Localisation / Orientation	*Who? What ? When ? Where ? How and Why ?* Clarification / Explanation / Demonstration

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Preliminary activities → **OK** for visual communication

Decide if the subject is appropriate. for a visual communication

Negotiate number of designers

Establish payment stipulations

Define work schedule and
Define the time restrictions

Help

Stages of design process → **Results**

Chronological steps of activity

Activity

Persons / material involved in the activity

Obtain information → **Specifications of the Infographic (Visual)**

Research subject
Collect information from the Art director   Collect information from the Journalist

Identify visual context
The Profile of the publication Structural Functional Aesthetic
Placement instructions In the page   In the article
Exact dimensions of layout

Identify the subject of the story
Who? What ? When ? Where ? How and Why ?
Notes   Photographs   Sketches
Chronology of events

Collect the existent materials
Text   Visual elements

Agree on accuracy of information with the team
Text   Visual elements

Edit research
Text   Visual elements

Develop the visual concept → **Idea** Validated sketch

Creative meeting for finding ideas
Graphic designer   Art director   Journalist   Others

Develop the communication strategy
Text   +   Visual elements
Determine the meaning   Associate conceptually the text with visual elements

Determine the information hierarchy
Text   +   Visual elements
Determine CIV Center of visual impact   Determine the type and position of eyetrack

Produce the sketch
Text   +   Visual elements
Elaborate variants of visual solutions   Select appropriate variant of visual   Revise the sketch Make modifications   Validate the sketch

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Finalize the visual solution → **Solution** Validated model

Prepare parts for assemblage
Layout   Text   Visual elements
Determine dimensions and structure
* The layout of the visual is realized outside of the hosting page
Process text following the directions of the Art director
Prezerve typographical style
Work with: body text headlines caption byline typographical elements
Import existent visual elements
Produce art-work (if necessary) * illustrations
Process art-work by computer
Produce and process visual elements (computer work) * maps, logos, photographs ...

Assemble the constitutive elements
Functional model
Produce the assemblage   Present the model to the editorial team   Criticize the model Operate modifications   Validate model

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Implementation of the Infographic → **Info - graphic** Communication support finalised

Finalize the graphic solution
Infographic (Visual)

Assemble the Infographic (Visual) in the hosting page
Infographic (Visual)   Page layout
Analyze incompatibilities   Revise incompatibilities

Validate assemblage
Page layout + Infographic (Visual)
Proof assemblage   Present proof for validation Operate modifications   Validate the assemblage

Related skills and abilities

Skills

Visual thinking – A mental process of creating and processing the information in terms of visual data (images) rather than in terms of words, in order to produce high impact messages (in press, graphic design, advertising, etc.).
(compiled after Eric K. Meyer)

Critical thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
Judgement and decision making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.
Complex problem solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Active learning — Understanding the implications of new information for both current and future problem-solving and decision-making.
Active listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Time management – Managing one's own time and the time of others.

Coordination — Adjusting actions in relation to others' actions.
Management of the interpersonal relations — Have a high level of social interaction with supervisors, customers and creative staff. Deal with clients in order to meet client needs and expectations. Manage conflictual situations.
Negotiation — Bringing others together and trying to reconcile differences.

Writing — Communicating effectively in writing as appropriate for the needs of the audience.

Reading comprehension — Understanding written sentences and paragraphs in work related documents.

Abilities

Memorization — The ability to remember information such as words, numbers, pictures, and procedures.
Fluency of ideas — The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).

Oral comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.
Speech clarity — The ability to speak clearly so others can understand you.
Written comprehension — The ability to read and understand information and ideas presented in writing.

Mathematical reasoning — The ability to choose the right mathematical methods or formulas to solve a problem.

Perceptual speed — The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. This ability also includes comparing a presented object with a remembered object.

Visual (/color) discrimination — The ability to match or detect differences between colors, including shades of color and brightness.

Information ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Speed of closure — The ability to quickly make sense of, combine, and organize information into meaningful patterns.

Category flexibility — The ability to generate or use different sets of rules for combining or grouping things in different ways.

Originality — The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.

Reference : Occupational Information Network, O-Net on-line, Details Report for: 27-1024.00 – Graphic Designers – http://online.onetcenter.org

Prerequisites

IT: use of personal computers; basic knowledge of programs within computer-aided-design area.

Communications and media: the characteristics of the journalistic visual message; basic visual culture.

Theory of Infographics (Visuals): categorization and specific use of each main category, component parts.

Graphic design: basic knowledge of graphic design principles (composition, layout, typography, use of colors) and graphic design production processes (work with specific materials and software, stages of production – preparation, implementation, final proofing and delivery) ; related drawing abilities.

Production and processing: knowledge of materials, quality control, costs.

Mathematics, Chemistry and Physics: basic knowledge (statistics, computing, natural and industrial processes).

Humanities: mother and foreign language good command (especially grammar);

Personnel and work relationships: knowledge about the editorial team (members and hierarchy, work relationships and their management).

Unit B – Produce a sketch of the Infographic (Visual)

Knowledge requirements and comprehension

- Extent of possible development for the Infographics (Visual), according to received information;
- main stages to follow for information refinement in order to express the idea;
- strategic design methods for the visual communication: visual vividness, hierarchical organization, visual data metaphor, simplicity of the metaphor.

Range statements

- Newspaper redaction office or by video-conference, e-mail;
- office software, office equipments and materials (marker pens, layout pads, paper).

Performance evidence

Practical work, two notes (work descriptions) and three annotated drawings, demonstrating:

- the exploration in a synthetic manner of possible paths to follow for visual communication;
- revision of the variants, removal of non-essential information, building of a conceptual version;
- appropriate choice of the focus point in the Infographics (Visual);
- appropriate hierarchic information organization according to the established eye track;
- accomplishment of the validated sketch.

Element of competency B1

Develop the communication strategy

Performance Criteria
- convey (embody) the information in specific elements (text and image) which are in agreement with visual communication principles;
- choose optimal version for visual communication;
- build and improve the chosen version using conceptual design strategies.

Element of competency B2

Define the information hierarchy

Performance Criteria
- Interpret the information to obtain the appropriate communicational segments;
- make a sketch to express visual information emphasising the reading pathway;
- establish the center of visual impact and determine the visual hierarchy based on processed information
- enhance visual attractiveness by suggestive synthetic images;
- simplify the central image in order to support fast information assimilation and decodification.

Element of competency B3

Produce the sketch

Performance Criteria
- Produce variants of composition using constitutive elements;
- evaluate the solution found so far;
- deliberate with the editorial team to choose the best variant which complies with the characteristics of the message;
- record comments and amendments required by the journalist and art director;
- check conformity of the sketch against the specifications for the chosen visual communication version;
- validate the sketch.

Unit C – Finalize the visual solution

Knowledge requirements and comprehension

- Preparation requirements for producing the final visual solution;
- the strategy of organising the concomitant production of component parts;
- typography related issues;
- print quality issues in newspaper production;
- colour aesthetics and semiotics;
- how to balance the overall elements in respect of enhancing visual communication;
- the use of materials and specific computer software;
- the management of material resources.

Range statements

- Newspaper redaction office or by video-conference, e-mail;
- image processing, layout and graphic design software, office software, marker pens, layout pads, paper;
- digital cameras, scanners, printers.

Performance evidence

Three samples of practical work in the final stage and their corresponding records (work description) demonstrating:

- Correct choice of processes, materials and techniques in respect of aesthetic and communicational requirements generated by the journalistic subject;
- the selection of the most efficient solution in compliance with the time requirements set by the schedule;
- capability to convey the idea into the final solution conforming to information hierarchy given by the journalistic message.

Element of competency C1

Prepare parts for assemblage

Performance criteria
- Plan and prepare for production of final work;
- produce the text elements of the Infographics visual in agreement with visual communication requirements, aesthetics and other prescriptions;
- review the visual elements and create their digital equivalent by use of suitable computer programmes;
- enhance the appearance of the digital images according to prescriptions.

Element of competency C2

Assemble constitutive elements

Performance criteria
- Collect the elements;
- assemble the constitutive elements (text, image) observing dimensional and aesthetic compatibility in respect of chosen variant;
- validate the digital work in actual stage both in terms of information accuracy and message attraction, penetration.

Unit D – Implement the Infographic (Visual)

Knowledge requirements and comprehension

- Criteria for evaluating the final work and a strategy for the evaluation;
- criteria for proper placement and compatibility of the Infographics (Visual) in the context of the newspaper page;
- fine-tuning (amending, adapting) of the Infographics (Visual) in terms of agreement with the prescriptions for the newspaper page organisation;
- relevance of print quality issues in the context of the newspaper;
- print quality rules, recommendations, procedures and corresponding use of programmes and equipment;
- colour proofing systems, procedures and techniques;
- use of specific graphic design software;
- computerized production workflow, colour workflow and file formats for information transfer.

Performance evidence

Practical work (at least three finalized Infographics), records of work, demonstrating:

- appropriate, accurate, relevant visual interpretation of the journalistic subject;
- use of the most appropriate visual communication methods, in accordance with the chosen type of Infographics (Visual);
- correct choice of implementation methods (use of appropriate tools and programs);
- understanding of the specifications and requirements defining the implemented product.

Range statements

- Newspaper redaction office;
- image processing, layout and graphic design software;
- digital cameras, printers;
- matchprint – four colour process proofing system.

Element of competency D1

Finalize and assemble on the final page

Performance criteria
- Investigate the compatibility of the Infographics (Visual) with the final context (newspaper page) in terms of position, hierarchy, dimension, colour code, screen tint, print production issues;
- operate necessary adjustments imposed by the compatibility analysis;
- present the final graphic solution to the editorial team.

Element of competency D2

Print quality management

Performance criteria
- Correctly apply appropriate procedures, recommendations and rules for print quality, in agreement with the specific of the publication (eg. colour / black and white, type of paper, printing process requirements);
- identify, address and solve (possible) causes of print quality problems;

Element of competency D.3

Produce the final proof

Performance criteria
- Produce the proof of the Infographics (Visual);
- analyze the proof, identify and solve proofing problems;
- present the proof to the team for final validation;
- revise the work to address required modifications;
- make a file for the next production stage (page layout), in agreement with the established requirements.