

# ICT competences



## Collaborative Learning in Information Communication Tehnologies- CLICT



# ICT competences

## Dimensions around which student ICT skills are organized

*The questionnaire items are grouped into three dimensions around which we have defined digital literacy skills of students in Primary and Secondary Education areas.*

### AREA 1: Basic knowledge of information and communication technologies

Integrated by two COMPETENCES

COMPETENCE 1: KNOWLEDGE ABOUT THE COMPUTER AND ITS PERIPHERALS

COMPETENCE 2: OPERATING SYSTEM AND SOFTWARE KNOWLEDGE

### AREA 2: Basic knowledge on the treatment of information programmes

*Dealing with “Basic competences of the use of basic programmes addressed to information treatment” includes information on how to prepare students for text EDITION, managing databases and spreadsheets, multimedia materials development and web design and other cross-cutting activities related to the format conversion, automation of the process and information processing.*

Integrated by 5 COMPETENCES:

COMPETENCE 1: TEXT EDITION

COMPETENCE 2: DATA MANAGEMENT

COMPETENCE 3 : SPREADSHEETS MANAGEMENT

COMPETENCE 4: MULTIMEDIA MATERIAL MANAGEMENT

COMPETENCE 5: CREATING WEB PAGES

### AREA 3: WORKING ON LINE

*Preparing students to surf the Internet, manage information and do collaborative work*

Integrated by 3 COMPETENCES:

COMPETENCE 1: SURFING THE INTERNET

COMPETENCE 2: SEARCHING AND INFORMATION MANAGEMENT

COMPETENCE 3: COMMUNICATION AND COLLABORATIVE TASKS



## ÁREA 1: BASIC KNOWLEDGE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

### COMPETENCE 1 : KNOWLEDGE ABOUT COMPUTER AND ITS PERIPHERALS

- ◆ Understanding basic operations on computers / peripherals
- ◆ Connecting the basic peripheral equipment to computer
- ◆ Connecting peripheral audio / video to computers
- ◆ Handling keyboard / functions

### COMPETENCE 2: OPERATING SYSTEMS AND SOFTWARE KNOWLEDGE

- ◆ Setting up programmes/tools/operating systems
- ◆ Installing/ uninstalling programs
- ◆ Using scientific calculators from the Operating System to solve problems
- ◆ Learning about the tools from the Operating System to share network resources
- ◆ Understanding the compatibility issues between hardware and software

## ÁREA 2: BASIC KNOWLEDGE ON INFORMATION PROCESSING PROGRAMMES

### COMPETENCE 1 : TEXT EDITION

- ◆ Creating digital texts (basic)
- ◆ Applying digital text format
- ◆ Creating digital texts with graphic elements (advanced)
- ◆ Using a spell checker to review my work

### COMPETENCE 2: DATABASE MANAGEMENT

- ◆ Consulting database (Basic)
- ◆ Creating and Modifying databases
- ◆ Incorporating forms, macros, reports in a database (Advanced)



### COMPETENCE 3: SPREADSHEETS MANAGEMENT

- ◆ Creating and editing spreadsheets using basic functions (basic)
- ◆ Using formatting features and pivot tables in a spreadsheet (advanced)
- ◆ Using complex formulas and functions in a spreadsheet (advanced)

### COMPETENCE 4: CREATING MULTIMEDIA MATERIALS

- ◆ Creating graphics with software and its respective tools (basic )
- ◆ Creating images and graphics with specific programmes (basic)
- ◆ Editing/ Modifying images with graphic design programs (Advanced)
- ◆ Creating multimedia presentations including images, text, audio, graphics, etc.
- ◆ Identifying styles in a presentation
- ◆ Creating audio clip (basic)
- ◆ Converting files (formats)
- ◆ Knowing when to automate frequently used processes (macros, formulas ..)

### COMPETENCE 5: WEB DESIGN

- ◆ Designing web pages with text and pictures (basic)
- ◆ Designing web pages with links and documents

## AREA 3: WORK ON LINE

### COMPETENCE 1: SURFING THE INTERNET

- ◆ Surfing the Internet with various browsers (basic)
- ◆ Surfing the Internet through links or hyperlinks (basic)
- ◆ Downloading Internet programmes, images, audio clips, etc. (advanced)



- ◆ Using online help manuals.
- ◆ Organizing information gathered from the Internet, add / classify markers (advanced)
- ◆ Transferring files to another computer by FTP

#### COMPETENCE 2: SEARCH AND INFORMATION MANAGEMENT

- ◆ Using different Internet search engines (basic)
- ◆ Using advanced search options in the Internet (advanced)
- ◆ Assessing the authorship and reliability of information found on the Internet.
- ◆ Evaluation of the effectiveness using information sources to improve quality of class work.
- ◆ Performing different searches in database network
- ◆ Access, search and retrieve information in different formats
- ◆ Organizing, analyzing and synthesizing information using tables, graphs and diagrams.
- ◆ Organizing information with databases, spreadsheets or similar programmes.
- ◆ Using graphic organizers to present relationships: conceptual maps, diagrammes.
- ◆ Using ICT to investigate, explore, interpret information, solve problems
- ◆ Explaining the advantages and limitations of computer to storage, organizing ... Information

#### COMPETENCE 3: COMUNICATION and COLABORATION

- ◆ Using collaborative software
- ◆ Coordinating group activities conducted on the Internet
- ◆ Participating in IP videoconference
- ◆ Communicating with others through major Internet communication tools
- ◆ Programme knowledge to share information on the net
- ◆ Judging and making suggestions for the improvement of others' multimedia productions.
- ◆ Using tools and resources to manage and communicate information.



# Questionnaire of Secondary

**AREA1:** Basic knowledge of information and communication technologies

This consists of two COMPETENCES:

COMPETENCE 1: KNOWLEDGE OF COMPUTERS AND PERIPHERALS

COMPETENCE 2: OPERATING SYSTEM AND SOFTWARE KNOWLEDGE

## COMPETENCE 1: KNOWLEDGE OF COMPUTERS AND PERIPHERALS

1. Have basic knowledge about the functioning of a computer and its peripherals .
2. Know how to connect a computer and its peripherals usual: printer, scanner, etc.. .
3. Know how to connect audio equipment, video cameras and digital photos to computers .

## COMPETENCE 2: OPERATING SYSTEM AND SOFTWARE KNOWLEDGE

1. They are able to install and uninstall software on a computer
2. They Know software for sharing information on the web.
3. They understand the problems of compatibility between hardware and software
4. They know the tools that has the operating system for sharing resources in the classroom (folders, drives, peripherals, etc.)..
5. They are able to understand the problems of compatibility between hardware and software
6. They know how to change a file format (convert a file from one type to another).
7. They can use software that includes tools to handle images and graphics
8. They know how to create an audio clip with some software .

## AREA 2: BASIS KNOLEDGE ABOUT TREATMENT INFORMATION PROGRAMMES

- C : EDICCIÓN DE TEXTO
1. They know how to use Properly shortcuts to get alphanumeric and punctuation marks from the keyboard
  2. They are able to make a written document with a word processor (Word, OpenOffice Writer, Abiword, etc.)
  3. They are able to make a written document with a word processor (Word, OpenOffice Writer, Abiword, etc.) Using the same advanced techniques for: header to change the font type and size, to bold, underline, etc.
  4. They are able to make a written document with a word processor (Word, OpenOffice Writer, Abiword, etc.), Using the possibilities that will insert tables, graphics or text documents.
  5. They are able to use spell checkers in word processors for editing and review own work
  6. Know how to use graphic organizers such as concept maps, diagrams and layouts for presenting the relationship between ideas or concepts
  7. Feel competent to recognize where is necessary to develop sets of instructions and automate frequently used by macros, control procedures, use of formules, etc
  8. They feel competent to recognize where it is desirable to develop sets of intructions and automete frequently used by macros, control procedures, use of formules etc
  9. They arte able to explain the advantages and limitations of computers to store, organize, retrieve and select information .
  10. They are able to search and retrieve information using different forms of accessibility and formats (CD-ROM, DVD, video, etc).

- C : MANEJO DE DATOS
1. They know how to design, create and modify databases with a computer program (Access, data-base, Knoda, MeSQL, etc.), For specific purposes, which required forms, reports related to a table, create macros associated with form controls , etc. (Ie, at a high
  2. They are able to organize information, using tools such as databases or similar programmes
  3. They can search information on different bibliographic databases available on line



SPREADSHEETS

1. They know how to design, create and edit spreadsheets with some software (Excel, Calc, Gnumeric, etc.) Specific purposes, using its basic functions like sum, product, or average.
2. Know how to design, create and edit spreadsheets with some software (Excel, Calc, Gnumeric, etc.) For specific purposes, using features such as formatting tables, insert and hide rows, making pivot tables, etc.

MULTIMEDIA M.

1. They know how to create a multimedia presentation by any program, including static images, text, audio clips, video clips, graphics, etc.
2. They are deemed competent to judge and make contributions to improve multimedia productions, made by their peers .
3. They can evaluate the effectiveness of the uses that they and their peers, make of the sources of Information and ICT tools to improve the quality of class work .

C: WEBSITE

1. They can design web pages using a computer program, including links to various documents or to other types of files

AREA 3: WORK ON LINE

INTERNET

1. Are able to use different Internet search engines (Google, Yahoo, etc.)..
2. They are able to use the advanced search options in various Internet search engines (Google, Yahoo, etc..) To refine the search for information.
3. They can organize information from the Internet, adding pages that interest me to favorites, and classify them into subfolders under some sort
4. Know how to use online help manuals
5. They are able to assess the authorship and reliability of information found on the Internet, ie to assess the relevance of the information found on the Internet.
6. They can coordinate a group activity conducted online, such as an electronic forum.
7. They are able to download Internet software, images, audio clips etc.
8. Surf the Internet with different browsers Explorer, Netscape, Mozilla, Opera (Prop.), etc. Internet surfing through the various links and hyperlinks that provide web pages that are visiting .

SEARCH INFORMACIÓN MANAG.

1. They are able to use ICT to investigate, explore, interpret information or solve problems in different subjects and contexts.
2. Feel competent to recognize where it is desirable to develop sets of instructions and self learning frequently used by macros, control procedures, using formulas etc.
3. They can explain the advantages and limitations of computers to store, organize, retrieve and select information.
4. They Know how to use tools and technology resources for managing and communicating personal information and / or professional
- 5.

C. COLABORACIÓN

1. They can communicate with others via email, chat, instant messaging, forums, distribution, etc., Ie through the usual communication tools of the Internet.
2. They are able to make video calls over IP (Netmeeting, Messenger, etc.) Via the Internet.
3. They can send files from one computer to another over the Internet via FTP
4. They are able to solve problems such as setting up email, configuring antivirus, defrag the hard drive, etc