

Course
Basic Computer Science
CMP-B101-2
Literacy



“Curiosity leads to many things—from listening through keyholes to discovering the Americas.”

José Maria Eça de Queiros

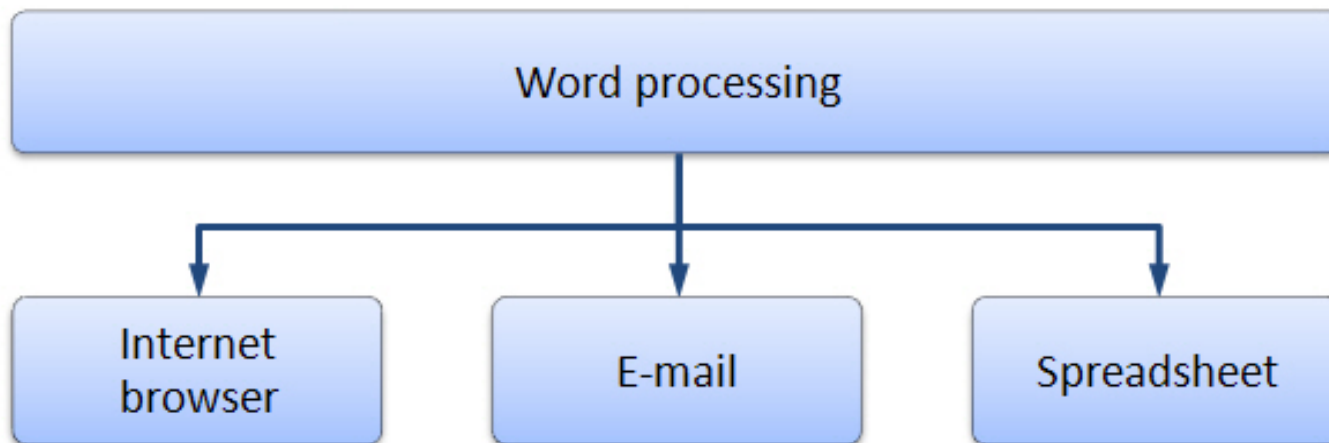
Presentation of the Course *Basic Computer Science*

The course *Basic Computer Science* is designed to help adult learners deal competently with real-life situations in which they must interact within a computer environment.

The course prepares adult learners to use common applications by exploring certain icons and commands from the principal menus, and by introducing them to the keyboard and mouse. In practice, the word processing application serves as a foundation from which adult learners can move on to discover other applications as they recognize that the most common icons and commands are shared

by all bundled applications. Generalization and transfer of knowledge are key concepts in the course.

During the course, adult learners associate the icons with the appropriate actions in the applications. They learn to use both the icons and certain commands that are common to the various software applications. As a result, they are able to use the word processing application, the Web browser and e-mail, and can also apply what they have learned to other common applications, such as spreadsheets, to support their learning of language and mathematics.



Dealing With the Real-Life Situations

Dealing effectively with real-life situations is based on actions. These actions are grouped into categories and make use of a set of resources that include operational competencies and essential knowledge. During the learning process, adults are expected to construct knowledge related to these resources in order to be able to deal appropriately with their real-life situations.

The class of situations, categories of actions, operational competencies and essential knowledge constitute the compulsory elements of the course. These elements are explained in detail under their respective headings.



Class of Situations Addressed by the Course

This course addresses a single class of situations: *Exposure to a computer environment*.

Adult learners will inevitably use computers in their everyday lives, sometimes for pleasure and sometimes because they are obliged to do so. In many real-life situations, they will be required to perform Internet searches, write short messages or make calculations.

Accordingly, they need to learn a certain number of basic functions, so that they are gradually able to develop their ability to use computers autonomously.

Class of Situations	Examples of Real-Life Situations
Exposure to a computer environment	<ul style="list-style-type: none">▪ Searching for images or information on the Internet▪ Exchanging e-mails with friends▪ Using courseware or drill-and-practice software as part of a course or a self-learning process▪ Using a word processor to transcribe a list▪ Using a word processor to write a short message▪ Creating a greeting card▪ Monitoring expenditures

Categories of Actions

The *categories of actions* are groups of actions that are appropriate for dealing with the real-life situations addressed in the course. *Examples of actions* are provided to illustrate the scope of the category in a variety of contexts.

Categories of Actions	Examples of Actions
▪ Exploring an application with the use of a mouse	▪ Surfs the Web ▪ Sends and receives e-mails ▪ Uses courseware or drill-and-practice software ▪ Uses a word processing application ▪ Uses a spreadsheet
▪ Keyboarding a document	▪ Transcribes a recipe ▪ Composes birthday greetings ▪ Writes an e-mail to a friend ▪ Enters and calculates daily expenditures

Compulsory Elements and End-of-Course Outcomes

The compulsory elements are those that the teacher must absolutely take into account when designing learning situations.

Class of Situations

Exposure to a computer environment

Categories of Actions

- Exploring an application with the use of a mouse
- Keyboarding a document

Operational Competencies

Acts methodically

- Checks his/her understanding of the steps in the task
- Carefully follows instructions
- Identifies the actions required (icons, commands)
- Evaluates the steps of the task completed

Essential Knowledge

- Recognizing the main components and peripherals of a microcomputer
- Glossary
- Using the mouse
- Using the keyboard
- Desktop elements
- How an application works

The end-of-course outcomes describe how adults make use of the compulsory elements to deal with the real-life situations addressed in the course.

End-of-Course Outcomes

In order to deal with situations in the class *Exposure to a computer environment*, adult learners learn a process that enables them to use a computer application, to enter a short document and to acquire practical knowledge of the terms, graphics and language resources that will be useful to them.

When using an application with the use of a mouse, adult learners first ensure that they understand the steps in the process, and follow the instructions carefully. They launch an application from the Desktop and activate the icons or commands required to complete the task successfully. When launching a Web browser, they use the address provided or open the *list of bookmarks* to display a specific site. They recognize hyperlinks and use them to navigate from one page to the next. They save pages of interest in the *list of bookmarks*, and print them, if necessary.

When using the keyboard to enter information, adult learners identify and perform the necessary actions. They enter, save and print short documents of several lines, based on their mastery of language and mathematics. Lastly, they evaluate the various steps in the task completed, with a view to improving their computer skills.

Evaluation Criteria

- Correctly explores an application using a mouse
- Correctly enters a short document using the keyboard

Operational Competencies

The contribution of each operational competency is described in terms of the actions that are appropriate for dealing with the real-life situations in this course. These operational competencies are addressed in other courses and therefore all the courses taken together contribute to their development.

In this course, only the following operational competency is addressed: *Acts methodically*.

Contribution of the Operational Competency *Acts methodically*

The operational competency *Acts methodically* helps adult learners to deal effectively with situations related to the class *Exposure to a computer environment*. It helps adult learners to make effective use of a common computer application.

Adult learners begin by ensuring that they understand the various steps in the task, such as entering, saving and printing a document. They launch and use the application, carefully following the instructions, and identify the actions required (icons and commands) to perform the task. The document production process includes formatting, revising, saving and, where necessary, printing. When evaluating the process, adult learners review the various steps of the task completed and identify avenues for improvement.

Essential Knowledge

The elements of essential knowledge shown in parentheses are provided as suggestions only.

Recognizing the main components and peripherals of a microcomputer

- Keyboard, mouse, central processing unit, CD-DVD drives, screen, printer

Glossary

- Icons:
 - Buttons and toolbars
 - Correspondence with menu commands
- Basic computer vocabulary:
 - Main components
 - Main actions (menus and commands)

Using the mouse

- Pointing, clicking, double-clicking
- Selecting and moving text

Using the keyboard

- Posture
- Lowercase, uppercase, accented letters, punctuation
- Deleting characters

Desktop elements

- Desktop menu and icons

Using an application

- Launching and quitting an application
- Saving and printing a document
- Opening an existing document
- Window elements
 - Toolbars and icons, title bars, menu bars and workspace
- Formatting a document
 - Character attributes (size, colour, bold and italic)
 - Inserting Clipart
- Word processing
 - Entering a short text
 - Applying a page layout
 - Automatic spell check while typing
- Internet browser
 - Elements: Address bars, favourites, home page
 - Browsing (hyperlink, previous page and next page)
- E-mail
 - Reading and answering mail
 - Sending a new message (recipient's address, subject, message)

Attitudes

The following attitudes are provided as suggestions only. The development of these attitudes can help adults become more competent in dealing with the real-life situations in this course.

Curiosity	Perseverance
<p>Curiosity encourages adults to try new experiences and review those that do not work, in order to progress on their own. The field of computer technology is in constant evolution, and adults who develop curiosity are more likely to update their skills, seek out new products and features, and explore specific aspects of the field. Often, curiosity drives adults to excel at what they do.</p>	<p>Adult learners who work hard understand that every person develops at his or her own pace, and that mistakes are an integral part of progress. Adults who are able to develop perseverance have the psychological resources required to progress and succeed in life.</p>

Complementary Resources

The following resources are provided as suggestions only and consist of references that may be consulted in learning situations.

Social Resource	Material Resources
<ul style="list-style-type: none">▪ Guest speaker who is an expert in a related field	<ul style="list-style-type: none">▪ Computer, printer▪ Operating system▪ Word processing application▪ Internet connection and browser▪ E-mail (software or Web application)▪ Digital projector▪ Reference books

Contribution of the Subject Areas

The contribution of other subject areas, in particular knowledge related to Languages and Mathematics, Science and Technology, is also useful for dealing with the real-life situations in this course. The elements identified for each subject area are not compulsory and do not constitute prerequisites.

Subject Area: Languages

Program of Study: *English, Language of Instruction*

Knowledge of the language of instruction contributes significantly to learners' capacity to use a computer to search for information, communicate with others, produce documents and collaborate on group projects. The content of the written messages that adult learners receive and produce depends on the language resources they have constructed, particularly their reading and writing skills with respect to the type of discourse concerned, and this is true whether the message is conveyed in print, handwriting or electronically. These skills are developed throughout all the courses in the English, Language of Instruction program. In addition to the language resources that are specific to the situation and the messages being conveyed, the capacity to use a computer for these purposes depends in particular upon:

- Oral interaction to obtain and give information and instructions (e.g. regarding steps and procedures to follow when using a computer)
- Decoding strategies (e.g. to interpret computer-specific terminology, symbols, icons, abbreviations)
- Reading to obtain information and instructions (e.g. help menus, pop-up messages, instruction manuals for computer software)

Subject Area: Mathematics, Science and Technology

Program of Study: *Mathematics*

Course: *Numeracy* (Basic Mathematics 1)

- Reading information containing numbers
- Writing information containing numbers
- Determining a number

Andragogical Context

Computers are now present in every sector of human activity, and it is essential for today's adult population to understand how they work and how they should be used. The courses in the *Computer Science* program develop the ability of adult learners to understand the computer environment, produce documents and search for, process and manipulate information. More specifically, the courses enable adult learners to identify similarities between different software applications and use this basic information to transfer their learning from one application to another.

The learning derived from the program is essential for helping adults integrate into the work force and function in their social and cultural environment and in their training activities, regardless of their level of schooling. The ability to use a computer is an advantage in their everyday lives and especially in their learning. Adult learners who own or have access to a computer will benefit from it on a daily basis.

Adult learners build on their prior knowledge through learning acquired by thinking, acting and interacting with the people around them, every time the learning context allows them to do so. Discovery and individual exercises are always available, but are used with the goal of building new knowledge or applying prior knowledge. Feedback allows adult learners to assess their own progress, take corrective action where necessary, and realize how their knowledge of computers can be applied in their everyday lives.

Learning is acquired gradually in this course. Adult learners begin by addressing general notions, which they enrich and apply in the classroom or laboratory through situational reconstructions and other appropriate activities. They may then be asked to apply their newly constructed knowledge to real-life situations.

If their learning is to be effective, it must be structured by means of an appropriate pedagogical method. Although pedagogical methods and techniques are specific to each training centre and adapted to the teacher's own aptitudes, they should nevertheless be alternated in order to diversify the learning conditions and provide adult learners with different ways of building their knowledge. This approach will also increase the learners' motivation and encourage them to work harder. It is therefore important to allow time for sharing knowledge, experiences and ideas. A broad range of learning activities will provide plausible topics through which adult learners are able to apply the concepts addressed in the course.

Learning Situation

The learning situation that follows is provided as an example to show teachers how the principles of the education reform can be applied in the classroom.

It is authentic in the sense that it addresses a real-life situation (taken from the class of situations in the course) that adults may find themselves in. It is sufficiently open and comprehensive to allow adult learners to explore several important aspects related to dealing with this real-life situation.

The examples of actions presented in the course help the teacher to identify those actions that an adult would take to deal with the real-life situation. The teacher can then refer to these examples in order to develop pertinent learning activities.

The learning situation is organized in terms of the three steps of the teaching-learning process, which are as follows:

- planning learning
- actual learning
- integrating and reinvesting learning

These steps highlight the principles of the education reform insofar as they encourage adults to be active, to reflect on their learning and to interact with their peers when the learning context is suitable. They include learning activities and may also include evaluation activities intended to support adults in the learning process.

These activities help learners to construct knowledge related to the compulsory elements of the course that are targeted by the learning situation concerned: one or more categories of actions, essential knowledge and the actions of the operational competencies associated with the categories of actions.

The example provided also refers to certain teaching strategies—pedagogical methods and techniques—that can be selected according to the learners, the context and the learning environment. Certain learning strategies may also be suggested, as well as a variety of material and social resources.

Example of a Learning Situation

My New Address Book

One of the real-life situations proposed for the *Basic Computer Science* course is to transcribe a list using a word processing application. The ensuing learning situation is similar, in that adults are asked to enter contact information in their e-mail application address book.

When preparing the learning situation, the teacher ensures that every adult learner has an e-mail address, and then obtains telephone directories, prepares a handwritten excerpt from an address book, and transcribes a version of the address book into his or her own e-mail application. Adult learners are asked to bring contact information for their own friends, relatives and acquaintances.

To give meaning to the learning, the teacher presents an excerpt from a handwritten address book with hastily scribbled addresses, some of which have been crossed out or erased. The teacher leads a short discussion on the relevance of using e-mail to enter, sort and store contact information. During the discussion, the teacher distributes a page from his or her address book. Using a digital projector, the teacher displays a computerized list of contacts containing names, Internet addresses, civic addresses and telephone numbers. The discussion leads to a question period on how to enter an address book into a file on the computer. The various steps in the activity are explained, and the teacher gives a short demonstration using the digital projector. Working individually, adult learners copy the example into their computers. The teacher ensures that everyone has understood what to do, and gives instructions for the learning situation.

The adult learners then enter addresses into their own e-mail applications. The addresses may be those of their friends and relatives, or from the page distributed by the teacher or from a telephone directory. The teacher walks around the classroom, providing guidance, reviewing the activity and proposing adjustments, where necessary. Although this is an individual task, adult learners who are more comfortable with it may help their classmates. The activity provides an opportunity to build knowledge on how to enter letters (lowercase, uppercase, accented characters) and numbers, and how to delete characters. The adult learners also learn or review the correct posture and keyboard skills.

To complete the learning situation, the teacher leads a final activity in which the group reviews the task. The teacher uses the handwritten address book as an example, and asks the adult learners to comment on their production. The group members discuss what they have learned, and the teacher points out that the task required them to act methodically. After a short summary of the various steps, the adult learners suggest situations in which they will be able to reinvest their learning (e.g. updating their address books, entering contact information in a letter, completing an on-line form, etc.).

Elements of the Course Addressed by the Learning Situation

Class of Situations	
Exposure to a computer environment	
Learning Situation	
My New Address Book	
Categories of Actions	
<ul style="list-style-type: none"> Exploring the functions of an application with the use of a mouse Keyboarding a document 	
Operational Competency	Essential Knowledge
<ul style="list-style-type: none"> Acts methodically 	<ul style="list-style-type: none"> Entering text using the keyboard <ul style="list-style-type: none"> Uppercase, highlighted letters, punctuation, numbers How an application works
Complementary Resources	
<ul style="list-style-type: none"> Computer, printer Internet browser E-mail 	<ul style="list-style-type: none"> Address book (belonging to the adult learner or teacher) Telephone directory

