

Course
Computer Network Communications
CMP-2101-1
Secondary Cycle One



“The nicest thoughts are the ones we share.”

Proverb

Presentation of the Course *Computer Network Communications*

The course *Computer Network Communications* is designed to help adult learners deal competently with communication situations requiring the use of computers.

The course introduces adult learners to different types of computer-based communication methods.

By the end of the course, adult learners will be able to communicate through a computer network, selecting and using appropriate tools with care for the situations they encounter. They will also be able to subscribe for services, send documents by e-mail, read and answer messages, manage their mail and list of contacts, and moderate a discussion forum or blog.

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: *Communicating by means of a computer*.

The Internet now plays a dominant role in everyday communications. Computer network communication skills are required constantly, for example to communicate with friends and acquaintances, debate subjects in the news and share information on specific subjects. If adult learners are to deal with real-life

situations such as exercising their rights and responsibilities or taking part in social or cultural activities, they need practical knowledge of computer communication methods, tools and conventions.

Class of Situations	Examples of Real-Life Situations
Communicating by means of a computer	<ul style="list-style-type: none">▪ Maintaining relationships with friends and acquaintances▪ Communicating for work or official purposes▪ Exercising rights and responsibilities▪ Taking part in cultural and social life▪ Obtaining assistance and support

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
<ul style="list-style-type: none"> ▪ Exchanging written or oral messages using a computer 	<ul style="list-style-type: none"> ▪ Uses e-mail to communicate with family or friends ▪ Creates a blog to share opinions or musical preferences ▪ Sends and receives e-mail to share an experience, exchange information, state an opinion, create a support network, etc. ▪ Takes part in discussion forums or on-line conferences on subjects of interest ▪ Posts a message or a comment to a forum or a blog ▪ Telecommutes by using an on-line conference or screen-sharing service ▪ Chats and collaborates with a coworker or a cultural community representative, etc.
<ul style="list-style-type: none"> ▪ Managing written or oral messages on a computer 	<ul style="list-style-type: none"> ▪ Deletes e-mails ▪ Adds a sender to a list of contacts ▪ Blocks an undesirable sender or participant ▪ Joins a mailing list or virtual community ▪ Moderates a discussion group or blog ▪ Places documents or a résumé in a digital portfolio

Compulsory Elements and End-of-Course Outcomes

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

Class of Situations

Communicating by means of a computer

Categories of Actions

- Exchanging written or oral messages
- Managing written or oral messages

Operational Competencies

Communicates

- Identifies explicit information and understands the meaning of the message
- Recognizes the codes intrinsic to the medium used by the sender
- Uses the communication codes intrinsic to the computer medium used
- Applies the rules of language
- Produces a clear and coherent message

Exercises critical and ethical judgment

- Considers the values conveyed in a message, based on the sociocultural context in which it was produced
- Separates fact from opinion
- Examines the credibility, relevance and source of the message
- Considers the relevance of starting or continuing an exchange
- Manages discussions and messages objectively
- Respects netiquette

Essential Knowledge

- Communication methods
- Communication conventions

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 *Communicating by means of a computer*, adult learners exchange written or oral messages on a computer, using the communication method that best suits their specific communication need. They manage the messages produced and received and, where necessary, they subscribe to services or use specific peripherals such as headsets, microphones and Web cameras.

When sending messages using a synchronous or asynchronous method, they make proper use of the functions required to send e-mails, articles or oral messages. They respect netiquette and apply the normal communication conventions of the support medium used. They apply rules of language in order to produce a clear and coherent message that is respectful of codes and values. When responding to a message they have received, they consider the relevance of beginning or continuing a discussion.

When receiving an oral or written message using a synchronous or asynchronous method, adult learners recognize the codes intrinsic to the medium used by the sender, and identify explicit information as well as the meaning of the message. They separate fact from opinion and examine the values conveyed by the message, based on the sociocultural context in which it was produced. When considering the values conveyed by the message, they examine the credibility, relevance and source of its content.

Adult learners who manage written or oral messages on a computer use objectivity, apply specific criteria when saving or deleting messages, and when maintaining a forum or blog. When interacting with others, they respect netiquette. As forum or blog administrators, they play the role of moderator, approving the topic and content of articles submitted for publication. As moderators and posters, they ensure that messages are relevant to the theme of the discussion and the conditions for use and values that are tolerated by participants.

Evaluation Criteria

- Engages in appropriate exchanges of relevant messages using a computer
- Manages written and oral messages on a computer in a responsible way

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 of the courses taken together contribute to their development.

In this course, only the following operational competencies are addressed: *Communicates* and *Exercises critical and ethical judgment*.

Contribution of the Operational Competency *Communicates*

The operational competency *Communicates* helps adult learners to deal effectively with situations related to the class *Communicating by means of a computer*. It enables them to interpret and produce messages in different contexts, adjusting their methods depending on whether they are sending or receiving the message.

Adult learners who receive a message through a computer network are able to recognize the codes intrinsic to the medium used by the sender, which helps to understand the meaning of the message. They identify explicit information and meaning. When sending a message, they use the communication conventions intrinsic to the specific computer medium used and apply the rules of language to produce a clear message suitable for the recipient.

Contribution of the Operational Competency *Exercises critical and ethical judgment*

The operational competency *Exercises critical and ethical judgment* helps adult learners to step back in order to assess the content of a message when *Communicating by means of a computer*.

Adult learners consider the values conveyed in a message, based on the sociocultural context in which it was produced. When sending and receiving messages, they separate fact from opinion, in order to make an informed judgment of the content of the message. They examine the credibility, relevance and source of the message. Adult learners who are responsible for managing discussions or messages are respectful of the right of others to express themselves, and are objective when deciding whether to save or delete messages. When responding to a message, they respect netiquette and others' right to speak and express their opinions, and consider the relevance of starting or continuing a discussion.

Essential Knowledge

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

Communication methods

- Synchronous exchanges
 - On-line conferences, chatting, shared applications
 - Chat room, whiteboard
- Use of audio and video peripherals
- Asynchronous exchanges
 - E-mail
 - Inbox, outbox, deleted messages
 - Recipient, subject, message, carbon copy (cc)
 - Contact management
 - Sending and receiving attachments
 - Discussion forums, electronic message boards, blogs, wikis
 - Subscribing to services
 - Sending, reading and responding to messages

Communication conventions

- Sender, receiver, message
- Writing standards
 - Compliance with rules of language
 - Conventions specific to the computer medium (chatting, forum)
- Respect for interlocutors
 - Netics
 - Netiquette
- Administering a forum or blog
 - Moderator's role (approving, posting)

Attitudes

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

Curiosity	Ability to Listen
<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>Listening means hearing what is not put into words. Adult learners who have the ability to listen absorb both what they hear and what they see. They ask well-thought-out questions and challenge their own ideas by connecting them to their prior experience and learning. They also give feedback, earning the trust and interest of their interlocutors. The ability to listen is demonstrated by an attitude of empathy rather than authority, and by a willingness to accept difference.</p>
Objectivity	
<p>Adult learners who are objective are able to set aside their partiality and prejudices. They base their judgment on reality or, where necessary, on neutral, credible information that can be verified. To be objective, adult learners must ensure that their judgment is not affected by personal considerations or outside factors.</p>	

Complementary Resources

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

Social Resources	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▪ Internet browser▪ Audio, video or audio-video peripherals▪ Digital projector▪ Reference books

Contribution of the Subject Areas

The contribution of other subject areas, in particular knowledge related to Languages, 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)

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, function in their social and cultural environment and in their education and 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 abilities, 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 adult 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

Let's Talk About It!

One of the real-life situations selected for the course *Computer Network Communications* involves the exercise of rights and responsibilities. In the related learning situation, adult learners create and moderate a blog on a specific problem encountered by the students at the training centre. The other adult learners at the centre are told about the blogs and are invited to share their ideas and views and make comments on the blog.

When preparing the learning situation, the teacher draws up a list of problems likely to interest the adult learners at the centre. Examples include student induction services, student life, the sense of belonging to the centre, cleanliness of premises, the cafeteria menu, the student coffee bar, extracurricular activities and so on. The teacher also identifies one or more free Web hosting services and creates his or her own blog for demonstration purposes.

To begin the learning situation, the teacher and group discuss life at the centre and any changes or improvements that could be made. The teacher then suggests extending the discussion to include all adult learners at the centre, by creating blogs for this purpose. Using the digital projector, the teacher presents his or her own blog and invites some of the adult learners to post messages in real time. While this is being done, the teacher explains how a blog is structured and how it works. Working individually, the adult learners then select their own blog topics, either from the teacher's list or based on their own personal interests.

Each adult learner subscribes to the on-line hosting service and defines the appearance of his or her blog site. Those whose learning is more advanced will be able to insert their own links, images and

polls. The teacher is therefore able to institute a peer learning process by grouping the adult learners together in pairs or triads to learn from one another. While they are doing this, the teacher provides guidance to individual learners or small groups. Where necessary, the teacher can review the process for inserting links, images and polls, and provides feedback on the configuration of each individual blog page.

Once this task is completed, the adult learners write a text introducing the discussion, applying the rules of language to produce a clear, coherent message. Before the blogs are launched, all the texts are finalized: they are read and commented upon by the group as a whole, using the digital projector, or by smaller groups. The official notice announcing that the blogs are on-line can be e-mailed to teachers, displayed on posters in the training centre, or advertised in the student newspaper.

In subsequent periods, the adult learners moderate their blogs, directing the discussion and examining the values conveyed. When answering questions and posting their own comments, they use the communication conventions intrinsic to the computer medium, follow netiquette and respect the opinions of others. Where necessary, they delete inappropriate messages and may, if they wish, block the author from using the site. In some cases they may wish to invite a resource person to contribute to the blog (centre director, adviser, teacher, outside resource, etc.).

At the end of the learning situation, the adult learners write a conclusion and close down the blog. Reunited as a group, they summarize the highlights, present user statistics for each blog,

discuss the interest generated by the blog and examine the quality of the contributions. Together, they review the process to identify potential improvements, and examine the importance of critical judgment and language quality to fully understand others and to be understood in a computer network or elsewhere.

Elements of the Course Addressed by the Learning Situation

Class of Situations	
Communicating by means of a computer	
Learning Situation	
Let's Talk About It!	
Categories of Actions	
<ul style="list-style-type: none"> ▪ Exchanging written messages using a computer ▪ Managing written messages on a computer 	
Operational Competencies	Essential Knowledge
<ul style="list-style-type: none"> ▪ Communicates ▪ Exercises critical and ethical judgment 	<ul style="list-style-type: none"> ▪ Communication method (asynchronous) ▪ Communication conventions (moderating a blog)
Complementary Resources	
<ul style="list-style-type: none"> ▪ Computer, printer ▪ Internet access 	<ul style="list-style-type: none"> ▪ Reference books



