

Course Profile

Introduction to Information Technology in Business

Grade 9 or 10
Open

• *for teachers by teachers*

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Unit #1: E-Business: Transforming Communities Using Information Technology

Time: 18.75 Hours

Unit Developer(s):

Toronto Catholic District School Board

Development Date: February, 1999

Unit Description

In this unit students will develop comprehension in several key areas of IT as they relate to electronic business and commerce. Students will learn key terminology, desktop and information management techniques and will demonstrate an understanding of computer architecture, system design and infrastructure. Students will be introduced to the Internet as a research tool. By exploring contemporary issues (e.g., ergonomics, health and safety, security) students will appreciate the impact that the electronic culture has on the quality of life and work.

Strands and Expectations

Ontario Catholic Graduate Expectations: CGE3C, 4A, 4B, 4C, 4F, 4G, 5B, 5E, 5G, 7A, 7B, 7F, 7I, 7J

Strand(s): Information Management; Electronic Communication; Electronic Research and Ethical Issues

Overall Expectations: IMV.01X, .02X, .03X, .04X; ECV.03X

Specific Expectations: IM1.01X, .02X, .03X; IM2.01X, .02X, .03X, .04X, .05X; IM3.01X, .02X, .03X, .04X, .05X; IM4.01X, .02X, .04X, .05X; EC2.03X, EC3.01X, EE2.01X

Activity Titles (Time and Sequence)

Activity 1	Introduction to the Classroom Workspace	75 minutes
Activity 2	Information Technology in Business	300 minutes
Activity 3	Accessing the World Wide Web	150 minutes
Activity 4	Hardware	225 minutes
Activity 5	System Software	150 minutes
Activity 6	Desktop and Information Management	225 minutes

Unit Planning Notes

- This unit requires that the teacher understands the computer infrastructure of the classroom, school and school board. In order to ensure that activities are authentic, the contents of this unit should be adapted to the hardware and operating system that are available locally.

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- The school Acceptable Use Policy will be introduced during this unit. The teacher will determine the most appropriate time (consider Activity 1, 3 or 4)

Prior Knowledge

No prior knowledge of business or computers is assumed.

Teaching/Learning Strategies

- This unit will provide students with opportunities to collect data and information and then examine them to generate conclusions.
- Teachers may want to use case studies and discovery activities in small group settings.
- It is suggested that presentation of analogies be used to help develop understanding of some of the hardware and software concepts (e.g. CPU is like the “brain” of the computer system). Students may be encouraged to extrapolate analogies of their own.
- It may be useful to provide students with a diagnostics survey to determine their initial skill level for the purpose of guiding further delivery of this course.
- Lab exercises will be used to support the objective of "learning by doing".

Assessment/Evaluation

Diagnostic

- Skills survey

Formative

- Technical Journal
- Terminology Quizzes
- Case Study Assignment
- Lab Exercises
- Observational Checklist

Summative

- Unit Test

Resources

Video

“Cybernation” - Programs 1-10; 30 minutes each. Series designed to introduce students to emerging technologies. TCDSB Professional Library

“Day of Reckoning” – 45 minutes. Program examines the future where computer will be our essential companion. TCDSB Professional Library

Activity #1: Introduction to the Classroom Workspace

Time: 75 minutes

Description

Using a guided introductory activity, students will explore the computers in the classroom. By having an opportunity to approach the computers and experiment with user-friendly software, students will

begin to develop a comfort level with the equipment in the room. In addition, interaction with other members of the class will provide them with an opportunity for community building within a collaborative Information Technology environment.

Strand(s) and Expectations

Ontario Catholic School Graduate Expectations

Students will:

- think reflectively and creatively to evaluate situations and solve problems
- demonstrate a confident and positive sense of self and respect for the dignity and welfare of others
- respect the environment and use resources wisely
- take initiative and demonstrate Christian leadership
- demonstrate flexibility and adaptability

Strands: Information Management, Electronic Communication

Overall Expectations

At the end of this course, students will:

- demonstrate an understanding of the information technology terms used in business (IMV.01X) ☞

Specific Expectations

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IM1.01X) ☞
- explain the concept of information technology (IM1.02X)
- demonstrate appropriate interpersonal skills when interacting with colleagues and peers in an information technology work environment (IM3.05X) ☞

Planning Notes

- It will be necessary for the teacher to determine what user-friendly software is available in the school and determine the quickest way for students to “login” and access the software.
- The glossary that students begin in this activity will later be converted to an electronic format.

Prior Knowledge Required

No prior knowledge is required.

Teaching /Learning Strategies

1. Organize students into small groups of 3 or 4. Explain to them that they will be doing an individual activity at the computers and then will be returning to their groups to review their answers with each other.
2. Distribute the question sheet (see Appendix V) to the students and reassure them that answers will be taken up at the end of the activity.
3. Have students run pre-loaded software. Encourage them to help each other with difficulties and give them enough time to explore the software and think about and take notes on the assigned questions. Observe students not only for skill level, but for general behaviour with equipment and with each other. Take special note of students' reactions to both hardware and software problems. After approximately 20 minutes have students join their group members to continue answering the questions.
4. Follow-up: Take up question sheets and have students begin to develop a glossary for the course. Provide some guidelines for format to make it convenient for students to continue to add to the glossary as the course progresses (see Appendix III). Use some of the information collected during this discussion to develop collaborative Class Guidelines. Use this information to make signs to post in the classroom. Students who are more familiar with the available software may be encouraged to make creative signs to post in the classroom.
5. Introduce the school's Acceptable Use Policy (AUP). Explain its key features and allow students to comment on its purpose. Emphasize that a policy such as this is in place not only to protect equipment and software, but to maintain security and privacy for all members of the networked community.

Assessment/Evaluation

Formative

- Individual Student Observation (IM3.05X)
- Small group observation (IM3.05X)
- Quiz (MIV.01X; IM1.01X)

Accommodations

- Students who have computer knowledge/experience can act as peer helpers to those who are less familiar with computers
- For further strategies see *Accommodations* in Unit Organization.

Resources

Manufacturers' hardware manuals

Department/school policies re: computer labs, re-cycling, general safety

Heide, Ann and Henderson, Dale. The Technological Classroom: A Blueprint for Success. Toronto: Irwin Publishing, 1994.

Appendices

See Appendices III and V

Activity #2: Information Technology in Business

Time: 300 minutes

Description

Students will develop an understanding of the contemporary work environment and how it has changed with the introduction of IT. The use of videotapes, follow-up class discussions and case studies will provide students with opportunities to enhance and reinforce learning.

Strand(s) and Expectations

Ontario Catholic School Graduate Expectations

Students will:

- think reflectively and creatively to evaluate new ideas in light of the common good
- demonstrate a confident and positive sense of self
- apply effective communication, decision-making, problem-solving, time and resource management skills
- think critically about the meaning and purpose of work

Strands: Information Management, Electronic Communication

Overall Expectations

At the end of this course, students will:

- demonstrate an understanding of the information technology terms used in business (IMV.01X)

Specific Expectations

Students will:

- describe ways in which changes in information technology have had a positive and/or negative impact on business, working conditions, and other aspects of people's lives (e.g., access to information, the global economy, violence, racial issues, harassment, employment) (EC3.L01X) ☞
- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IMI.01X) ☞
- explain the concept of information technology (IMI.02X) ☞
- explain information technology health and safety issues (e.g., musculoskeletal injuries, eye strain, radiation from monitors) (IM3.02X) ☞
- describe the importance of security systems (e.g., passwords, encryption, log-in) in stand alone, LAN, and WAN environments (IM3.04X)
- demonstrate understanding of the importance of managing an ergonomically correct work environment (IM3.01X) ☞
- demonstrate appropriate interpersonal skills when interacting with colleagues and peers in an information technology work environment (e.g., keeping passwords confidential, respecting privacy of information) (IM3.05X) ☞

Planning Notes

- Select a video or other resource to help illustrate the following concepts: e-business/e-commerce; information technology (IT); data vs. information; flow of information in business; process-oriented business; ergonomics.

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- Consider collaborating with your Student Services or Co-operative Education departments to organize a job-shadowing experience or “Take Your Child to Work Day”.
 - If appropriate consider moving Activity 4 #7 and #8 into this activity.

Prior Knowledge Required

No prior knowledge required.

Teaching /Learning Strategies

1. Show a video which presents the contemporary workplace. The use of a question sheet is recommended.
2. Follow up with a discussion or Socratic lesson to address the concepts and terms listed in planning notes.
3. With the class, develop a list of questions that could be asked of an individual who works in an IT environment. (This activity may be integrated with the students’ experiences from a “Take Your Child to Work Day” or job shadowing program). The questions should provide information about the flow of information, type of information, number of jobs, security systems, ergonomics, and the way tasks are performed. A discussion may ensue about the quality of life and the “Priority of Labour” principle.
4. Pair students to interview the individual and report back to the class using a “presentation tool” with which they are most comfortable (e.g., board display, handout, overhead). The teacher may videotape students’ presentations. This video will be used for comparative purposes at the end of the course to illustrate how IT tools have increased productivity.
5. Using a keyboarding tool (e.g., All the Right Type) demonstrate appropriate techniques for keyboarding and allow students time to practise. Next, discuss how ergonomics can impact on productivity and supports a positive working environment. Provide students with diagrams to reinforce technique and posture.
6. Build in practise time as a warm up activity during the remainder of this unit. Using the software tool of choice, show students how they can build on their skill level by selecting more challenging drills. Provide them with a checklist to monitor their skill level.

Assessment/Evaluation

Formative

- Interview Presentation (IMV.01X, IM1.01X, EC3.01X)
- Student Observation (IM3.01X, 05X)
- Checklist for Keyboarding Techniques (IM3.01X)
- Quiz (IMV.01X; IM1.01X, 02X,; IM3.02X; EC3.01X)

Accommodations

- Provide specific tutorials for those students who experience difficulty in developing their keyboarding skills
- A program such as “All the Right Type” may be used for self-paced learning

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- For further strategies see *Accommodations* in Unit Organization.

Resources

Video

“Venture: Technology and Change”; CBC
TCDSB Professional Library

Internet

BPW & ASSOCIATES - This site provides an overview of the major changes impacting businesses today including technological, global, socio-cultural and structural changes in the marketplace.
<http://www.strategis.ic.gc.ca/SSG/mi06363e.html>

Print

Labour Behind the Label Coalition, Wear Fair Action Kit, Toronto, (tel.) 416-532-8584
(fax) 416-532-7688, 1997.

Brand, M. et. al., Success in the Workplace. 2nd ed., Toronto: Copp Clark Pitman, 1996.

Nef, Jorge et. al. Ethics and Technology., Toronto: Wall & Thompson, 1989

TVOntario, Independent Learning Center, Information Processing, 20 Videotapes on the subject of Information Technology in Business. Contact TVO for most recent productions.

Activity #3: Accessing the World Wide Web

Time: 150 Minutes

Description

This activity has two distinct parts. In the first part the teacher demonstrates how to do a very basic search using a search engine. Students will learn how to access their school’s default browser and its homepage and then students are asked to find a Canadian newspaper site in order to report on the day’s headline. The purpose of the forward, backward, stop and home buttons will be explained. In the second part students will complete a guided exercise on IT careers to help them get a feel for how they might use the Web for school and personal use. Students will key in addresses supplied by the teacher, go to those sites and use them to collect information.

Strand(s) and Expectations

Ontario Catholic Graduate Expectations:

Students will:

- apply effective communication, decision-making, problem-solving, time and resource management skills
- demonstrate flexibility and adaptability
- think critically about the purpose and meaning of work

Strands: Information Management, Electronic research and Ethical Issues, Career Opportunities

Overall Expectations:

At the end of this course, students will:

- describe the career opportunities related to information technology (COV.01X) ☞
- use a variety of electronic media to find relevant information(EEV.01X) ☞
- demonstrate an understanding of the information technology terms used in business (IMV.01X) ☞

Specific Expectations:

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IM1.01X)
- use current Information technology terminology appropriately (IM1.03X) ☞
- describe the function of search engines (EE1.02X) ☞
- identify occupations that require an understanding of information technology (CO1.01X) ☞

Planning Notes

- The availability of World Wide Web sites should always be checked out just prior to the class as addresses change, are frequently deleted or may be down for maintenance. To smooth the delivery of this first web experience, teachers may wish to change the default homepage to a search engine address.
- If appropriate consider moving Activity 4, #7 and #8 into this activity.

Prior Knowledge Required

No prior knowledge required.

Teaching/Learning Strategies

1. Ask the entire class to identify as many information technology jobs as they can. Make a list of them on the blackboard. Tell them that by the end of this activity they should be able to supplement their knowledge of IT positions by using the World Wide Web to collect information. Check to see if anybody knows what a browser or a search engine is. If they do, work with them on their definitions; if they don't give them the definitions for their glossaries.
2. Demonstrate how to access the World Wide Web using the facilities at your school. Ask one student what his/her hobby is and search for sites related to it. In the process of doing this show them how to click on a hyperlink, and the forward, backward, home, and stop buttons. Discuss why you might use each one.

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3. Students then access the web and are instructed to find the newspaper sites of our major Ontario newspapers. Ask them to record the headline from each newspaper site that they locate. (If some students want to do this with each other, let them do so).
 4. Call their attention back to a demonstration where you show them how to enter a known address directly.
 5. Distribute a guided exercise on IT careers. For example, first have them visit the Globe and Mail Technology site at <http://globetechnology.com>. Once there, they should link to the *Tech Careers*. Next, have them select one of the articles from either the Two-Minute Manager, Job Hunt Central, Workplace Harmony, Workplace and the Law, Schools and Training or The Wired Workplace. Instruct them to print the article for later reading and to include it in their notebook. Next, have them click on Search Jobs and then on the *newJOBS* hyperlink. Make sure they notice how many jobs are available and the differing job titles and functions. Have them click on a particular job to find out its description and requisite skills. Have them go back to the long list using the back button and find the description and skills necessary for four or five jobs of interest. They can print job descriptions to hand in or place in their notebooks so that the whole class has material to debrief on this exercise. Next, have them visit the Toronto Catholic District School Board Business Site (see General Resources). If they click on the link to *Careers* they will find a number of government sponsored career sites with statistical career information which can be referenced for future use. Have students click on the *Occupational & Career Development* site, then *English*, then *Career Word Game* and then have them play a few rounds of career hangman to end this activity.
 6. Wrap up this lesson by collecting or checking off the information which they were able to retrieve and review new terminology with them. Remind them that they will be asked to use the web on a regular basis to access information or to do research.

Assessment/Evaluation

Formative:

- teacher observation (IMV.01X)
- lab exercise (CO1.01X, EEV.01X)
- wrap up (IM1.03X, EE1.02X, COV.01X)

Accommodations

- Personal teacher demonstrations as required
- ESL students could be paired with non-ESL students; peer helpers could be deployed in the class
- For further strategies see *Accommodations* in Unit Organization.

Resources

Internet

THE OTTAWA CITIZEN
<http://www.ottawacitizen.com/>

THE KINGSTON WHIG STANDARD
<http://www.kingstonwhigstandard.com/>

THE LONDON FREE PRESS
<http://www.lfpress.com/>

THE GLOBE AND MAIL
<http://www.globeandmail.com/>

THE TORONTO CATHOLIC DISTRICT SCHOOL BOARD BUSINESS STUDIES WEB SITE
<http://www.tcdsb.on.ca/external/departments/business/index.html>

HUMAN RESOURCES DEVELOPMENT CANADA - Career Game site.
<http://www.hrdc-drhc.gc.ca/hrib/hrp-prh/pi-ip/career-carriere/hangman/hang.shtml>

GLOBE TECHNOLOGY.COM – The Globe and Mail technology site.
<http://www.globetechnology.com>

TECHNOLOGY CAREERS – The Globe and Mail technology career site.
<http://www.globetechnology/summary/TechCareer.html>

Activity #4: Hardware

Time: 225 Minutes

Description

This activity will expand on the knowledge that students started to acquire in Activity 1. Students will be provided with opportunities to learn the internal and external parts of a computer workstation and how the workstation fits into the school and Board networking environment.

Strand(s) and Expectations

Ontario Catholic School Graduate Expectations

Students will:

- demonstrate a confident and positive sense of self
- apply effective communication, decision-making, problem-solving, time and resource management skills
- think critically about the meaning and purpose of work

Strand(s): Information Management, Electronic Research and Ethical Issues

Overall Expectations

At the end of this course, students will:

- demonstrate an understanding of the information technology terms used in business (IMV.01X)
- explain the key infrastructures relevant to information technology (IMV.02X) ☞

Specific Expectations

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IM1.01X) ☞
- use current information technology appropriately (IM1.03X) ☞
- explain the hardware components of a computer workstation (IM2.01X) ☞
- explain the use of a variety of peripheral devices (e.g., printers, scanners, video and digital cameras) (IM2.03X) ☞

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- differentiate between stand-alone systems and networked environments (IM2.04X) ☞
 - describe the environments to which stand-alone systems and networks are best suited (e.g., home office, school, multinational company) (IM2.05X) ☞
 - explain how a stand-alone computer is connected to the Internet (EE2.01X) ☞
 - explain the importance of keeping information secure and confidential (IM3.03X) ☞
 - describe the importance of security systems (e.g., passwords, encryption, log-in) in stand-alone, LAN, and WAN environments (IM3.04X) ☞
 - demonstrate appropriate interpersonal skills when interacting with colleagues and peers in an information technology work environment (e.g., keeping passwords confidential, respecting privacy of information) (IM3.05X) ☞

Planning Notes

- Prepare a schematic of a computer system that illustrates input, processing and output and identifies the specific devices related to each. Provide space for students to add examples of a variety of input and output devices.
- Prepare a schematic to illustrate networking concepts within the school, Board and the global community. (Refer to available computer manufacturer's manual and your school Computer Site Administrator)
- Select one or two computer advertisements from a newspaper or flyer and understand the features and benefits offered. It is useful to show the students a video to reinforce these concepts.
- Prepare case studies to be used in the activity. See Appendix VI for a sample.
- Teaching/Learning strategies #7 and #8 may be moved to Activity 1 or 3, if appropriate.

Prior Knowledge Required

No prior knowledge is required.

Teaching /Learning Strategies

1. Distribute the computer system schematic that you developed for this activity. Help students understand the external parts and identify additional input and output devices.
2. Show a video to illustrate and describe the following computer parts: memory (RAM, ROM); auxiliary storage media and devices (hard drive, floppy disk drive, CD ROM drive); central processing unit (types and speeds); peripheral devices. Have students complete a question sheet after viewing the video.
3. Present copies of several computer ads. Have students work in small groups to identify computer parts. Ask students to answer the following questions:
 - What type of processor is advertised for the system?
 - What is the speed of the processor?
 - What auxiliary storage devices are included?
 - What is the size of the RAM on this system?
 - What is the size of the hard drive?
 - What ports does the computer system have?
 - What peripherals are included?
 - What is the size of the screen?
 - What software is included?
4. Take up the questions with the class and remind students to add new terms to their glossaries.
5. Have students bring in sample flyers and computer newspapers. Assign case studies (see

Appendix VI) to small groups of students. Provide them with a sample template for summarizing their recommendations. Allow students an opportunity to present their case studies and recommendations to the rest of the class. Students will submit work to the teacher.

6. Distribute schematics illustrating the Local Area Network (LAN) and how it connects to the board's Wide Area Network (WAN) installed at your school (see Appendix VII). Provide analogies to help students understand the concept of a networked environment (e.g., the human nervous system). Show students how computers are connected by cables within the classroom. In order to demonstrate problem determination and repair, simulate a number of network and computer malfunctions (e.g., loose cable, disconnected mouse). To reinforce these skills, create random malfunctions in the computer lab and have students solve the problems.
7. Introduce the concept of different user level access and rights. As an example, describe the school's user hierarchy and extrapolate from classroom to business. Using a probing question, have students reflect on how a user hierarchy respects their privacy and the privacy of others. (Reinforce the school AUP)
8. Assign students user names and passwords and instruct them on how to change their passwords when necessary. Provide them with guidelines on composing a more secure password.
9. Demonstrate how they can access public folders on your operating system or network interface. Emphasize that public folders provide opportunities to share information with other members on the network. Provide examples of the type of information that can be shared (e.g., clipart).

Assessment/Evaluation

- Teacher Observation (IM1.03X; IM2.01X, 03X, 04X, 05X; IM3.03X, 04X; EE2.01X)
- Quiz (IMV.01X, 02X,; IM1.02X; IM2.03X, IM3.03X)
- Case Study (IM1.03X, IM2.01X, 03X),

Accommodations

- During group activities, ensure that special needs students are included in a grouping where a particular student is assigned to assist them.
- For further strategies see *Accommodations* in Unit Organization.

Resources

Internet

CMP NET THE TECHNOLOGY NETWORK - This site provides articles about infrastructure and has many links to other sites dealing with IT.

<http://www.networkcomputing.com/918/918ws1.html>

CISCO EDUCATION ARCHIVE AND RESOURCES CATALOG - This site provides help for educators and schools who want to find educational resources on the Web.

<http://sunsite.unc.edu/cisco/cisco-home.html>

Print

Robinette, Michelle, Windows 95 for Teachers. Chicago: IDG Books, 1997.

Benoit, Nicole Windows 95: A Graphics Environment. Trois-Rivieres, Quebec: Madoc, 1996.

Luperstein, Joan and Christopher Gentle. The Connected Learning Community Technology Roadmap: A Comprehensive Guide to Planning and Implementing Computer Technology in K-12 Schools. Microsoft Corp., 1998.

Video

The Journey Inside, A useful video from Intel. Visit www.intel.com/education/journey for information. A teacher's video accompanies this resource.

Cisco System. Cisco Network Academies Promotional Video-Clips, 23 minutes, Toronto, 416-216-8126 (fax) 416-216-8099

Appendices

See Appendices VI and VII

Activity #5: Operating Systems

Time: 150 Minutes

Description

In this activity, students will explore the function of operating systems. They will learn how to use some of the basic maintenance tools in the available operating system (e.g. Scandisk, Defrag) Students will learn what viruses are, their destructive nature and how to use anti-virus programs to detect and eliminate them. Students will also investigate ethical security issues.

Strands and Expectations

Ontario Catholic School Graduate Expectations:

Students will:

- think reflectively and creatively to evaluate situations and solve problems
- respect the environment and use resources wisely
- contribute to the common good

Strands: Information Management, Electronic Communications and Electronic Research and Ethical Issues

Overall Expectations

At the end of this course, students will:

- demonstrate an understanding of the information technology terms used in business (IMV.01X) ☞
- manage an information technology work environment (IMV.02X) ☞
- demonstrate an understanding of legal issues relating to electronic communication (ECV.03X)

Specific Expectations

Students will:

- explain how a variety of operating systems work (IM2.02X)☞
- describe the desktop elements and functions of a computer environment (e.g., icons, menus, toolbars, folders) (IM4.01X) ☞

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- analyse potential impact of computer viruses on computer systems and files (IM4.03X) ☞
 - explain how anti-virus software applications in a business environment enhance system security (IM4.05X) ☞

Planning Notes

- Review documentation that pertains to the computer lab's operating system and classroom administrative interface.
- It is suggested that Intel video for teachers is viewed in advance.

Prior Knowledge Required

No prior knowledge is required

Teaching/Learning Strategies

1. Show the Intel video and follow up with a discussion about operating systems. After students have seen the video, discuss the general purpose and function of operating systems. Identify popular systems and some of their features, focussing on the specific features of the local operating system and desktop interface.
2. Demonstrate the multitasking capability of your operating system. Have students launch multiple applications and experiment with minimizing, maximizing and closing windows.
3. Introduce the maintenance tools provided by your operating system (e.g., ScanDisk, Disk Defragmenter for Windows 95). Using a guided activity, have students run some of the system tools providing them with guidance when responding to prompts for information. Have them note the information that is provided to the user. See below for a sample "Defrag" simulation.
4. Defrag Simulation and Activity
 - a) **Random Storage:** Explain to students that when files are saved on a disk, the information in the files is stored randomly in "chunks" or "clusters". Illustrate this by cutting up several different coloured sheets (red, blue, green) of paper into equal sections (to represent the "chunks"). To illustrate random storage, throw the papers into the room (the disk) allowing them to fall in random locations.
 - b) **Discussion:** Explain that when the user (or the teacher in this case) wishes to work on a document (eg. red) the software will have to re-combine the parts so that it may display on the screen. Have students bring all the document pieces of the red document to the teacher, then the blue, and then the green. Ask them what could have been done to assemble the documents more quickly. They should conclude that keeping the parts closer together would speed things up.
 - c) **Introduce Disk Defragmenter:** Describe how the process of defragmentation brings all pieces of files that belong together closer together (much like cleaning one's room or organizing notes). To illustrate, scatter the documents once again. This time, after the pieces have landed, ask the students to "defrag" the documents (move all coloured pieces so they are closer together). Once again, ask students to bring up each document one at a time (first all reds, then blues and then greens).

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- d) Conclusion: Explain how defragmenting a disk will move electronic files so that the parts are closer together and this will improve the speed of a computer system.
 - e) Activity: Have students run the **Disk Defragmenter** utility. Describe the components of the screen and draw comparisons to the coloured paper activity.
5. Introduce students to the anti-virus programs available at your school. Have students use an anti-virus program to scan a disk and/or hard drive. Point out some basic features of the software. Follow up with a discussion about types of viruses, how they spread, the damage they can cause and what individuals and organizations can do to prevent them from spreading.

Assessment/Evaluation

Formative

- checklists (IMV.01X, 03X; IM2.02X)
- teacher observation (IMV.02X; IM4.01X, 02X)
- teacher/student conferencing (IMV.03X)

Summative

- teacher prepared tests (IMV.01X, 02X, 03X; IM2.02X; IM4.03X, 05X)

Accommodations

- For possible strategies see *Accommodations* in Unit Organization.

Resources

Print

Robinette, Michelle. Windows 95 for Teachers. Chicago: IDG Books, 1997

Microsoft Windows Users Guide 3.1, Express Micro

Freedman, Alan. The Computer Desktop Encyclopedia . AMACOM, 1996

Benoit, Nicole Windows 95 A Graphics Environment. Trois-Rivieres, Quebec: Madoc, 1996

Video

Intel Video for Students: The Journey Inside (see Activity 4)

“Infologic: MS Windows 95”: 10 programs, 30 minutes each

TCDSB Professional Library

Activity #6: Desktop and Information Management

Time: 150 - 225 Minutes

Description

In this activity students will learn to manage and arrange their desktop. They will learn to create folders and keep them organized in their personal space on the network server.

Strand(s) and Expectations

Ontario Catholic School Graduate Expectations

Students will:

-
- think reflectively and creatively to evaluate situations and solve problems
 - respect the environment and use resources wisely
 - contribute to the common good

Strands: Information Management, Electronic Communications and Electronic Research and Ethical Issues

Overall Expectations

At the end of this course, students will:

- demonstrate an understanding of the information technology terms used in business (IMV.01X)☞
- manage an information technology work environment (IMV.03X)☞
- electronically manage personal data and computer files (IMV.04X)☞

Specific Expectations

Students will:

- explain how a variety of operating systems work (IM2.02X)☞
- describe the desktop elements and functions of a computer environment (e.g., icons, menus, toolbars, folders) (IM4.01X)☞
- demonstrate an ability to arrange personal folders in a logical and useful manner that is easily understood by others (IM4.02X)☞
- differentiate between stand-alone and networked environments (IM2.04X)☞

Planning Notes

- Create simple text files and place them in the available public folders for students to access during the activity described below. The teacher may wish to create files which follow a theme (e.g., Find Waldo, IT Career theme).
- Depending on the security of the Classroom Administration Interface, the teacher may want to consider carrying out this activity in small groups.
- Investigate the capabilities of your local desktop interface. Activity design will depend on students' access privileges for modifying their desktops.

Prior Knowledge Required

No prior knowledge is required.

Teaching/Learning Strategies

1. Following teacher instructions, students will create folders, one personal and one for each course or other grouping. Have students practise copying, moving and deleting folders.
2. Following the teacher's guidelines, students will copy files into their folders from a public folder, then will open, alter and save them. Provide students with some instruction on using a simple text editor (e.g., Notepad)
3. During this activity teachers should clarify the difference between the "desktop" and the student's default saving location (or home directory) on the server.
4. Have students explore other elements of their desktop and local interface (e.g., StudeNT Vista, School Vista, RM Connect). Distinguish between operating system features and interface features.

Accommodations

- Invite a gifted student to act as a lab assistant during this activity.
- For further strategies see *Accommodations* in Unit Organization.

Assessment/Evaluation

Formative

- checklists (IMV.01X)
- teacher student conferencing (IMV.03X)
- quiz (IMV.01X, .03X, .04X; IM2.02X, .04X, .05X; IM4.01X, .02X)

Resources

Internet

CMP NETTHE TECHNOLOGY NETWORK - This site addresses the importance of information management. (<http://www.nwc.com/906/906colgall.html>)

Print

Robinette, M. Windows 95 for Teachers, Chicago: IDG Books, 1997.

Freedman, Alan. The Computer Desktop Encyclopedia . AMACOM.

Benoit, Nicole Windows 95: A Graphics Environment. Trois-Rivieres, Quebec: Madoc, 1996

Video

Intel video for students (See Unit 1-15)

Unit #2: Productivity Tools: Utilizing the Power of Business Software

Time: 37.5 Hours

Unit Developer(s): Toronto Catholic District School Board

Development Date: February, 1999

Description:

In this unit students will explore the application of commonly-used business software. Students will learn relevant terminology, develop skills in using software, and apply learned skills to specific business undertakings in the private, public and non-governmental sectors. Students will demonstrate an understanding of how IT allows them to work more effectively in a process- and solutions-oriented business environment.

Strand(s) and Expectations

Ontario Catholic Graduate Expectations: CGE1D, 2B, 2C, 2D, 4B, 4F, 5A, 5E, 5F, 5G, 7B, 7J

Strand(s): Information Management; Software Applications; Electronic Communication; Electronic Research and Ethical Issues

Overall Expectations: IMV.01X, .04X; SAV.01X, .02X, .03X; ECV.02X, EEV.03X

Specific Expectations: IM1.01X, .03X; SA1.01X, .02X, .03X; SA2.01X, .02X, .03X; SA3.01X, .02X, .03X; EC2.02X, EC3.01X, .02X, .03X, .04X, EE3.04X

Activity Titles (Time and Sequence)

Activity 1	Introduction to Basic Productivity Tools	150 minutes
Activity 2	Word Processing	750 minutes
Activity 3	Spreadsheets	525 minutes
Activity 4	Using Graphics Tools	225 minutes
Activity 5	Databases	375 minutes

Unit Planning Notes

The teacher should investigate the software that is accessible on the school's computer system that is suitable for each of the activities listed above. In addition it would be helpful to gather appropriate support materials.

Prior Knowledge Required

A concern for some teachers may be the varying degree of keyboarding skills which the students possess. To address this concern teachers can provide students with the necessary tools whereby they develop their keyboarding skills outside of the classroom *before* the delivery of this unit.

Teaching/Learning Strategies

Students will be introduced to specific software applications through a variety of methods such as teacher demonstration and independent learning tutorials. Students will develop skills in the utilization of each type of software through lab exercises. The use of broadcast software or computer projecting devices is useful when demonstrating application software features. Where possible, make use of these programs or devices for all demonstrations.

In this unit have students begin to add their best work to their portfolio (see Appendix III). The portfolio, although evaluated throughout, will be examined for completeness at the end of the course. It would be useful to provide students with a portfolio checklist to help them keep track of their work.

Assessment/Evaluation

Formative

The strategies used will be peer assessment, formal/informal teacher observation, quizzes and anecdotal comments. Evaluation will be based on completed work and on an end product. The assessment tools are:

- exemplars
- checklists
- rubrics

Summative

- Evaluation will be based on product delivery.

Resources

This unit is an introduction to basic productivity tools. Students will develop their knowledge and skills in using word processing, spreadsheet, graphics, and database software. There is a myriad of resources available to teachers which provide appropriate application exercises. The teacher can find material for this unit from electronic sources, textbooks, student workbooks, and reference manuals.

Print/Internet

Steffee, John. Computer Activities to Build Business, Cincinnati, Ohio, South-Western Educational Publishing, 1998. <http://www.thompson.com>

Microsoft: Productivity in the Classroom. This is a curriculum-based workbook designed to integrate computer applications into the classroom.
<http://www.microsoft.com/education/>

Presley Bruce, Beth Brown, Elaine Malfas and Vickie Grassman, A Guide to Microsoft Office 97 Professional for Windows 95, Pennington, NJ, Lawrenceville Press, 1997.

Other books in this series are: The History of the Internet, Internet Addresses, The World Wide Web, Locating Web Sites, Searching Strategies, Performing Academic Research and Designing Effective Web Pages.

Activity #1: Introduction to Basic Productivity Tools

Time: 150 Minutes

Description

This short activity begins with a game to show how the injection of technology can improve productivity. Productivity and its components are discussed and defined and then the teacher demonstrates how productivity in business can be increased through the application of word-processing, spreadsheet, database and graphics. Students finish this activity by reflecting on and weighing both the positive and negative effects that technology can have on individuals and on society as a whole.

Strands and Expectations

Ontario Catholic Graduate Expectations

Students will:

- apply effective communication, decision-making, problem-solving, time and resource management skills
- work effectively as an interdependent team member
- exercise Christian leadership in the achievement of individual and group goals
- contribute to the common good

Strands: Information Management, Software Applications, Electronic Communication

Overall Expectations:

At the end of this course, students will:

- demonstrate an understanding of information technology terms used in business (IMV.01X)☞

Specific Expectations:

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IM1.01X)
- use current information technology terminology appropriately (IM1.03X) ☞
- explain the use of common business software (e.g., word processing, database, spreadsheet, graphic, desktop publishing, web page software) (SA2.01X)☞
- describe ways in which recent changes in information technology have had a positive and/or negative impact on business, working conditions and other aspects of peoples' lives (e.g., access to information, to global trade, to employment; increase in violence, racial issues, harassment, unemployment) (EC3.01X)☞

Planning Notes

- The teacher should rehearse the productivity demonstrations in such a way as to maximize the positive impression on the student.
- The teacher will need to find an article that depicts the layoff of workers due to the introduction of technology.

Prior Learning Required

Students are expected to have only rudimentary word processing skills at this point in the course.

Teaching/Learning Strategies

1. This activity begins with a game. Students are grouped into fours and are given a series of simple but lengthy mathematical tasks to complete. Calculators are not permitted. The students are told that they will be timed and that the first group to finish with the correct answer will win a small prize. One person in each group can act as a recording observer to note student strategies. Once the winners are declared and given their small prize (e.g., a voucher for a chocolate bar at lunch), the teacher engages the whole class in a discussion to determine how the groups attempted to move quickly and accurately. A distinction between efficiency (quantity of work performed per unit of time) and effectiveness (quality of work performed) is made. The winning time is recorded on the blackboard.
2. A similar activity is repeated using one calculator per group. After the winning team is identified and the time is recorded on the blackboard, the teacher once again engages the students in a discussion about work strategies. The impact of the calculator should be duly noted.
3. The activity is repeated for a third time but now more than one calculator per group is permitted. The winning team and time are once again recorded and a then a teacher-led, larger discussion ensues. The teacher defines productivity as a combination of quality and quantity inputs and how the introduction of new, learned strategies and/or technology can positively influence it. The teacher can then use probing questions that provide opportunities for students to apply the concept in a “what-if” format. For example, what if all students in Ontario were given a notebook computer by the government of Ontario? Would it improve the productivity of their work? How?
4. Through Socratic questioning, students identify the major business applications: word-processing, spreadsheets, databases and graphics. Distinguish between general purpose and dedicated software. The teacher quickly demonstrates the dramatic productivity that each type of application software can produce. For word processing the teacher can cut and paste a whole paragraph or use spell check or double space a 100 page document. For spreadsheets the teacher can change one number of a budget to change the bottom line. For a database the teacher can show how to re-alphabetize 1000 records in ascending or descending order in seconds. For graphics the teacher can show how to resize an object.
5. The teacher then distributes the article. Students will prepare a list of the benefits and drawbacks of technology. A class debate will then be conducted.
6. Students use the word processor to write a few paragraphs to describe how future business and office technologies might impact productivity.

Assessment/Evaluation

Formative:

- student observation (IMV.01X)
- teacher observation (IMV.01X, IM1.03X, SA2.01X)

Summative:

- written assignment (IM1.03X, EC3.01X)

Accommodations

- Modified reading material on productivity can be provided;
- For further strategies see *Accommodations* in Unit Organization.

Resources

Internet

TCDSB BUSINESS STUDIES WEB SITE

<http://www.tcdsb.on.ca/external/departments/business.html>

CANOE - CANADIAN NEWSSTAND AND INFORMATION

<http://www.canoe.com>

THE TORONTO STAR ON-LINE

<http://www.thestar.com/>

THE GLOBE AND MAIL

<http://www.globeandmail.com/>

THE NATIONAL POST

<http://www.nationalpost.com/>

MACLEAN'S CANADA'S WEEKLY NEWS MAGAZINE

<http://www.macleans.ca/>

Print

Presley, Bruce et al. A Guide to Microsoft Office 97 Professional. Pennington, NJ: Lawrenceville Press, Inc., 1997.

Video

“Infologie”: 10 programs, 30 minutes each

MS Word 6.0

from the TCDSB Professional Library

Activity #2: Word Processing

Time: 750 minutes

Description

Through the process of learning about and applying word processing features, students will gain a clear understanding of how this IT tool improves productivity and how its use makes the process of composition more efficient and effective. A compositional component will encourage students to explore an issue of social responsibility in business and Christian leadership. The culminating task of this activity is the production of a multi-page report which explores a career germane to this unit. The experience of producing a multi-page report will give students the practical knowledge and skill foundation for an activity that they will undertake throughout their high school careers and working lives.

Strand(s) and Expectations

Ontario Catholic School Graduate Expectations:

Students will:

- develop attitudes and values founded on Catholic **social teaching** and act to promote social responsibility, human solidarity and the common good
- listen actively and critically to understand and learn in light of gospel values
- read, understand and use written materials effectively
- present information and ideas clearly and honestly and with sensitivity to others
- write and speak fluently one or both of Canada's official languages
- apply effective communication, decision-making, problem-solving, time and resource management skills
- achieve excellence, originality, and integrity in one's own work and supports these qualities in the work of others
- accept accountability for one's own actions

Strands: Information Management, Software Applications, Electronic Communication

Overall Expectations

At the end of this course, students will:

- demonstrate an understanding of the information technology terms used in business(IMV.01X)☞
- electronically manage personal data and computer files (IMV.04X)☞
- demonstrate the skills required to enter data by using appropriate keyboarding techniques (SAV.01X)☞
- demonstrate use of basic functions and features of common business software (SAV.02X)☞
- produce documents that meet basic business standards and formats (SAV.03X)☞
- use electronic tools to communicate effectively with others (ECV.03X)☞

Specific Expectations

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IM1.01X)☞
- use current information technology terminology appropriately (IM1.03X)☞
- demonstrate the ability to input data effectively (SA1.01X)☞
- demonstrate an understanding of the importance of accuracy when entering data (e.g., consider challenges facing voice recognition) (SA1.02X)☞
- use correct keyboarding techniques (e.g., proper posture, correct fingering, proper wrist position) (SA1.03X)☞
- explain use of common business software (e.g., word processing, database, spreadsheet, graphic, desktop publishing, web page software) (SA2.01X)☞
- use the common business software basic functions (e.g., create, save, update, print) and features (e.g., edit tools, fonts, justification, format tools, columns, menus, design and graphic tools, formulas, hyperlinks) (SA2.02X)☞
- follow written and oral instructions regarding the use of software applications (e.g., help menus, wizards, manuals) (SA2.03X)☞
- produce correctly formatted business documents (e.g., business correspondence, reports, advertisements, fax cover pages) from printed, handwritten, and revised copies (SA3.02X)☞
- use electronic references effectively (e.g., dictionaries, thesauri, grammar checks, spell checkers) (SA3.03X)☞
- describe ways in which recent changes in information technology have had a positive and/or

negative impact on business, working conditions and other aspects of people's lives (e.g., access to information, to global trade, to employment; increase in violence, racial issues, harassment, unemployment) (EC3.01X)☞

Planning Notes

- For the introductory lab exercise teachers will have to prepare one (or several) one-page reports on a topic(s) of interest to students. This material should contain errors and no formal formatting.
- Checklists, which are an effective assessment tool in this activity, will have to be carefully planned in terms of timing and content in order to verify a student's ability to use word processing application features. (See Appendix VIII.)
- Teachers could incorporate the compositions students have prepared (*see step 4 under Teaching/Learning Strategies*) into a classroom display on social responsibility.

Prior Knowledge Required

Proper keyboarding techniques.

Teaching/Learning Strategies

1. Students will prepare a document such as a menu or personal business letter using pen and pencil. Upon completion of this task students will discuss the following points:
 - How long did the task take to complete?
 - Are you satisfied with the appearance of your document?
 - How could information technology help you in preparing this document. *In discussing this question the teacher will reinforce the importance of IT in improving efficiency (less time to complete document) and effectiveness (formatting features improve appearance; tools will assist in proofreading).*
2. Introductory Lab Exercise-Introduction to Word Processing
Students will load a teacher-prepared file dealing with a topic of interest to students (e.g., business in sports, business in music). The contents of this file contain errors and no formal formatting. Students will edit this document for errors, apply formatting features, and then save and print the document.

Teachers will use this task to stress the importance of careful proofreading and to explain/demonstrate basic keyboarding and word processing features. (See Appendix VIII.) Concurrently, students will make notes in their technical journals for future reference.
3. Exploring Business Templates
Using a wizard or appropriate guided activity, have students explore various templates. During this activity, teachers will identify the multitude of word processing uses in business. This may be linked with the initial activity in #2 above.
4. Product Development: Lab Exercise - Composition at the Computer
Students will be taught the process of composition (jot down ideas, develop ideas in sentence form, edit draft, write out a "good" copy) using word processing software. Then, students will compose a one-page report on an issue of social responsibility in business (e.g., re-cycling, pollution).

5. Product Development: Multi-Page Report Lab Exercises

Collectively, these exercises will prepare students for the production of a multi-page report. Teachers will guide students through each exercise using exemplars and engage students in a discussion of the importance of each element in a multi-page report. (See Appendices IX to XIII.) Any “new” formatting feature will be explained/demonstrated by the teacher and students will make notes in their technical journals (see Appendix IV) regarding these features.

6. Product Delivery: Multi-Page Report

Students will prepare a multi-page report applying the skills and concepts learned and applied in step five. (See Appendix XIV for a sample rubric to evaluate multi-page report.) Students will research an IT career and the report will address the following topics regarding the career:

- job description
- education/skills required
- salary range expectations
- experience required
- industries where skills would be applied
- assess personal suitability for career

Accommodations

- Elements in the multi-page essay could be modified (e.g., length, number of references);
- Provide students with articles or specific web sites to help with their research;
- Prepare a worksheet with very specific questions for the student’s multi-page report. Students answer these questions rather than provide an expository, prose-style report;
- Students could include a comparative analysis as to how a specific IT career has changed in the last decade;
- For further strategies see *Accommodations* in Unit Organization.

Assessment/Evaluation

Formative

- completion of tasks (lab exercises and technical journal)
- lab exercises (checklists) (IMV.04X; SAV.01X .02X; SA1.01X, 02X; SA2.02X, 03X)

Summative

- product delivery (multi-page report) (SAV.03X; ECV.02X; SA1.02X; SA2.03X; SA3.02X, 03X)
- quizzes/tests (IMV.01X; IMI.01X, 03X; SA2.01X; EC3.01X)

Resources

For elements of a multi-page report teachers will find material in currently available information technology textbooks, software manuals, teacher guides and student workbooks.

Internet/Print

Steffee, J. Computer Activities to Build Business, Cincinnati, Ohio: South-Western Educational Publishing, 1998 (<http://www.thompson.com>)

Center for Social Justice and Global Awareness. “The Conditions of Labour” (Rerum Novarum), “The Reconstruction of the Social Order” (Quadragesimo Anno), “Christianity and Social Progress” (Mater et Magistra) “Peace on Earth” (Pacem in Terris) and “The Church in the Modern World” (Gaudium et Spes) <http://www.neosoft.com/~csjga/docs.htm>. (*Teacher may wish to investigate this material for issues on social justice.*)

Labour Behind the Label Coalition, Wear Fair Action Kit, Toronto, (tel.) 416-532-8584 (fax) 416-532-7688, 1997.

Video

TV Ontario, Independent Learning Center, Information Processing, 20 videotapes relevant to topic. (*Good source to demonstrate how word processing is used in business and how this software increases productivity.*)

“Infologie”: 10 programs, 30 minutes each
MS Word 6.0
from the TCDSB Professional Library

Appendices

See Appendices IV, VIII-XIV

Activity #3: Spreadsheets

Time: 525 minutes

Description

This activity will involve a series of lab exercises that will introduce the student to the power of spreadsheets. It will begin by outlining the type of information that can be conveyed by spreadsheets and by explaining the terminology that characterizes the spreadsheet. Students will proceed to complete a series of exercises that will develop their skills in the use of spreadsheet software.

Strands and Expectations

Ontario Catholic School Graduate Expectations:

Students will:

- read, understand and use written materials effectively
- present information and ideas clearly and honestly with sensitivity to others
- demonstrate flexibility and adaptability
- apply effective communication, decision-making, problem-solving, time and resource management skills
- work effectively as an interdependent team member

-
- achieve excellence, originality and integrity in one's own work and support these qualities in the work of others

Strands: Information Management, Software Applications

Overall Expectations

Students will:

- electronically manage personal data and computer files (IMV.04X)☞
- demonstrate the skills required to enter data by using appropriate keyboarding techniques (SAV.01X)☞
- demonstrate use of basic functions and features of common business software (SAV.02X)☞
- produce documents that meet basic business standards and formats (SAV.03X)☞
- demonstrate an understanding of information technology (IMV.01X)☞

Specific Expectations

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IM1.01X)☞
- demonstrate the ability to input data effectively (SA1.01X)☞
- demonstrate an understanding of the importance of accuracy when entering data (e.g., consider challenges facing voice recognition) (SA1.02X)☞
- explain the use of common business software (e.g., word processing, database, spreadsheets, graphic, desktop publishing, web page software) (SA2.01X)☞
- use the common business software basic functions (e.g., create, save, update, print) and features (e.g., edit tools, fonts, justification, format tools, columns, menus, design and graphic tools, formulas, hyperlinks) (SA2.02X)☞
- follow written and oral instructions regarding the use of software applications (e.g., help menus, wizards, manuals) (SA2.03X)☞

Planning Notes

- The teacher will prepare an introductory spreadsheet to be used in the initial demonstration.
- The teacher will select current raw data from the Stats Canada web site (www.statcan.ca) and provide it to students for the culminating exercise in this activity. This is an opportunity to discuss a current social issue.

Prior Knowledge Required

Students will need to know how to launch spreadsheet software.

Teaching/Learning Strategies

1. Have students launch the spreadsheet software. Draw students' attention to the fundamental design of spreadsheets: rows and columns. Briefly outline the early history and purpose of spreadsheets.
2. Provide the students with an existing spreadsheet. Demonstrate the basic functions of spreadsheets and define new terms. Reinforce the similarities of the work area with other applications. Have students update their glossaries.

-
3. Have students complete a lab exercise which requires them to apply formatting features, update cell contents and observe changes. The exercise will be designed to demonstrate the use of the tool bars and menus, scroll bars, cell addresses, types of data, changing column widths, inserting and deleting rows and columns, cutting and pasting; see tracking sheet for a full list (Appendix XV).
 4. To illustrate the use of functions in a spreadsheet, have students enter a list of 10 student names and marks for 4 courses. Have students use the traditional method to add marks and determine averages [i.e., $(B1+B2+B3+B4)/4$]. Introduce functions (e.g., SUM, AVG, MAX, MIN). Have students modify their spreadsheet to incorporate these functions.
 5. Use the initial spreadsheet from step 2 to demonstrate features for effective formatting of a spreadsheet document (e.g., headers, footers, lines, fonts and margins). Demonstrate how charts can be created using the data from the spreadsheet (e.g., line, bar, pie).
 6. **Culminating Exercise**
Provide students with the raw data obtained from the *Stats Canada* site. Instruct students to prepare a spreadsheet which incorporates the features that they have learned in this spreadsheet activity. Have them produce line, bar or pie charts as appropriate. Upon completion of this exercise, have students answer a series of questions that will require interpretation of the data. Conclude this activity with a discussion of their interpretations.
 7. Post exemplars of student work in the classroom.

Assessment/Evaluation

Formative:

- skills inventory (SA1.01X, 02X; SA2.,02X, 03X) See Appendix XVI
- quiz - spreadsheet terms (1M1.01X; SA2.01X)

Summative:

- spreadsheet assignments (SA1.01X, 02X) See Appendix XVI for rubric
- culminating exercise (SA1.01X, .02X; SA2.01X, 02X, 03X)

Accommodations

- Learning can be enhanced if exercises are chosen that include data relating to the countries from which the ESL students in the class come. For example, have the students prepare a spreadsheet of the population of various countries or cities, apply MAX, MIN and AVG functions and then instruct them to prepare various charts from the data.
- For weaker students it would be advisable to reduce the number of columns and rows that the students would be required to produce.
- For further strategies see *Accommodations* in Unit Organization.

Resources

Internet

STATISTICS CANADA WEB SITE
<http://www.statcan.ca>

Print

Presley, Bruce et al. A Guide to Microsoft Office 97 Professional. Pennington, NJ: Lawrenceville, Press, 1997.

Video

“Infologie”: 10 programs, 30 minutes each

Lotus Smartsuite

MS Excel

from the TCDSB Professional Library

Appendices

See Appendices XV and XVI

Activity #4: Using Graphics Tools

Time: 225 Minutes

Description

Through teacher demonstrations, student experimentation and lab exercises, students learn about the graphic functions available to them and practise and acquire the associated skills necessary to use them. Specifically, students will learn how to draw, paint and access clip art using the computer. Students will produce a reference list of graphic lines and shapes for future use. The final assignment, preparing a maze, challenges students to demonstrate the use of all of their newly acquired graphics skills while at the same time permitting them to express their own unique creativity.

Strands and Expectations

Ontario Catholic Graduate Expectations:

Students will:

- apply effective communication, decision-making, problem-solving, time and resource management skills
- achieve excellence, originality, and integrity in their own work and supports these qualities in the work of others

Strands: Information Management, Software Applications, Electronic Communication

Overall Expectations:

At the end of this course, students will:

- demonstrate an understanding of information technology terms used in business (IMV.01X)
- demonstrate the use of basic functions and features of common business software (SAV.02X)☞
- produce documents that meet basic business standards and formats (SAV.03X)☞

Specific Expectations:

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure,

-
- syntax, work environment) (IM1.01X)
 - use current Information technology terminology appropriately (IM1.03X) ☞
 - explain the use of common business software (e.g., word processing, database, spreadsheet, graphics, desktop publishing, web page software) (SA2.01X)
 - use the common business software basic functions (e.g., create, save, update, print) and features (e.g., edit tools, fonts, justification, format tools, columns, menus, design and graphic tools, formulas, hyperlinks) (SA2.02X) ☞
 - follow written and oral instructions regarding use of software applications (e.g., help menus, wizards, manuals) (SA2.03X)☞

Planning Notes

- If a colour printer is available it should be set up for use in this activity. The cost of colour cartridges should be considered in advance.
- The teacher will prepare a newspaper style document with an interesting story for electronic distribution in order for students to insert appropriate clip art.
- The teacher may prepare or select (e.g., from a magazine or book) an example of a statistical table and its associated graphic representation (e.g., pie chart) for use in the activity.
- For the painting exercise, the teacher may collect leaves or other miscellaneous pieces of nature to be used as a still life for students to paint.

Some students will protest that they cannot draw or have little talent to do so. The teacher's response to this concern should be that the purpose of these exercises is primarily to be able to use the program. The teacher may want to address the technical complication of different file types for graphics and pictures such as .bmp, .gif, .jpg, .tif, .pcx, etc. Some software planning is needed here in order to ensure that files saved in one application can be read by another.

Prior Learning Required

Students are expected to have reasonably developed word-processing skills and to have grasped the concepts related to file management studied earlier in this course.

Teaching /Learning Strategies

1. This activity begins with the distribution and examination of a statistical table. After a short discussion, another handout is distributed that depicts the same statistics in a pictorial format. Students are invited to discuss which handout is more effective. This discussion leads back to a definition of productivity. Students will conclude that graphics tools can play an important part in effectively communicating business concepts and ideas. The teacher could refer back to the product delivery of the Spreadsheet activity.
2. Next, the teacher demonstrates how to access and use drawing software. The teacher demonstrates how to draw variously weighted lines and shade basic shapes. Students are instructed on how to use the help feature to resolve as many of their own questions as they can and to make entries in their technical journals.
3. Students complete a first lab exercise to learn how to draw lines. They are instructed in writing to produce an example of ten differently weighted and styled lines. Dashed and dotted lines can also be included. The teacher should demonstrate the use of graphics handles. (See Appendix XVII)
4. A second lab exercise is distributed. The drawing program is used to select a predefined shape and then the student replicates it across a page at least three times. The shapes normally include a

rectangle, triangle, polygon, circle and oval. After each of these is drawn in a horizontal fashion students are then instructed to shade or pattern each of them using the shading tool.

5. At this point, students are instructed to create an area street map of where they live or where the school is located. They are instructed to label the streets on the map and indicate how busy each street is by the weight of the line. Also, they may want to indicate landmarks, stores, etc.
6. In another lab assignment, students use a painting tool to do a free-hand drawing and painting of a still life representation of nature. This can be a leaf collected by the teacher prior to this class or cut flowers or even a selection of gathered weeds. It is preferable that each student has a similar but unique object to draw so that unnecessary skill comparisons are not made. Before the students begin, the teacher demonstrates a sampling of the software's basic functions. The teacher should step-through perhaps a dozen or so of the different tools including the selection and application of colours and shades. Students may not finish the whole leaf, flower or weed but will have a part of the drawing completed in colour. Before identifying and printing their work, students are instructed to leave their work on the screen and take a walk around the class to see each other's painting. Students should then be instructed to save and print their work. It will be used in the final assignment for this activity. Remind students to make entries in their technical journal and consider this assignment for inclusion in their portfolio.
7. Next, students learn how to copy clip art from the Internet. The clip art will be inserted into a text file formatted in newspaper style. The teacher demonstrates the process and answers any student questions. The teacher is careful to point out that the clip art selected should be appropriate to the text that it supports or the purpose it will serve. The teacher also talks about how to place the clip art in a body of text, how to border it, how to permit the text to flow around it, how to use the handles to resize it and the importance of proportion when doing so. If the software program is linked to the Internet, students should be shown how to access the clip art site, browse and collect ten pieces of clip art in a "shopping basket" and then to download their selections. There should be some brief discussion concerning this point. Students then proceed to insert at least three pieces of clip art into their newspaper article to create further interest and meaning for the reader.
8. In order to conclude up the wide range of function and skills in this activity, students are given an assignment to design and draw a maze that incorporates clip art, their free hand work and perhaps their partially drawn leaf. The maze should have a theme such as prayer, shopping or baseball. It should be at least ten rows/columns deep from the centre where it either begins or ends. Students are instructed to draw each of the lines required using a suitable weight and colour and insert at least 4 or 5 pieces of clip art. When finished they should print three copies of their work: for their notebook, for submission and for fun! (See Appendix XVIII.)

Accommodations

- Students may be given different objects to draw than those that come from nature to either further challenge their skill level or to support it depending on the object selected.
- Students may be given extra time to complete lab assignments.
- For further strategies see *Accommodations* in Unit Organization.

Assessment/Evaluation

Formative:

- exemplars (IMV.01X, SAV.02X, 03X; IM1.03X))
- teacher observation (SAV.02X; SA2.01X, 02X, 03X)
- student-teacher conferencing (SAV.02X)

Summative:

- lab exercises (IMV.01X; SAV.02X, .03X)
- completed assignments [rubric] (SA2.01X, 02X, 03X)

Resources**Internet**

WORLD WIDE ARTS RESOURCES: THE LARGEST GATEWAY TO THE ARTS! - Use this service to discover the finest arts resources. Choose from over 500 arts categories.

<http://www.wwar.com/>

Video

“Digital Design”: Programs 1 – 8 are 30 minutes each. Teaches how to prepare professional, artistic documents.

“Technology and the Arts”: 28 minutes
from the TCDSB Professional Library

Appendices

See Appendices XVII and XVIII

Activity #5: Databases

Time: 375 minutes

Description

In this activity students will be introduced to the power of database software to organize and manipulate data. Students will learn to analyse data and transform it into meaningful information. Students will design an IT glossary database which will be used throughout the course.

Strands and Expectations**Ontario Catholic School Graduate Expectations:**

Students will:

- read, understand and use written materials effectively
- present information and ideas clearly and honestly with sensitivity to others
- demonstrate flexibility and adaptability
- apply effective communication, decision-making, problem-solving, time and resource management skills
- work effectively as an interdependent team member
- achieve excellence, originality and integrity in their own work and support these qualities in the work of others

Overall Expectations:

At the end of this course, students will:

- electronically manage personal data and computer (IMV.04X) ☞

-
- demonstrate the skills required to enter data by using appropriate keyboarding techniques (SAV.01X) ☞
 - demonstrate use of basic functions and features of common business software (SAV.02X) ☞
 - produce documents that meet basic business standards and formats (SAV.03X) ☞
 - demonstrate an understanding of information technology terms used in business (IMV.01X) ☞

Specific Expectations:

Students will:

- define key information technology terms (e.g., Internet, Intranet, Extranet, infrastructure, syntax, work environment) (IM1.01X) ☞
- demonstrate ability to input data effectively (SA1.01X) ☞
- demonstrate an understanding of the importance of accuracy when entering data (SAI.02X) ☞
- explain use of common business software (SA2.01X) ☞
- use the common business software basic functions (SA2.02X) ☞
- follow written and oral instructions regarding use of software applications (SA2.03X)

Planning Notes

- Prepare a database file that will be used for demonstration. Have students bring to class their hand-written IT glossary.

Teaching/Learning Strategies

1. Compare and contrast a spreadsheet and a database.
2. Through the Socratic approach, elicit reasons for employing database software, for example the need to store large amounts of data and to access specific data items quickly and accurately. Introduce the concept of data integrity and give examples as to why this is important (e.g., student records and hospital medical records).
3. Use an analogy to help the students understand the hierarchical and relational nature of databases. On the blackboard draw a filing cabinet, filing cabinet drawer, file folder, file and record.
4. Together with the students design and draw a record for a data base to which the students can easily relate, such as a CD collection or the season ticket holder list for the Toronto Blue Jays. Be very specific in mapping out the field type and size.
5. On the blackboard, proceed with the students to design a database for their IT glossary.
6. Demonstrate to the students how to create records and fields using the software. Have students begin to create their IT glossary data base. Upon completion of this database, have students print their glossary for assessment. Inform them that it will be their responsibility to add to their glossary as new terms emerge throughout the course.
7. Using a pre-loaded database, demonstrate how to search for specific data items and how to sort in various ways.
8. Distribute a "search" and "sort" lab exercise in order for students to practise these skills. Have students print a sample "search" and a sample "sort" to assess their skill level.

Accommodations

- A possible exercise that ESL students might particularly enjoy would be the preparation of a database of recipes for food items for their country.
- For weaker students it would be advisable to reduce the number of records that students would be asked to produce.
- For further strategies see *Accommodations* in Unit Organization.

Assessment and Evaluation

Formative:

- teacher observation [checklist] (SAV.01X, 02X; SA1.01X, 02X)
- quiz - terminology (IMV.01X; IM1.01X; SA2.01X)

Summative:

- lab assignments (SAV.01X; SAV.02X; SA1.01X, 02X; SA2.02X) (see Appendix XIX for rubric)
- IT glossary database (SAV.01X, 02X, 03X, SA1.03X; SA2.02X)

Resources

Print

Presley, Bruce. et al. *A Guide to Microsoft Office 97 Professional for Windows 95*, Pennington, NJ: Lawrenceville Press, 1997.

Video

“Infologie”: 10 programs, 30 minutes each
MS Access 2.0
from the TCDSB Professional Library

Appendices

See Appendix XIX

Unit #3: Knowledge Management: Accessing the Global Network of People and Information

Time: 31.25 Hours

Unit Developer(s):

Toronto Catholic District School Board

Development Date: February, 1999

Unit Description

In this unit students will learn how to explore and use the resources of the Internet. Students will learn how to search, collect, analyse, validate, and synthesize data permitting them to make pragmatic and ethical business decisions. Students will demonstrate an understanding of the Internet's limitless potential to link data, information, and people in order to seek the truth and build knowledge.

Strand(s) and Expectations

Ontario Catholic Graduate Expectations: 1D, 2C, 3B, 3C, 3D, 3E, 4A, 4F, 5G, 7B, 7I

Strand(s): Information Management; Software Applications; Electronic Communication; Electronic Research and Ethical Issues

Overall Expectations: IMV.01X, SAV.02X, ECV.02X, .03X; EEV.01X, .02X, .03X

Specific Expectations: IM1.01X, .03X; IM2.04X; IM3.04X, .05X; IM4.03X, .04X, .05X; SA2.01X, .02X, .03X; SA3.03X; EC2.02X, .03X, .04X; EC3.01X, .02X, .03X, .04X, .05X; EE1.01X, .02X, .03X, .04X, .05X; EE2.01X, .02X, .03X, .04X; EE3.01X, .02X, .03X, .04X

Activity Titles (Time and Sequence)

Activity 1	Introduction to the Internet, Intranet and Extranet	300 minutes
Activity 2	Netiquette: Legal, Ethical and Moral Issues	225 minutes
Activity 3	Researching the WWW Productively	750 minutes
Activity 4	Collaborating Using Internet Tools	225 minutes
Activity 5	Applying Research and Collaborative Research Skills to Create Knowledge	375 minutes

Unit Planning Notes

This unit will require advanced preparation by the teacher. The teacher will guide the direction of student research but remain flexible in order to encourage student creativity. All activities will lead the students to successfully complete a final project for this unit

Prior Knowledge Required

The student must be very familiar with the operation of a network personal computer. A basic understanding of word processing and file management is necessary.

Teaching/Learning Strategies

This unit provides opportunities to generate, select and develop project ideas related to the unit's expectations and the student's interests. Teachers will demonstrate research techniques as often as possible to model the appropriate research strategies. Student activities will emphasize "learning by doing".

Assessment and Evaluation

Formative

- Teacher Observational Checklists
- Student Checklist
- Technical Journal
- Student-Teacher Conferencing
- Terminology Quizzes
- Case Studies Applying Moral and Ethical Decision Making

Summative

- Research project that integrates skills that have been learned through the unit
- Apply a rubric to evaluate the final project

Resources

Internet

IMS INTERNET MARKETING SERVICES - This Internet marketing service provides businesses with information on how to use the Internet to improve business.

<http://www.erehwon.com>

ALPHABET SUPERHIGHWAY - This educational web site, sponsored by the US Dept. of Education, assists teachers in creating, locating and communicating information through on line activities.

<http://www.ash.udel.edu/ash/>

BEGINNERS' CENTRAL - This site is dedicated to helping people learn how to use information available on the Internet in a coherent manner.

<http://www.northernwebs.com/bc/>

THE NET: USER GUIDELINES AND NETIQUETTE -By Arlene Rinaldi and Florida Atlantic University

<http://www.fau.edu/netiquette/net/index.html>

THE 10 COMMANDMENTS FOR COMPUTER ETHICS – from the Computer Ethics Institute, Florida Atlantic Institute.

<http://www.fau.edu/netiquette/net/ten.html>

EDUCATION AND THE INTERNET: OPPORTUNITIES AND PITFALLS

http://teachers.work.co.nz/internet_education.html

GLOSSARY OF INTERNET TERMS - Extensive set of Internet terms

<http://www.matisse.net/files/glossary.html>

THE HELPWEB - A guide to new users of the Internet that covers many basics.
<http://www.imagescape.com/helpweb>

INTERNATIONAL SCHOOL WEBSITE DIRECTORY
<http://web66.coled.umn.edu/schools.html>

THE INTERNET TOURBUS - This is a virtual tour of the best of the Internet.
<http://www.tourbus.com/>

INTERNET 101 – This is a high quality on-line guide to the internet.
<http://www2.famvid.com/i101/internet101.html>

INTRODUCTION TO HTML
<http://www.cwru.edu/help/introHTML/toc.html>

LEARNING RESOURCE SERVER – Provides links to some of the most exciting uses of technologies for learning on the Internet (College of Education, University of Illinois)
<http://lrs.ed.uiuc.edu/>

THE SPIDER'S APPRENTICE - Suggestions for searching the web more efficiently.
<http://www.monash.com/spidap.html>

WHERE THE WILD THINGS ARE – This is a librarian's guide to the best information on the Internet. Click on *Internet Resources* for information on the social impact of the Internet, technical assistance and viruses. Click on *Training Resources* for a wealth of training information.
<http://www.sau.edu/CWIS/Internet/Wild/index.htm>

Print

Bix, Cynthia et al. Kids do the Web, San Jose, CA.: Adobe Press, 1996.

Cram, Carol M. World Wide Web, Capilano College, North Vancouver, BC, 1997.

Lamb, Annette. The Magic Carpet Ride, 2nd ed. Emporia, Kansas: Prepublication Printing, 1998.

Perkins, Joyce and Jernigan. Activities for the Internet: An Introduction. Cincinnati: South-Western Educational Publishing, 1998.

Poindexter, Sandra. E~Course Netscape Navigator, Cambridge, MA, Course Technology, 1997

Video

“Caught in the Net”: 14 minutes. Viewers are urged to think critically about the many sources of information on the Internet.

“Inside the Internet”: 28 minutes

“Internet for Educators”: 66 minutes. Offers a step-by-step guide to demonstrating techniques for using the World Wide Web and E-mail.

“Webheads”: 47 minutes (CBC). Explains history of the Internet and how it is expected to develop.
All from the TCDSB Professional Library

Unit #4: Business Presentation: Presenting Ideas Using the New Media

Time: 21.25 Hours

Unit Developer(s):

Toronto Catholic District School Board

Development Date: February, 1999

Unit Description

In this unit students will explore the power of the new media, electronic presentation tools, web-pages, and e-mail to communicate in business. Students will develop skills related to the selection of the most appropriate tool and best format given a specific project, operation, plan or proposal. In their communications, students will demonstrate respect and appreciation for the diversity of the global environment.

Strands and Expectations

Ontario Catholic Graduate Expectations: 2C, 2D, 4B, 4C, 4F, 5A, 5F, 5G, 7B, 7I

Strand(s): Information Management; Information Management

Overall Expectations: IMV.01X, SAV.02X, ECV.01X, .02X; EEV.03X

Specific Expectations: EC1.01X, .02X, .03X, .04X; EC2.01X, .02X, .03X, .04X; EC3.01X, .02X, .03X, .04X, .05X; EE3.01X, .03X, .04X; SA3.01X

Activity Titles (Time and Sequence)

Activity 1	Communicating Information in Business	150 minutes
Activity 2	Publishing in Print	375 minutes
Activity 3	E-mail and Voice Mail	150 minutes
Activity 4	Web Publishing	375 minutes
Activity 5	Dynamic Office Presentation Tools	225 minutes

Unit Planning Notes

It is assumed that students have acquired a certain level of competency in the use of productivity tools upon completion of Unit 2 and Internet skills in Unit 3. Teachers should make an attempt to contact a teacher in another school who is teaching this same course in order to arrange an environment for authentic data exchange using e-mail.

Prior Knowledge Required

Students will have acquired competence in the following areas: operation of a computer, basic understanding of productivity tools.

Teaching/Learning Strategies

Students will progress through this unit communicating business ideas using a variety of new media tools. Students begin by exchanging information by using e-mail with fellow classmates, students in the school and students in other schools. Students then use a publishing tool to present their ideas in printed format. Pairs of students will produce camera-ready brochures on IT products of their choice. Next, students will prepare a web page for the purpose of presenting their interests and personality and/or a theme of their choice. Finally, students use an electronic presentation tool to deliver a fifteen-minute presentation.

Assessment/ Evaluation

A variety of assessment strategies will be used. Diagnostic and summative tests, presentations using presentation and communications software, and portfolios will be employed.

Resources

Internet

HTML TUTORIALS -This web site, created John C. Gilson, a Mathematics Department Head at Pauline Johnson Collegiate in Brantford, teaches people to design their own web sites.
<http://www.bfree.on.ca/HTML/>

Print

Kitto, Rick and Scott, Robb. Internet Web Pages. London, Ontario: KS Publications, 1997.

Video

“Infologie”: 10 programs, 30 minutes each
MS Publisher
from TCDSB Professional Librarian

Unit #5: Career Dynamics: Positioning Oneself for Success

Time: Concurrent Delivery with Other Units

Unit Developer(s):

Toronto Catholic District School Board

Development Date: February, 1999

Unit Description

In this unit students will learn how to plan for and participate in the working world of E-business that is increasingly characterized by invention, project-based team work, entrepreneurship, change, and the challenge of life-long learning. Students will learn techniques to discern the purpose of their working lives and manage their potential with dignity, respect, and success.

Strand(s) and Expectations

Ontario Catholic Graduate Expectations: 1D, 1G, 3C, 3D, 3E, 4A, 4B, 4D, 4E, 4G, 5B, 5C, 5D, 5H, 7B

Strand(s): Career Opportunities

Overall Expectations: COV.01X, .02X, .03X

Specific Expectations: CO1.01X, .02X, .03X, .04X; CO2.01X, .02X, .03X, .04X, .05X; CO3.01X, .02X, .03X

Activity Titles (Time and Sequence)

Activity 1	Unit Career Exploration	<i>Delivered concurrently</i>
Activity 2	Gathering IT Career Data	<i>Delivered concurrently</i>
Activity 3	Learning Log: IT Skills	<i>Delivered concurrently</i>
Activity 4	Electronic Job Search	<i>Delivered concurrently</i>
Activity 5	Comparative IT Career Analysis	<i>Delivered concurrently</i>

Unit Planning Notes

The careers unit can be most effectively delivered by its integration of topics throughout the course. Classroom teachers should work closely with the Student Services Department to co-ordinate the planning of the unit. Students will have the opportunity to explore a variety of career options in the IT field that are appropriate for the range of ability levels within the classroom.

Prior Knowledge Required

Students will possess a sound understanding of the IT terminology that was introduced in Unit 1. Students will also be familiar with the school's course calendar and have begun to prepare a planning chart for their high school program.

Teaching/Learning Strategies

Current newspapers will be available to the students. Teachers should obtain a directory of local businesses through the Chamber of Commerce or the Board of Trade. Career exploration software such as "Choices" should be accessible on the network. Teachers will gather course calendars of community colleges, universities and private institutions for student research. Teachers will employ interest inventory software and have students explore job advertisements in the IT field. Comparisons of IT careers should remain a focus of the unit.

Assessment/Evaluation

Formative:

- Completion of interest inventories and self-assessment exercises.

Summative:

- Oral presentations on IT careers that employ a variety of communication methods.

Resources

Internet

HRDC TORONTO'S LABOUR MARKET INFORMATION SITE - This site has work trends and career information for the Toronto Region.

<http://www.toronto-hrdc.sto.org/lmi/lmi-x.html>

HRDC JOB SEARCH

<http://jobs-gta.sto.org/cgi-bin/English/SearchForJobs/obtainNOCCodes.cgi?214559>

HRDC JOB FUTURES - A two part-publication, which provides Canadians with information about the current world of work and projections for the future. Part I contains Occupational Outlooks and Part II contains Career Outlooks for Graduates.

<http://www.hrdc-drhc.gc.ca/JobFutures/english/index.htm>

HUMAN RESOURCES DEVELOPMENT CANADA ONTARIO REGION - This site has work trends and career information for the Toronto Region.

<http://www.on.hrdc-drhc.gc.ca/english>

Appendix III: Student Manual

Introduction to Information Technology in Business

Manual for New Students

Introduction

Welcome to the course! During this semester you will be provided with many exciting opportunities to learn about the use of Information Technology both in business and in our communities. You will learn skills that you will be able to use, not only to complete projects in for this class but for others as well. Your “job description” as a member of this class is described below. Follow it closely and you will have the best chance of success!

Secondary Policy Document Course Description

This course introduces students to the use of information technology in a business environment. Students will learn how to use information technology in a work environment, perform electronic research, communicate electronically, and use common business software. They will also explore possible future occupations in information technology.

Unit Titles

Unit 1	E-Business: Transforming Our Communities Using Information Technology	18.75 Hours
Unit 2	Productivity Tools: Utilizing the Power of Business Software	37.5 Hours
Unit 3	Knowledge Management: Accessing the Global Network of People and Information	32.5 Hours
Unit 4	Business Communication: Presenting Ideas Using the New Media	21.25 Hours
Unit 5	Career Dynamics: Positioning Oneself for Success	<i>Delivered concurrently</i>

Student Job Description

Follow all class guidelines and procedures.
Maintain your notebook following specified guidelines.
Maintain your supplementary notes and folders as required:

- Glossary
- Technical Journal
- Portfolio – hard and electronic copy
- Summary of marks and marked tests, quizzes and assignments

Maintain a positive attitude and work environment.

Student Notebook

As students journey through this exciting course, you will be supplied with a great deal of information on relevant topics. Much of this information is to be filed in a separate BTT notebook. A well-organized and complete notebook will be a valuable reference and studying resource for you. It is recommended that you use a large three-ring binder into which material can be easily inserted. Notebooks should be organized into the following sections:

- **General Information**
- *Glossary [See Below]*
- *Unit 1 – Notes*
- *Unit 2 – Notes*
- *Unit 3 – Notes*
- *Unit 4 – Notes*
- *Unit 5 – Notes*
- *Checklists, Marked Work*
- *Miscellaneous*
- *Portfolio [See Below]*

Glossary

Glossaries are like dictionaries and are very useful for reference and studying purposes. The glossary for this course will contain terms and expressions relevant to Information Technology in Business. In the beginning the glossary will be updated using pen and paper. Later in the course, the glossary will be organized and updated electronically. The glossary should be set up as shown below.

Term	Explanation	Activity
Operating System	Software that manages the operation of a computer and peripheral devices.	Operating Systems
Ascending Order	Order which goes from lowest to highest (e.g. 0-9; A-Z)	Spreadsheets

Technical Journal

You will be required to maintain a "Technical Journal" in which you will record newly learned procedures. This will serve as a handy personal reference to which you can refer for specific procedures that are often difficult to memorize. For example, you might begin by listing the steps required to access your computer and later note the web site that was particularly useful for one of your searches. (See Appendix IV for sample format.)

Portfolio

Your portfolio will contain samples of your exemplary work. This work should be saved into a separate electronic folder and a hard copy should be filed in the portfolio section of the your notebook. The work could be presented to a potential employer as a demonstration of what you are able to do. Sample work will be collected from most, if not all, the units. As work is filed in your portfolio, you should update the Portfolio Table of Contents.

Examples of work which will be filed in your portfolio are:

- Multi-Page Essay
- Spreadsheet
- Charts
- Graphic Production
- Database report

Evaluation

Refer to the course evaluation criteria provided by your teacher.

Appendix IV

A Sample Technical Journal

Date: January 1, 2000 *Sample*

Software	Hardware	Internet
To change the date on my computer.....	To hook up my Christmas printer....	To access the Y2K web site....

Date:

Software	Hardware	Internet

Date:

Software	Hardware	Internet

Appendix V

Getting to know your Computer Lab

Using your assigned computer, answer questions 1 to 5 below. When instructed, return to your group and continue to answer 6, 7 and 8 with your group members.

1. What are the parts of your computer?
2. Do you see a name and model number on the computer? Write it down.
3. What is the title of the program that you were using?
4. What parts did you use to operate the program that you were using?
5. When/Why did you use those parts?
6. What other equipment is in this room?
7. What do we need to do in this classroom in order to work neatly and safely?
8. What are three class rules that will help students work neatly and safely in this room?

Appendix VI

Sample Case Study to use with Unit 1, Activity 4

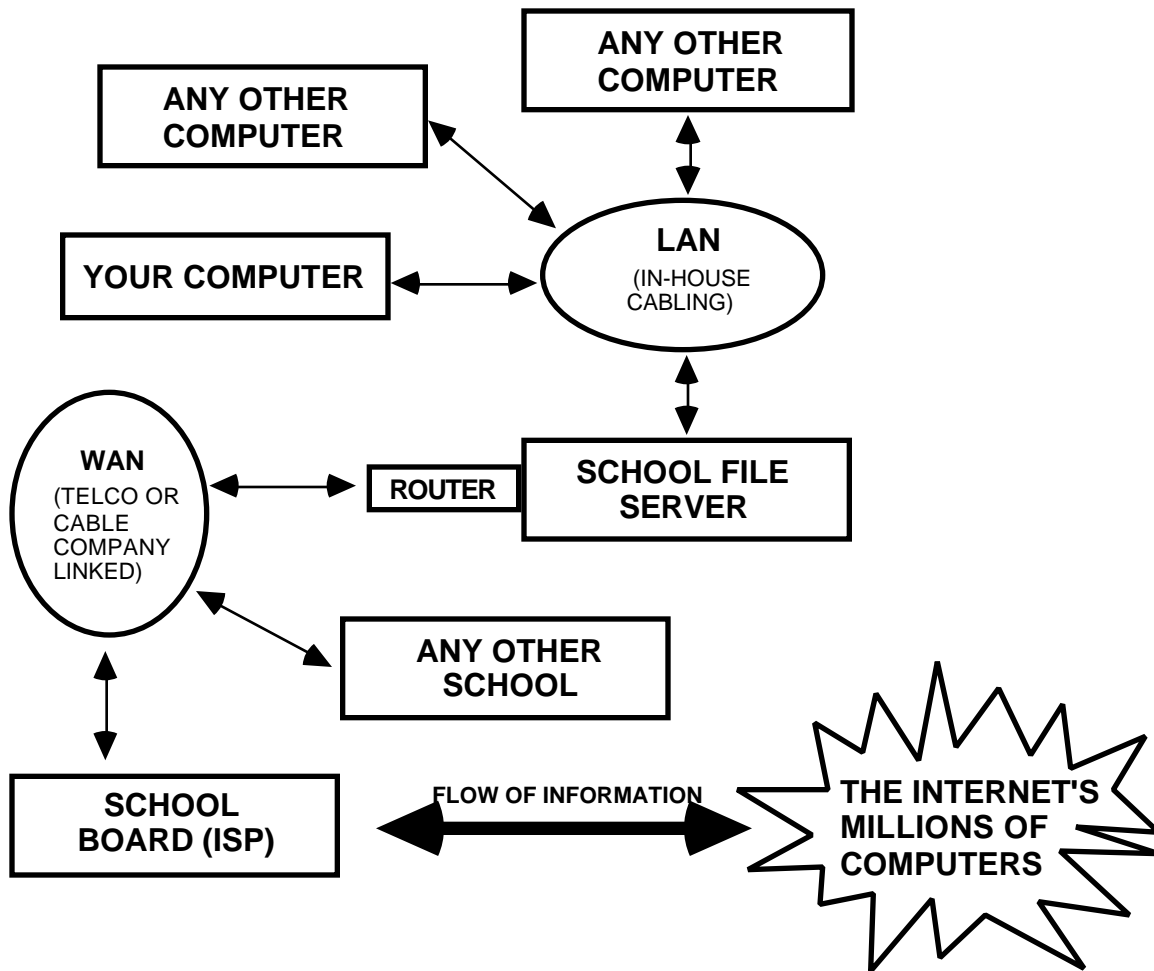
Please help me find the right computer!

I have \$3000 and I need a fully loaded system that I can carry around with me all day. I need to be able to play music CDs and run really detailed graphics programs. I will be installing lots of programs, so I need a really big hard drive... at least 8 GB. My computer at work has a zip drive and I need to be able to move a lot of files from one computer to another using this drive. I need to use the Internet a lot and send faxes too. I would really like to buy a well known brand too. What do you think? Tell me exactly what I can get and where.

A desperate computer buyer

Appendix VII
Network Design

Computer Local Area Network, Wide Area Network and Internet Connections



Appendix VIII

Checklist for Word processing Exercise

PRODUCTIVITY TOOLS

Activity #2: Word Processing

Lab Exercise

Instructions: Circle Yes or No to each question.

Question	<i>Circle Response</i>	
With regard to the exercise...		
Is the file saved?	YES	NO
Is the title centered and in full caps?	YES	NO
Are paragraphs indented?	YES	NO
Is the spacing correct throughout the exercise?	YES	NO
Are the margins correct?	YES	NO
Is boldface used?	YES	NO
Is underscoring used?	YES	NO
Are italics used?	YES	NO
Is the exercise centered vertically?	YES	NO
Are all spelling/grammatical errors corrected?	YES	NO
TOTAL:		

STUDENT'S NAME:

COVER PAGE

Word 97

1. Plan your cover page –make sure you cover the five W’s: who, what, when, where, and why.
2. Type your cover page information at the left margin. Do not concern yourself with format at this point.
3. To create a border choose *format*, then *borders and shading*.
 - a) Select the *page border* tab.
 - b) Choose from the border options: *Box, Shadow or 3-D*
 - c) In the *line style* area, select the preferred line style.
 - d) In *apply to:* section, select: *This section – first page only*.
4. Select your typed information and then centre vertically:
 - a) Select *file, page setup, layout* tab.
 - b) In *vertical alignment* box, choose *center*.
 - c) In the *apply to:* area, choose *selected text*.

Apply font changes and horizontal centering where appropriate.

Use the *print preview* and spell check functions to check your work.

TABLE OF CONTENTS

Word 97

Design and build a table of contents by using built-in heading styles

1. In your document, using the formatting toolbar, apply built-in heading styles (Heading 1 through Heading 9) to the headings you want to include in your table of contents.
2. Click where you want to insert the table of contents.
3. On the Insert menu, click *Index and Tables*, and then click the *Table of Contents* tab.
4. To use one of the available designs, click a design under Formats.

MULTI-PAGE REPORTS Checklist

A multi-page report includes:

1. Cover Page
2. Table of Contents
3. Body
 - Title/Headings
 - Headers and Footers
 - Appropriate margin settings, spacing and indentation
4. Endnotes/Footnotes
5. Bibliography

FOOTNOTES and ENDNOTES

Word 97

To insert a footnote or an endnote:

1. Click where you want to insert the note reference mark.
2. In the Insert menu, click *Footnote*.
3. Click *Footnote* or *Endnote*.
4. Type the note in the footnote pane, and then click in the document to continue typing.
5. The program will number your footnotes consecutively and place them at the bottom of the page.

BIBLIOGRAPHY

Word 97

1. Key bibliography and references and save.
2. With the bibliography on the screen choose *table* from the menu and choose *sort*.
3. In the *sort by* box choose *Paragraphs*. Click on *ok* and your bibliography is sorted.
4. Centre your bibliography title.
5. Save.

Appendix XIV
Sample Rubric for Evaluation of Multi-Page Report (Unit 2, Activity 2)

WORD PROCESSING – MULTI-PAGE REPORT – Page 1 of 2					
Application/ Productivity	Level 1	Level 2	Level 3	Level 4	Student Achievement
Cover Page	<ul style="list-style-type: none"> •Missing 2 or more informational items •Little or no apparent formatting (e.g. centering) 	<ul style="list-style-type: none"> •Missing 1 Informational Item •Some attempt to format Information 	<ul style="list-style-type: none"> •Information complete •Good incorporation of formatting features 	<ul style="list-style-type: none"> •Information complete •Striking format 	
Table of Contents	<ul style="list-style-type: none"> •Missing 2 or more informational items •Little or no evidence of formatting 	<ul style="list-style-type: none"> •Missing 1 Informational Item •Some attempt made to format Information 	<ul style="list-style-type: none"> •Information complete •All formatting instructions followed 	<ul style="list-style-type: none"> •Initiative shown in information presentation and formatting 	
Body: •Title/Headings •Margins •Spacing •Indentation •Headers/Footers	<ul style="list-style-type: none"> •Significant number of formatting errors/omissions 	<ul style="list-style-type: none"> •2 or more formatting errors/omissions 	<ul style="list-style-type: none"> •1 formatting error/omission 	<ul style="list-style-type: none"> •No errors or omissions in formatting 	
Endnotes and Footnotes	<ul style="list-style-type: none"> •Missing 1 or more endnotes/footnotes •Significant lack of information •Little or no attempt to format correctly 	<ul style="list-style-type: none"> •Information Incomplete •Glaring errors in formatting 	<ul style="list-style-type: none"> •Information complete •Minor errors in formatting (e.g., incorrect punctuation) 	<ul style="list-style-type: none"> •Information complete •No formatting errors 	
Bibliography	<ul style="list-style-type: none"> •Missing 2 or more major informational items (e.g., sources) •Bibliographic entries consistently incomplete •Little or no attempt to follow formatting instructions 	<ul style="list-style-type: none"> •Missing 1 or more informational Items •Some errors/omissions in specific bibliographic Information •Some formatting errors 	<ul style="list-style-type: none"> •All informational items presented •1 or 2 errors/omissions in specific bibliographic information •Minor formatting errors (e.g., punctuation) 	<ul style="list-style-type: none"> •Complete presentation of all informational items •No formatting errors 	
Thinking/Inquiry And Problem Solving	Level 1	Level 2	Level 3	Level 4	Student Achievement
Report Content-Career Information Researched: •Job Description Required •Education/Skills Required •Salary Range Expectations •Experience Required •Applicable Industries •Personal Assessment	<ul style="list-style-type: none"> •Missing 2 or more topics •Significant gaps in information 	<ul style="list-style-type: none"> •Missing 1 topic •Some Informational gaps 	<ul style="list-style-type: none"> •All topics researched •No noticeable information gaps 	<ul style="list-style-type: none"> •Additional topics/information provided •Superior development of topics 	

WORD PROCESSING – MULTI-PAGE REPORT - Page 2 of 2

Communication	Level 1	Level 2	Level 3	Level 4	Student Achievement
Spelling and Grammar	<ul style="list-style-type: none"> •Significant number of spelling and grammatical errors •Clearly evident spell and grammar checks not used 	<ul style="list-style-type: none"> •Some spelling and grammatical errors 	<ul style="list-style-type: none"> •A few spelling and/or grammatical errors 	<ul style="list-style-type: none"> •No spelling or grammatical errors 	
Writing Style (Body) <ul style="list-style-type: none"> •Sentence and paragraph structure •Coherence 	<ul style="list-style-type: none"> •Missing introduction •Significant number of errors (e.g., sentence fragments) •Incorrect paragraphing •Noticeable lack of coherence 	<ul style="list-style-type: none"> •Weak introduction •Some structural errors •Occasional lack of coherence 	<ul style="list-style-type: none"> •Good introduction •Few, if any structural errors •Good coherence 	<ul style="list-style-type: none"> •Introduction stimulates interest •Superior writing style (complete, coherent, creative) •Use of compound and complex sentences •Demonstrates a developed vocabulary (e.g., comfortable with formal writing, avoids use of slang and/or illiterate expressions) 	
Most Consistent Level of Achievement:					

Appendix XV

Tracking Down My Skill Development: Spreadsheet Functions					
<i>I am able to ...</i>	I still need to learn how to do it.	I can do it but need help.	I can do it myself!	I can do it myself and help others do it.	Teacher's SIGNOFF
save a spreadsheet					
scroll through data					
return home					
use the help feature					
key in alphanumeric data					
key in numeric data					
insert columns/rows					
change column/row widths					
change decimal places					
fix decimal places					
format for currency					
fill right/down					
justify labels/values					
move columns					
copy columns					
protect cells					
print a spreadsheet in landscape					
Use formulas and functions to ...					
add					
subtract					
multiply					
divide					
sum					
average					
minimum/maximum					
Use the charting function to ...					
label/title charts					
create legends for charts					
create pie charts					
create line/bar charts					

Appendix XVI
Sample Rubric for Evaluation of Spreadsheets

Categories	Level 1	Level 2	Level 3	Level 4
<p>Knowledge and Understanding</p> <ul style="list-style-type: none"> - knowledge of spreadsheet terms - understanding of uses for spreadsheets - understanding of functions of spreadsheet's features 	<ul style="list-style-type: none"> - demonstrates limited understanding of spreadsheet terms - demonstrates limited understanding of uses of spreadsheets - demonstrates limited understanding of spreadsheet's features 	<ul style="list-style-type: none"> - demonstrates some understanding of spreadsheet terms - demonstrates some understanding of uses of spreadsheets - demonstrates some understanding of spreadsheet's features 	<ul style="list-style-type: none"> - demonstrates considerable understanding of spreadsheet terms - demonstrates considerable understanding of uses of spreadsheets - demonstrates considerable understanding of spreadsheet's features 	<ul style="list-style-type: none"> - demonstrates thorough understanding of spreadsheet terms - demonstrates thorough understanding of uses of spreadsheets - demonstrates thorough understanding of spreadsheet's features
<p>Thinking/Inquiry</p> <ul style="list-style-type: none"> - thinking skills in the organization of a spreadsheet - application of an inquiry process to use spreadsheet in the solution of business problems - interpretation of data - drawing inferences from data 	<ul style="list-style-type: none"> - demonstrates limited thinking skills - demonstrates limited ability to employ inquiry process in use of spreadsheets in the solution of business problems - demonstrates limited ability to draw inferences from data 	<ul style="list-style-type: none"> - demonstrates some evidence of thinking skills in the organization of spreadsheets - demonstrates some ability to employ inquiry process to use spreadsheets in the solution of business problems - demonstrates some ability to draw inferences from data 	<ul style="list-style-type: none"> - demonstrates considerable thinking skills in organization of spreadsheets in the organization of data - demonstrates considerable skill in the development of solutions to spreadsheet problems - demonstrates considerable skill in interpreting data - demonstrates considerable skill in drawing inferences from data 	<ul style="list-style-type: none"> - demonstrates advanced skill in the organization of data - demonstrates advanced skill in the development of solutions to spreadsheet's problems - demonstrates advanced skill in interpreting data - demonstrates advanced skill in drawing inferences from data
<p>Application of Knowledge, Ideas and Skills</p> <ul style="list-style-type: none"> - data entry skills - performing data manipulation - evidence of application of spreadsheet terms 	<ul style="list-style-type: none"> - demonstrates weak data entry skills - demonstrates minimal capacity to manipulate data - infrequently is able to apply spreadsheet terms to solve problems 	<ul style="list-style-type: none"> - sometimes demonstrates proper data entry skills - sometimes demonstrates ability to manipulate data - sometimes is able to apply spreadsheet terms to solve problems 	<ul style="list-style-type: none"> - usually applies sound data entry skills - usually is able to manipulate data with skill - usually is able to apply spreadsheet terms to solve problems 	<ul style="list-style-type: none"> - routinely applies advanced data entry skills - routinely is able to manipulate data with skill - routinely is able to apply spreadsheet terms to solve problems

Appendix XVII

Exemplar for Unit #2, Activity #4

Line Reference Chart



Straight line, 2.25 point



Straight line, 3 point



Straight line, 6 point



Dotted straight line



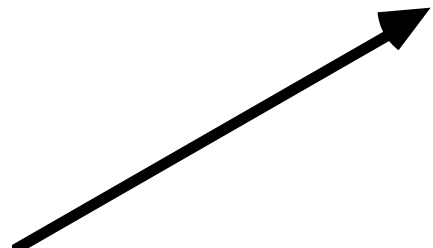
Dashed straight line



Arrow line, 2.5



Reverse arrow line, 1



Angled arrow line, 1.5 point

Appendix XVIII

RUBRIC FOR MINDING THE MAZE					
Thinking/ Inquiry and Problem Solving	Level 1	Level 2	Level 3	Level 4	Student Achievement
Excellence and Originality	Thematic choice is not obvious.	Thematic choice is evident.	Design supports selected theme consistently and appropriately.	Design supports selected theme consistently, appropriately and uniquely.	
Time Management	Submits an incomplete maze late.	Completes maze but submits it late.	Completes and submits maze on time and independently without stress.	Completes and submits maze on time and independently without stress and finds the time to help another student as well.	
Communication	Level 1	Level 2	Level 3	Level 4	Student Achievement
Business Standards Met	Mistakes are obvious.	Presentation neat and clean with minor mistakes.	Presentation neat and clean with NO mistakes.	Presentation striking with NO mistakes.	
Follows Written Instruction	Several details are missing.	One detail is missing.	All assigned details have been addressed.	All assigned details have been addressed and additional details have been included.	
Follows Oral Instruction	Student remains unaware of instruction.	Student awareness of instruction is evident.	Student attempts to use instruction.	Application of instruction enhances student work.	
Application/ Productivity	Level 1	Level 2	Level 3	Level 4	Student Achievement
Uses Basic Functions and Features of Graphic Tools	Gaps exist between lines, there may be wrinkles in lines, Clip Art is not included.	Lines drawn are mostly straight and carry the same weight. Clip Art is inserted sloppily.	Lines drawn carry the same or obviously varying weights, are straight, have no gaps, Clip Art is inserted perfectly without distortions and some shading is used.	Lines drawn carry the same or obviously varying weights, are straight, have no gaps, Clip Art is inserted perfectly without distortions and shading is used with effect. Student exceeds number of lines rows/columns required by a significant margin yet is able to maintain quality described above.	
Most Consistent Level of Achievement:					

Appendix XIX

Sample Rubric for Evaluation of Databases

Categories	Level 1	Level 2	Level 3	Level 4
<p>Knowledge and Understanding</p> <ul style="list-style-type: none"> - knowledge of data base terms - understanding of uses for databases - understanding of functions of database software's features 	<ul style="list-style-type: none"> - demonstrates limited understanding of database terms - demonstrates limited understanding of uses of databases - demonstrates limited understanding of database software's features 	<ul style="list-style-type: none"> - demonstrates some understanding of data entry terms - demonstrates some understanding of uses of databases - demonstrates some understanding of database software's features 	<ul style="list-style-type: none"> - demonstrates considerable understanding of database terms - demonstrates considerable understanding of uses of databases - demonstrates considerable understanding of database software's features 	<ul style="list-style-type: none"> - demonstrates thorough understanding of database terms - demonstrates thorough understanding of uses of databases - demonstrates thorough understanding of database software's features
<p>Thinking/Inquiry</p> <ul style="list-style-type: none"> - thinking skills in the organization of database - application of an inquiry process to use databases in the solution of business problems - interpretation of data - drawing inferences from data 	<ul style="list-style-type: none"> - demonstrates limited thinking skills - demonstrates limited ability to employ inquiry process to use databases in the solution of business problems - demonstrates limited ability to draw inferences from data 	<ul style="list-style-type: none"> - demonstrates some evidence of thinking skills in the organization of data - demonstrates some ability to employ inquiry process to use databases in the solution of business problems - demonstrates some ability to draw inferences from data 	<ul style="list-style-type: none"> - demonstrates considerable skill in the organization of data - demonstrates considerable skill in the development of solutions to database problems - demonstrates considerable skill in interpreting data - demonstrates considerable skill in drawing inferences from data 	<ul style="list-style-type: none"> - demonstrates advanced skill in the organization of data - demonstrates advanced skill in the development of solutions to database problems - demonstrates advanced skill in interpreting data - demonstrates advanced skill in drawing inferences from data
<p>Application of Knowledge, Ideas and Skills</p> <ul style="list-style-type: none"> - data entry skills - performing data manipulation - evidence of application of database terms 	<ul style="list-style-type: none"> - demonstrates weak data entry skills - demonstrates minimal capacity to manipulate data - infrequently is able to apply database terms to solve problems 	<ul style="list-style-type: none"> - sometimes demonstrates proper data entry skills - sometimes demonstrates ability to manipulate data - sometimes is able to apply database terms to solve problems 	<ul style="list-style-type: none"> - usually applies sound data entry skills - usually is able to manipulate data with skill - usually is able to apply database terms to solve problems 	<ul style="list-style-type: none"> - routinely applies advanced data entry skills - routinely is able to manipulate data with skill - routinely is able to apply database terms to solve problems