CMCF5103 FUNDAMENTALS OF ICT

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Developed by: *Centre for Instructional Design and Technology*
Open University Malaysia

Printed by: Meteor Doc. Sdn. Bhd.
Lot 47-48, Jalan SR 1/9, Seksyen 9,
Jalan Serdang Raya, Taman Serdang Raya,
43300 Seri Kembangan, Selangor Darul Ehsan

First Printing, January 2009
Second Printing, August 2009
Third Printing, December 2009
Fourth Printing, April 2010
Fifth Printing, July 2010

Version July 2010

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COURSE GUIDE

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WELCOME TO CMCF 5103 FUNDAMENTALS OF ICT

The course CMCF5103 Fundamentals of ICT is one of the required courses for the Master of Information Technology. The course assumes little previous knowledge and experience in information technology. This is a 3-credit course conducted over a 15-week semester.

WHAT WILL YOU GET FROM DOING THIS COURSE?

Description of the Course

All organisations in the twenty first century operate in the digital economy, which is based on digital technology. This course gives an overview of the technology that is required by all these organisations to operate in this digital economy.

This course begins with an overview of IT and its application in business organisations. This is followed by detailed discussions on various concepts related to IT such as computer hardware, computer software, telecommunication and networking. The second part of the course will discuss various technologies that provide the foundation for business transaction and processes. The topics covered include Internet and mobile computing, information systems and data and knowledge management. Issues related to network and computer security will also be covered. The third part of the course will explain some of the applications of ICT, which include e-commerce and managerial support system. Application of ICT in the society will also be discussed. The last topic will cover issues related to the use of artificial intelligence such as in expert system and intelligent support system.

Aim of the Course

The general aim of this course is to give you an overview of Information Technology and its use, especially in business environment.

Course Learning Outcomes

After completing this course, you should be able to:

1. Explain the concept of Information Technology and its role in the modern global business environment.
2. Identify IT infrastructure required by business organisations.

3. Classify types of information and information systems required by business organisations
4. Identify and use some of the IT applications.
5. Explain how IT can be implemented in an organisation.
6. Appreciate the impact of IT to people and organisations.

HOW CAN YOU GET THE MOST FROM THIS COURSE?

This module only provides some of the information required for you to understand the fundamentals of ICT. Since this technology develops very fast, it is very important for you to keep an eye on the progress of ICT. One of the interesting sources of information is **wikipedia**, that enables you to find information about almost everything. However, you have to note that wikipedia is not an authentic source of information. You can also browse through the web to search for information. Another source of information is the newpapers and ICT magazines. Most of the daily newpapers have a weekly ICT section that covers some of recent development in ICT.

Learning Package

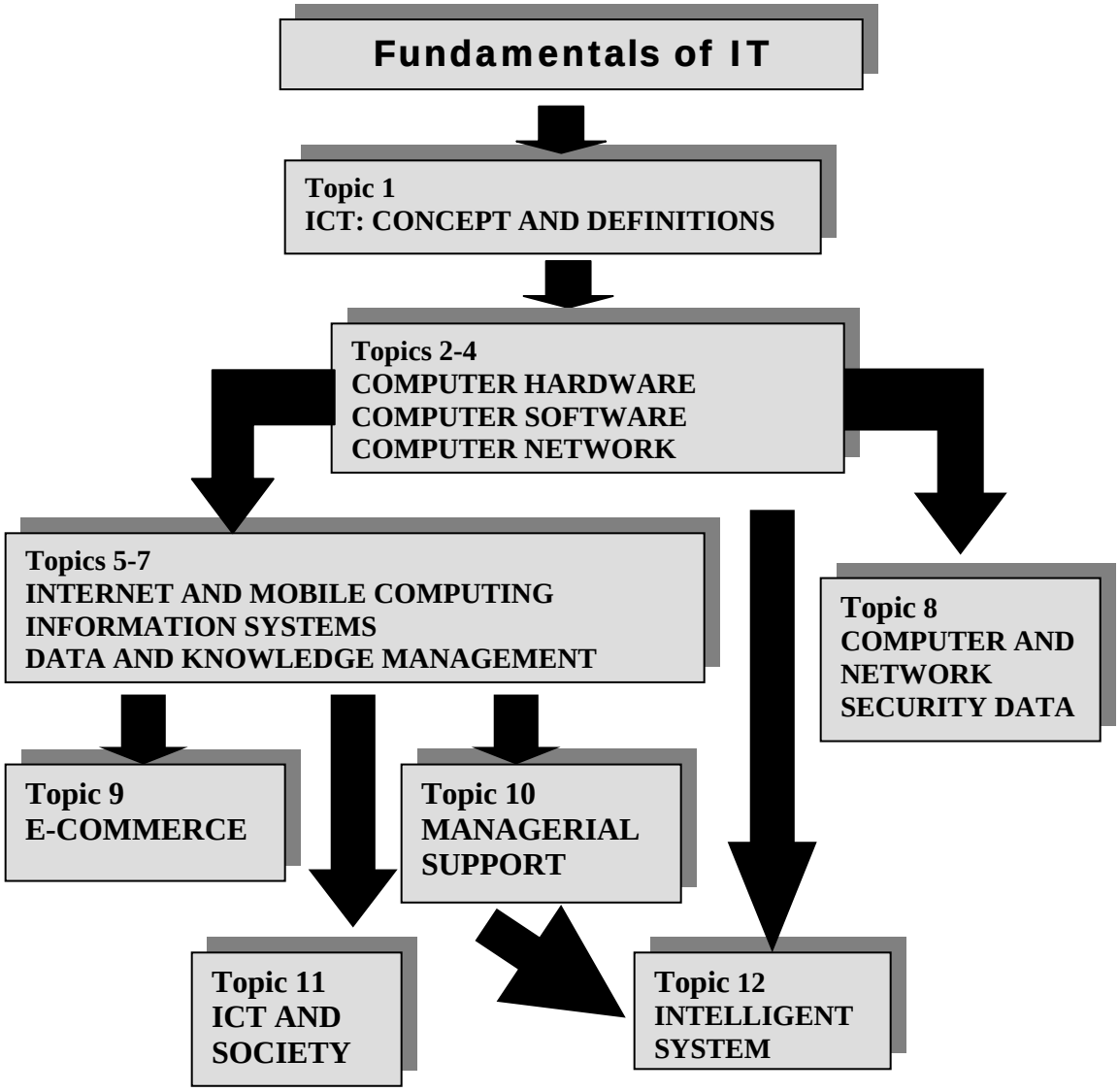
In this Learning Package you are provided with THREE kinds of course materials:

1. The Course Guide you are currently reading
2. The Course Content (consisting of 12 Topics) and
3. The Course Assessment Guide (which describes the assignments to be submitted and the examinations you have to sit for) will be given to you in a separate folder.

Please ensure that you have all of these materials.

Course Overview

The diagram below portrays the relationship between various topics covered in this course.



Course Content

This course is divided into 12 Topics as follows:

Topic 1: IT - Concept and Definitions

In this topic, you will learn basic concepts of IT. Some of the topics covered are the importance of ICT, ICT architecture, ICT infrastructure and ICT acquisition process.

Topic 2: Computer Hardware
This topic discusses THREE components of computer hardware: processors, memory, I/O technologies.

Topic 3: Computer Software
This Topic will discuss the concept of computer software. It will then discuss two types of computer software: system software and application software.

Topic 4: Computer Network
Discussion in this Topic will cover the concept of telecommunication and computer network. It will also discuss the concept of Internet, intranet and extranet. Topic on world-wide web is also covered since it is the most important application of Internet.

Topic 5: Internet and Mobile Computing
Computers are no longer being used as a stand-alone machine. Instead, computers are now connected to other computers by the vast web of computer network, called the Internet. A global network of computers provide the concept of network computing, which support new ways of doing business. The development in computing technology has invented small computers that are easy to carry or even to wear. Such mobile devices via wireline or wireless network.

Topic 6: Information Systems
The most important application of IT for business organisations is theinformation system. In this topic, we are going to discuss the three tiers of information systems from functional systems, enterprise information systems and interorganisational or information systems.

Topic 7: Data and Knowledge Management
The main purpose of IT is to handle data which include the process of data acquisition, data storage, data analysis and data transmission. Properly managed, these data become information and from the information we can get knowledge. Information and knowledge are highly valuable organisational resources and the basis of much competitive advantage.

Topic 8: Computer and Network Security
Topics covered in this Topic include computer crime, virus and worms. Methods of protecting information resources will also be discussed.

Topic 9: E-Commerce

One of the applications of network computing is called e-business, which enable the process of procument, shopping, bussiness collaboration and customer services to be provided through computer. The mobile computing provides the infrastructure for mobile commerce.

Topic 10: Managerial Support System

This is a continuation of Topic 8 to discuss specifically on information systems to support managers in making their decisions.

Topic 11: ICT and Society

Applications of ICT in society includes e-learning, e-government, virtual organisations and virtual communities. These four topics are discussed in this Topic.

Topic 12: Intelligent System

The final Topic in this module discusses the current development in order to develop intelligent computer systems. Two examples of intelligent systems discussed in this Topic are expert systems and intelligent support systems.

Organisation of Course Content

In distance learning, the module replaces the university lecturer. This is one of the main advantages of distance learning where specially designed materials allow you to study at your own pace, anywhere and at anytime. Think of it as reading the lecture instead of listening to a lecturer. In the same way that a lecturer might assign something for you to read or do, the module tells you what to read, when to read and when to do the activities. Just as a lecturer might ask you questions in class, your module provides exercises for you to do at appropriate points.

To help you read and understand the individual Topics, numerous realistic examples support all definitions, concepts and theories. Diagrams and text are combined into a visually appealing, easy-to-read module. Throughout the course content, diagrams, illustrations, tables and charts are used to reinforce important points and simplify the more complex concepts. The module has adopted the following features in each Topic:

ACTIVITY

These are situations drawn from situations to show how knowledge of the principles of learning may be applied to real-world situations. The activities illustrate key points and concepts dealt with in each Topic.

SELF-CHECK

Questions are interspersed at strategic points in the Topic to encourage review of what you have just read and retention of recently learned material. The answers to these questions are found in the paragraphs before the questions. This is to test immediately whether you understand the few paragraphs of text you have read. Working through these tests will help you determine whether you understand the Topic and prepare you for the assignments and the examination.

SUMMARY

The main ideas of each Topic are listed in brief sentences to provide a review of the content. You should ensure that you understand every statement listed. If you do not, go back to the Topic and find out what you do not know.

KEY TERMS

Key terms discussed in the Topics are placed at the end of each Topic to make you aware of the main ideas. If you are unable to explain these terms, you should go back to the Topic to clarify.

READINGS

At the end of each Topic, a list of articles and Topics of books is provided that is directly related to the contents of the Topic. As far as possible, the articles and books suggested for further reading will be available in OUM's *Digital Library* which you can access and OUM's Library. Also, relevant Internet resources are available to enhance your understanding of selected curriculum concepts and principles as applied in real-world situations.

HOW WILL YOU BE ASSESSED?

Assessment Format

There are TWO aspects to the assessment of the course – assignment and final examination. See the table below for the weighting and important dates for each type of assessment.

Type	Weighting	Due Date
1. Facilitator-Marked Assignment	50%	4th Seminar
2. Final Examination	50%	Examination week
TOTAL	100%	

1. ASSIGNMENT 50%
   There is ONE Facilitator-Marked Assignment (FMA) in this course. You need to complete the materials before working on the FMA. More specific instructions are contained in the Course Assignment Guide provided. Apart from that you will also be required to do some class exercises, which are basically simple questions to check whether you have understood certain important concepts related to the course.

2. FINAL EXAMINATION 50%
   The final examination for CMCF 5103 will be THREE HOURS long and comprises of two parts:

Part A: (40 marks)	This part consists of short answer questions.
Part B: (60 marks)	This part consists of essay questions.

Sample Part A Questions:

- List FOUR examples of open source software.
- According to Porter's five forces model, two of the threats that could endanger an organisation's competitive position are **threats of new entrants** and **threat of substitute**. Give brief explanations about the two threats.

Sample Part B Questions:

- Discuss the benefits and limitations of e-commerce. There are a number of models of B2B applications. Explain and give an example for each of the following models: **sell-side marketplace, buy-side marketplace** and **electronic exchange.**
- Discuss the impact of IT on jobs, health and privacy.

WHAT SUPPORT WILL YOU GET IN STUDYING THIS COURSE?

Seminars

There are 15 hours of seminars or face-to-face interaction supporting the course. These consist of FIVE seminar sessions of three hours each. You will be notified of the dates, times and location of these seminars, together with the name and phone number of your facilitator, as soon as you are allocated a seminar group.

MyVLE Online Discussion

Besides the face-to-face seminar sessions, you have the support of online discussions. You should interact with other students and your facilitator using MyVLE. Your contributions to the online discussion will greatly enhance your understanding of course content, how to go about doing the assignments and preparation for the examination.

Facilitator

Your facilitator will mark your assignments. Do not hesitate to discuss during the seminar session or online if:

- You do not understand any part of the course content or the assigned readings.
- You have difficulty with the self-tests and activities.
- You have a question or problem with the assignments.

Library Resources

The Digital Library has a large collection of books, journals, thesis, news and references which you can access using your student ID.

Learner Connexxions

This is an online bulletin which provides interesting and relevant information to help you along the programme. There are many useful study hints and you can read about the experiences of other distant learners.

HOW SHOULD YOU STUDY FOR THIS COURSE?

1. Time Commitment for Studying

You should plan to spend about five to eight hours per Topic, reading the notes, doing the self-tests and activities and referring to the suggested readings. You must schedule your time to discuss online. It is often more convenient for you to distribute the hours over a number of days rather than spend one whole day per week on study. Some Topics may require more work than others, although on average, it is suggested that you spend approximately three days per Topic.

It is important to note that this is a three credit course, which implies that you are required to spend about 120 learning hours for this course. The proposed allocation of time is as follows:

Activities	Learning Hours
1. Reading through the course modules and doing the exercises: 12 Topics x 5 hours per Topic	60 hours
2. Attending the seminars/online discussion	30 hours
3. Doing the assignment:	30 hours
Total	120 hours

2. Proposed Study Strategy

The following is a proposed strategy for working through the course. If you run into any trouble, discuss it with your facilitator either online or during the seminar sessions. Remember, the facilitator is there to help you.

(a) The most important step is to read the contents of this Course Guide thoroughly.

(b) Organise a study schedule. Note the time you are expected to spend on each Topic and the date for submission of assignments as well as seminar and examination dates. These are stated in your Course Assessment Guide. Put all this information in one place, such as your diary or a wall calendar. Whatever method you choose to use, you

should decide on and jot down your own dates for working on each Topic. You have some flexibility as there are 12 Topics spread over a period of 15 weeks.

(c) Once you have created your own study schedule, make every effort to 'stick to it'. The main reason students are unable to cope is because they get behind in their coursework.

(d) To begin reading a Topic:

- Remember in distance learning much of your time will be spent READING the course content. Study the list of topics given at the beginning of each Topic and examine the relationship of the Topic to the other nine Topics.
- Read the Topic overview showing the headings and subheadings to get a broad picture of the Topic.
- Read the Topic learning outcomes (what is expected of you). Do you already know some of the things to be discussed? What are the things you do not know?
- Read the introduction (see how it is connected with the previous Topic).
- Work through the Topic. (The contents of the Topic has been arranged to provide a sequence for you to follow)
- As you work through the Topic you will be asked to do the self-test at appropriate points in the Topic. This is to find out if you understand what you have just read.
- Do the activities (to see if you can apply the concepts learned to real-world situations)

(f) When you have completed the Topic, review the learning outcomes to confirm that you have achieved them and are able to do what is required.

(g) If you are confident, you can proceed to the next Topic. Proceed Topic by Topic through the course and try to pace your study so that you keep yourself on schedule.

(h) After completing all Topics, review the course and prepare yourself for the final examination. Check that you have achieved all Topic learning outcomes and the course objectives (listed in this Course Guide).

PLAGIARISM

What is Plagiarism?

Any written assignment (essays, project, take-home exams, etc) submitted by a student must not be deceptive regarding the abilities, knowledge or amount of work contributed by the student. There are many ways that this rule can be violated, as listed below.

- Outright plagiarism: Large sections of the paper are simply copied from other sources and are **not acknowledged** as quotations.
- Paraphrasing: The student paraphrases a closely reasoned argument of an author without acknowledging that he/she has done so. Clearly, all our knowledge is derived from somewhere but detailed arguments from clearly identifiable sources **must be acknowledged**.
- Other sources: Essays or papers **written by other** students or **sold** by unscrupulous organisations are submitted by students.
- Works by others: Taking credit deliberately or not deliberately for **work produced by another** without giving proper acknowledgement. The work includes photographs, charts, graphs, drawings, statistics, video clips, audio clips, verbal exchanges such as interviews or lectures, performances on television and texts printed on the web.
- Double Credit: The student submits the **same essay for two or more courses**.

Avoiding Plagiarism

- Insert quotation marks around a "copy and paste" clause, phrase, sentence or paragraph and cite the original source;
- Paraphrase a clause, phrase, sentence or paragraph in your own words and cite the source;
- Adhere to the American Psychological Association (APA) stylistic format when citing a source and when writing the bibliography or reference page;
- Attempt to write independently without being overly dependent on information from other people's original works; and
- Educate yourself on what may be considered as common knowledge (no copyright necessary), public domain (copyright has expired or not protected under copyright law) or copyrighted (legally protected).

FINAL REMARKS

Once again, welcome to the course. To maximise your gain from this course you should try at all times to relate what you are studying to the real world. Look at the environment and ask yourself whether the ideas discussed apply to your institution. Most of the ideas, concepts and principles you learn in this course have practical applications. It is important to realise that much of what we do in education and training has to be based on sound theoretical foundations. The contents of this course provide the principles and theories explaining human learning whether it be in a school, college, university or training organisation.

We wish you success with the course and hope that you will find it interesting, useful and relevant in your development as a professional. We hope you will enjoy your experience with OUM and we would like to end with a saying by Confucius – "Education without thinking is labour lost".