

校本 ICT

朗文初中電腦課程

本系列的課次一覽表

課題 A — 辦公室應用軟件

- 1 文書處理 (一)
- 2 文書處理 (二)
- 3 試算表 (一)
- 4 試算表 (二)
- 5 試算表 (三)
- 6 資訊演示 (一)
- 7 資訊演示 (二)
- 8 試算表 (四)

課題 B — 多媒體製作

- 1 文本
- 2 圖形
- 3 音頻
- 4 視像
- 5 動畫 (一)
- 6 動畫 (二)
- 7 互動多媒體製作

課題 C — 電腦系統

- 1 電腦系統基礎
- 2 中央處理器
- 3 主記憶體：RAM 和 ROM
- 4 輔助存貯設備
- 5 輸入及輸出設備
- 6 系統軟件及應用軟件
- 7 電腦系統的類型

課題 D — 網頁編寫

- 1 網頁編寫和 HTML 基礎知識
- 2 建立網頁上的超連結
- 3 處理網頁上的圖形
- 4 建立多媒體網頁
- 5 使用表格來設定版面配置
- 6 網站管理
- 7 使用 Dreamweaver 範本來設定版面配置

課題 E — 互聯網應用及保安

- 1 建網及互聯網基礎知識
- 2 無線網絡
- 3 互聯網服務及應用
- 4 道德及知識產權
- 5 互聯網上的威脅及保安
- 6 互聯網服務及應用的進一步認識

課題 F — RAPTOR 程序編寫

- 1 解決問題的過程
- 2 RAPTOR 程序編寫簡介
- 3 程序編寫控制結構 (一) — 順序及選擇
- 4 程序編寫控制結構 (二) — 迭代
- 5 空運行與迭代控制結構的進一步認識

校本 ICT

朗文初中電腦課程

本系列的教材一覽表

學習資源

- 學生課本
- 網上學習資源

學習工具

- 學生電子課本
- 模擬程序及視像
- 電子家課
- 課後練習的 PDF 檔案

活動資源

- 資源檔案
- 網上延伸活動

- 平板電腦學習資源

- 學生電子課本
- 即時課後練習

教學資源

- 學生課本 (附教學指引)
- 網上教學資源

教學工具

- 教師電子課本
- 模擬程序及視像
- 網上增潤活動
- 電子家課
- 題目庫
- 課後練習的 PDF 檔案

備課資源

- 教學進度表
- 教學指引
- 資源檔案
- 網上延伸活動

- 平板電腦教學資源

- 教師電子課本
- 即時課後練習

校本 ICT

朗文初中電腦課程

本系列的學習目標及所用軟件

課題 A – 辦公室應用軟件

| 章名 | 頁數 | 學習目標 | 學生課本內所用的軟件 |
|------------|----|--|----------------------|
| 1 文書處理 (一) | 20 | <ul style="list-style-type: none">● 識別文本樣式設定、段落格式化和版面配置設定的典型例子。● 描述如何把圖片插入至 Word 文件中，以及設定已被插入的圖片的屬性。● 描述如何製作文件的硬複本。 | Microsoft Word 2007 |
| 2 文書處理 (二) | 16 | <ul style="list-style-type: none">● 描述如何在 Word 文件中建立表格。● 描述如何把符號和方程式插入至 Word 文件中。● 了解如何把頁首和頁尾插入至 Word 文件中。● 描述如何檢查 Word 文件中的拼字、文法和字數。 | |
| 3 試算表 (一) | 16 | <ul style="list-style-type: none">● 描述工作表、儲存格和儲存格位址是甚麼。● 描述數據如何以表格形式來演示。● 描述數據如何以圖表形式來演示。 | Microsoft Excel 2007 |
| 4 試算表 (二) | 16 | <ul style="list-style-type: none">● 描述用來令 Excel 工作表更適合進行數據演示和檢視的操作方法。● 描述數據如何根據不同條件按遞升或遞降次序排列。● 描述數據如何根據不同條件被篩選。 | |

| | | | |
|------------|-----|--|---------------------------|
| 5 試算表 (三) | 16 | <ul style="list-style-type: none"> ● 了解試算表內的公式是如何運作的。 ● 描述如何使用試算表運算符來進行算術運算。 ● 識別試算表運算符的優先次序。 ● 描述如何把函數插入至試算表的公式中。 ● 描述如何使用常見的數學函數。 | |
| 6 資訊演示 (一) | 16 | <ul style="list-style-type: none"> ● 描述如何以不同方法來檢視演示檔案。 ● 描述如何利用一些實用指令來操作一個投影片演示。 ● 描述如何把新的投影片和多媒體元素插入至演示檔案中。 ● 描述如何加入投影片切換效果和更改演示檔案的佈景主題。 | Microsoft PowerPoint 2007 |
| 7 資訊演示 (二) | 12 | <ul style="list-style-type: none"> ● 描述準備演示所涉及的步驟。 ● 識別籌畫演示時所需的資訊。 ● 描述如何籌畫演示、為演示收集及選取資訊。 ● 描述如何為演示組織所選取的資訊。 ● 描述進行演示前及期間應注意的事項。 | |
| 8 試算表 (四) | 16 | <ul style="list-style-type: none"> ● 描述如何使用算術運算符來進行邏輯運算。 ● 描述如何使用常用的統計函數。 ● 描述如何使用常用的邏輯函數。 | Microsoft Excel 2007 |
| 總計 | 128 | | - |

課題 B – 多媒體製作

| 章 名 | 頁 數 | 學習目標 | 學生課本內所用的軟件 |
|---------|-----|--|---|
| 1 文本 | 20 | <ul style="list-style-type: none"> ● 舉出字型 and 字體兩者之間的分別。 ● 了解影響文件可讀性的因素。 ● 舉出如何選擇合適的字型大小和樣式。 ● 認識不同的文本對齊方式。 ● 了解不同的文件檔案格式的功能和特性。 | <ul style="list-style-type: none"> ● Type 3.2 Font Editor ● Google 文件 |
| 2 圖形 | 20 | <ul style="list-style-type: none"> ● 舉出兩個主要的圖形類別。 ● 描述點陣圖和向量圖形的特性及其用途。 ● 比較不同的點陣圖檔案格式和向量圖形檔案格式。 | <ul style="list-style-type: none"> ● Inkscape ● GIMP |
| 3 音頻 | 16 | <ul style="list-style-type: none"> ● 了解音頻屬性，如響度和音高。 ● 認識音效卡及多種音頻輸入和輸出設置。 ● 舉出單聲道和立體聲兩者之間的分別。 ● 舉出多種音頻檔案格式（如 WAV 和 MIDI）的特性及其用途。 ● 描述如何編輯一個 MIDI 檔案。 | Anvil Studio |
| 4 視像 | 20 | <ul style="list-style-type: none"> ● 認識用來擷取及貯存視像的設備。 ● 說明一些編輯視像的例子。 ● 把常用視像檔案格式作比較。 ● 了解如何儲存多媒體檔案為 Windows Live Movie Maker 中的專案檔案。 | Windows Live Movie Maker |
| 5 動畫（一） | 16 | <ul style="list-style-type: none"> ● 熟悉 2D 及 3D 動畫的特性，以及建立這些動畫的步驟。 ● 描述如何建立一個 GIF 動畫。 | picasion.com |

| | | | |
|-----------|-----|--|------------------------------|
| 6 動畫 (二) | 20 | <ul style="list-style-type: none"> ● 描述 Adobe Flash 的基本功能。 ● 說明如何利用 Adobe Flash Professional CS6 來建立一個 Flash 影片。 ● 說明如何在 Adobe Flash Professional CS6 中利用傳統補間和形狀補間來建立補間動畫。 ● 比較 FLA 和 SWF 格式的特性。 | Adobe Flash Professional CS6 |
| 7 互動多媒體製作 | 20 | <ul style="list-style-type: none"> ● 認識互動多媒體元素的意思。 ● 說明如何使用 Adobe Flash 來建立按鈕。 ● 說明如何把音頻片段匯入至 Flash 影片。 ● 描述 Action Script 的基本功能。 | |
| 總計 | 132 | - | - |

課題 C – 電腦系統

| 章名 | 頁數 | 學習目標 | 學生課本內所用的軟件 |
|------------------|----|---|--|
| 1 電腦系統基礎 | 16 | <ul style="list-style-type: none"> ● 描述電腦系統的基本部件。 ● 描述周邊設備的意思和分類。 ● 指出系統組內不同的部件。 | -- |
| 2 中央處理器 | 12 | <ul style="list-style-type: none"> ● 描述中央處理器的基本功能。 ● 描述 ALU、CU 和快取記憶體的功能。 ● 認識如何量度中央處理器的速度。 ● 認識中央處理器的冷卻系統如何運作。 ● 識別中央處理器的超頻風險。 | Microsoft Windows 的控制台 |
| 3 主記憶體：RAM 和 ROM | 12 | <ul style="list-style-type: none"> ● 認識主記憶體的基本概念。 ● 描述隨機存取記憶體、唯讀記憶體和快取記憶體的的特性。 ● 認識快取記憶體如何改善電腦的性能。 ● 描述快閃記憶體的的特性。 ● 舉出快閃記憶體的例子。 | <ul style="list-style-type: none"> ● Windows 工作管理員 ● Microsoft Windows Vista 的控制台 ● Windows 的引導程序 ● CPU-Z ● Microsoft Windows 所提供的 DVD 燒錄軟件 |
| 4 輔助存貯設備 | 16 | <ul style="list-style-type: none"> ● 描述輔助存貯設備的功能。 ● 舉出輔助存貯設備的常用種類。 ● 認識如何量度輔助存貯設備的速度和存貯容量。 ● 描述硬碟的內部結構。 ● 描述固態硬碟的特點。 ● 比較固態硬碟和傳統硬碟。 | <ul style="list-style-type: none"> ● Microsoft Windows 所提供的 DVD 燒錄軟件 ● WinZip |

| | | | |
|-------------|-----|---|--|
| 5 輸入及輸出設備 | 16 | <ul style="list-style-type: none"> ● 熟悉不同類型的輸入設備和輸出設備。 ● 識別不同類型的輸入設備和輸出設備的功能。 | <ul style="list-style-type: none"> ● Microsoft Word XP/2007/2010 ● 掃描器所提供的光符識別軟件 |
| 6 系統軟件及應用軟件 | 20 | <ul style="list-style-type: none"> ● 識別系統軟件的功能和部件。 ● 舉出不同類型的操作系統及描述其功能。 ● 舉出不同類型的實用程序及描述其功能。 ● 描述驅動程序的功能。 ● 識別應用軟件的分類及描述其功能。 | <ul style="list-style-type: none"> ● 命令提示字元 (MS-DOS) ● Windows Vista 內的磁碟清理工具 |
| 7 電腦系統的類型 | 16 | <ul style="list-style-type: none"> ● 識別電腦的分類。 ● 識別不同類別的電腦的特性。 | -- |
| 總計 | 108 | - | - |

課題 D – 網頁編寫

| 章 名 | 頁 數 | 學習目標 | 學生課本內所用的軟件 |
|-------------------|-----|--|-----------------------|
| 1 網頁編寫和 HTML 基礎知識 | 20 | <ul style="list-style-type: none"> ● 解釋萬維網、網站和網頁三者之間的分別。 ● 明白網頁編寫的意思。 ● 讓學生熟悉 Adobe Dreamweaver CS6 的工作環境。 ● 建立一個簡單的網頁，並以常用的網頁瀏覽器來預覽該網頁。 ● 解釋甚麼是 HTML 和 HTML 標記。 ● 描述如何利用 HTML 標記來格式化網頁上的內容。 | Adobe Dreamweaver CS6 |
| 2 建立網頁上的超連結 | 12 | <ul style="list-style-type: none"> ● 識別網頁上的超連結。 ● 建立文本超連結和圖形超連結。 ● 描述超連結的一些常見用途。 ● 描述超連結可連接的項目。 | |
| 3 處理網頁上的圖形 | 20 | <ul style="list-style-type: none"> ● 解釋點陣圖與向量圖形兩者之間的分別。 ● 舉出變換圖像的屬性。 ● 在變換圖像上建立圖形超連結。 ● 熟悉不同種類的圖像編輯 — 剪裁圖像、調整圖像的亮度及對比度，以及調整點陣圖的圖像質素和檔案大小。 ● 認識外部圖像編輯器的額外功能。 ● 舉出多種常見的圖像編輯器。 | |
| 4 建立多媒體網頁 | 16 | <ul style="list-style-type: none"> ● 說明如何修改網頁的版面。 ● 說明如何把音樂加入至網頁中。 ● 解釋 GIF 動畫和 Flash 動畫兩者之間的分別。 ● 說明如何把 Flash 動畫插入至網頁中。 | |

| | | | |
|----------------------------|-----|--|-------------------------------|
| 5 使用表格來設定版面配置 | 20 | <ul style="list-style-type: none"> ● 描述網頁的版面配置中的主要部件。 ● 描述如何利用表格來建立一個版面配置。 ● 說明如何設置一個表格的多個屬性。 ● 說明如何把版面配置由一個網頁複製至另一網頁上。 ● 說明如何把網站中的網頁連接起來。 ● 說明如何把一個網頁中的內容複製至另一網頁上。 | |
| 6 網站管理 | 24 | <ul style="list-style-type: none"> ● 描述如何利用 Adobe Dreamweaver CS6 來建立一個本機網站。 ● 舉出寄存網站的步驟。 ● 描述如何登記一個免費的網頁寄存帳戶。 ● 了解 FTP 的功能。 ● 讓學生熟悉 Adobe Dreamweaver CS6 的檔案管理。 ● 說明如何利用 Adobe Dreamweaver CS6 來把網檔案上載至遠程網伺服器。 | Adobe Dreamweaver CS6, BIZ.NF |
| 7 使用 Dreamweaver 範本來設定版面配置 | 20 | <ul style="list-style-type: none"> ● 描述如何使用 Adobe Dreamweaver 來建立自訂版面配置。 ● 舉出層疊樣式表 (CSS) 的基本功能。 ● 描述如何使用 Dreamweaver 範本來控制版面配置。 | Adobe Dreamweaver CS6 |
| 總計 | 132 | | |

課題 E – 互聯網應用及保安

| 章名 | 頁數 | 學習目標 | 學生課本內所用的軟件 |
|--------------|----|--|---|
| 1 建網及互聯網基礎知識 | 16 | <ul style="list-style-type: none"> ● 描述局部區域網絡和寬廣區域網絡是甚麼。 ● 識別對等網絡與客戶/伺服器網絡的不同之處。 ● 描述網絡界面卡、交換器和路由器的功能。 ● 描述甚麼是互聯網服務供應商。 ● 指出現今寬頻調制解調器的數據傳輸速度。 | draw.io |
| 2 無線網絡 | 20 | <ul style="list-style-type: none"> ● 明白使用無線網絡的優點和缺點。 ● 識別不同流動設備的特點。 ● 指出 Wi-Fi 和多輸入多輸出 (MIMO) 技術的特性。 ● 描述無線路由器的特點。 ● 明白如何使用服務集標識符 (SSID) 來識別一個無線局部區域網絡。 ● 描述無線連接所使用的安全標準。 ● 描述雙頻無線路由器是甚麼。 | Windows Vista / 7 的的命令提示字元 |
| 3 互聯網服務及應用 | 20 | <ul style="list-style-type: none"> ● 指出互聯網是甚麼。 ● 指出互聯網協定位址是甚麼。 ● 描述 IPv4 位址的二進制表示法和點式十進制表示法。 ● 描述 IPv6 位址的表示方法。 ● 指出網域名稱是甚麼。 ● 描述網域名稱系統的功能。 | <ul style="list-style-type: none"> ● Windows Vista / 7 的的命令提示字元 ● draw.io |
| 4 道德及知識產權 | 16 | <ul style="list-style-type: none"> ● 指出知識財產的意思。 ● 解釋我們為甚麼需要知識產權。 ● 指出知識產權的主要類別。 ● 指出軟件的主要類別。 ● 描述專有軟件和開放源碼軟件之間的分別。 | - |

| | | | |
|------------------|-----|---|------------------------------|
| 5 互聯網上的威脅及保安 | 16 | <ul style="list-style-type: none"> ● 解釋指出不同惡意軟件的性質和損害。 ● 描述惡意軟件的傳播途徑。 ● 明白抗電腦病毒軟件和抗間諜軟件程序如何保護電腦，免受惡意軟件入侵。 ● 明白防火牆如何保護電腦，免受來自互聯網的未獲授權人士存取。 | |
| 6 互聯網服務及應用的進一步認識 | 20 | <ul style="list-style-type: none"> ● 描述網域名稱的慣常用法。 ● 描述如何建構一個 URL。 ● 識別搜尋器如何運作。 | 搜尋器 (例如 Internet Explorer) |
| 總計 | 108 | - | - |

課題 F – RAPTOR 程序編寫

| 章 名 | 頁 數 | 學習目標 | 學生課本內所用的軟件 |
|-----------------------|-----|--|------------|
| 1 解決問題的過程 | 8 | <ul style="list-style-type: none"> ● 解釋為甚麼需要學習解決問題。 ● 說明有系統地解決問題的步驟。 ● 識別一些流程圖符號和其所代表的操作。 | RAPTOR |
| 2 RAPTOR 程序編寫的簡介 | 16 | <ul style="list-style-type: none"> ● 明白 RAPTOR 所提供的基本功能。 ● 熟悉 RAPTOR 的工作環境。 ● 認識 RAPTOR 的流程圖符號。 ● 說明如何繪畫、編輯和執行一個 RAPTOR 流程圖。 ● 指出變量是如何運作的。 ● 明白賦值操作是如何運作的。 | |
| 3 程序編寫控制結構(一) — 順序及選擇 | 16 | <ul style="list-style-type: none"> ● 明白程序編寫的三種基本控制結構。 ● 指出順序控制結構的特性。 ● 指出選擇控制結構的特性。 ● 熟悉選擇控制結構的邏輯。 ● 識別 RAPTOR 中的關係運算符。 | |
| 4 程序編寫控制結構(二) — 迭代 | 16 | <ul style="list-style-type: none"> ● 說明迭代控制結構是如何運作的。 ● 舉出前測循環和後測循環之間的分別。 ● 指出數據有效性檢驗的意思。 ● 說明如何利用選擇控制結構和迭代控制結構來進行有效性檢查。 | |
| 5 空運行與迭代控制結構的進一步認識 | 16 | <ul style="list-style-type: none"> ● 描述計數器如何控制迭代。 ● 識別空運行如何為算法進行除錯。 | |
| 總計 | 72 | - | - |

School-based ICT

Longman Computer Course for Junior Secondary

Full Chapter List of the Series

Theme A – Office Applications

- 1 Word Processing (I)
- 2 Word Processing (II)
- 3 Spreadsheets (I)
- 4 Spreadsheets (II)
- 5 Spreadsheets (III)
- 6 Presentation of Information (I)
- 7 Presentation of Information (II)
- 8 Spreadsheets (IV)

Theme B – Multimedia Production

- 1 Text
- 2 Graphics
- 3 Audio
- 4 Video
- 5 Animation (I)
- 6 Animation (II)
- 7 Interactive Multimedia Production

Theme C – Computer Systems

- 1 Basics of a Computer System
- 2 Central Processing Unit
- 3 Main Memory: RAM and ROM
- 4 Secondary Storage Devices
- 5 Input and Output Devices
- 6 System Software and Application Software
- 7 Types of Computer Systems

Theme D – Web Authoring

- 1 Web Authoring and HTML Basics
- 2 Creating Hyperlinks on Web Pages
- 3 Manipulating Graphics on Web Pages
- 4 Creating Multimedia Web Pages
- 5 Configuring Page Layout Using a Table
- 6 Web Site Management
- 7 Configuring a Page Layout Using Dreamweaver Templates

Theme E – Internet Applications and Security

- 1 The Networking and Internet Basics
- 2 Wireless Networking
- 3 Internet Services and Applications
- 4 Ethics and Intellectual Properties
- 5 Threats and Security on the Internet
- 6 More on Internet Services and Applications

Theme F – RAPTOR Programming

- 1 Problem-Solving Procedure
- 2 Introduction to RAPTOR Programming
- 3 Programming Control Structures (I) – Sequence and Selection
- 4 Programming Control Structures (II) – Iteration
- 5 Dry Run and More on Iteration Control Structures

School-based ICT

Longman Computer Course for Junior Secondary

Component List of the Series

Learning Resources

- Student's Books
- Online Learning Resources

Learning Tools

- Student's E-book
- Simulations and Videos
- E-Assignment
- PDF files for Chapter-end Exercise

Activity Resources

- Resource Files
- Online Extended Activities

- Tablet Learning Resources
 - Student's E-book
 - Instant Chapter-end Exercise

Teaching Resources

- Student's Books (with Teacher's Guides)
- Online Teaching Resources

Teaching Tools

- Teacher's E-book
- Simulations and Videos
- Online Enrichment Activities
- E-Assignment
- Question Bank
- PDF files for Chapter-end Exercise

Lesson Preparation Resources

- Teaching Plan
- Teacher's Guide
- Resource Files
- Online Extended Activities

- Tablet Teaching Resources
 - Teacher's E-book
 - Instant Chapter-end Exercise

Learning Objectives and Software List of the Series

Theme A – Office Applications

| Chapter name | Number of pages | Learning Objectives | Software used in student's books |
|------------------------|-----------------|---|----------------------------------|
| 1 Word Processing (I) | 20 | <ul style="list-style-type: none"> Recognize the typical examples of text styling, paragraph formatting and page layout setting. Describe how to insert pictures into a Word document and set the properties of a picture that has been inserted. Describe how to produce a hard copy of a document. | Microsoft Word 2007 |
| 2 Word Processing (II) | 16 | <ul style="list-style-type: none"> Describe how to create a table in a Word document. Describe how to insert symbols and equations into a Word document. Understand how to insert a header and a footer in a Word document. Describe how to check the spelling, grammar and the number of words in a Word document. | |
| 3 Spreadsheets (I) | 16 | <ul style="list-style-type: none"> Describe what worksheets, cells and cell addresses are. Describe how data is presented in tabular form. Describe how data is presented using a chart. | Microsoft Excel 2007 |
| 4 Spreadsheets (II) | 16 | <ul style="list-style-type: none"> Describe the ways of manipulating an Excel worksheet to make it more suitable for data presentation and viewing. Describe how data is sorted in ascending or descending orders according to different criteria. Describe how data is filtered according to different criteria. | |
| 5 Spreadsheets (III) | 16 | <ul style="list-style-type: none"> Understand how formulae in a spreadsheet work. Describe how to use a spreadsheet operator to perform arithmetic operations. | |

| | | | |
|------------------------------------|-----|--|---------------------------|
| | | <ul style="list-style-type: none"> ● Recognize the order of spreadsheet operators. ● Describe how to insert a function into a spreadsheet formula. ● Describe how to use common mathematical functions. | |
| 6 Presentation of Information (I) | 16 | <ul style="list-style-type: none"> ● Describe how to view a presentation file in different ways. ● Describe how to manipulate a slide show using some useful commands. ● Describe how to insert new slides and multimedia elements into a presentation file. ● Describe how to add slide transition effects and change the theme of a presentation file. | Microsoft PowerPoint 2007 |
| 7 Presentation of Information (II) | 12 | <ul style="list-style-type: none"> ● Describe the steps of making preparations for a presentation. ● Recognize the information required in planning a presentation. ● Describe how to plan, collect and select information for a presentation. ● Describe how to organize the information selected for a presentation. ● Describe what should be aware before and during conducting a presentation. | |
| 8 Spreadsheets (IV) | 16 | <ul style="list-style-type: none"> ● Describe how to use arithmetic operators to perform logical operations. ● Describe how to use common statistical functions. ● Describe how to use common logical functions. | Microsoft Excel 2007 |
| Total | 128 | | - |

Theme B – Multimedia Production

| Chapter name | Number of pages | Learning Objectives | Software used in student's books |
|-----------------|-----------------|---|---|
| 1 Text | 20 | <ul style="list-style-type: none"> ● State the differences between fonts and typefaces. ● Understand the factors that affect the readability of a document. ● State how to choose a suitable font size and style. ● Recognize different text alignments. ● Understand the functions and features of different document file formats. | <ul style="list-style-type: none"> ● Type 3.2 Font Editor ● Google Docs |
| 2 Graphics | 20 | <ul style="list-style-type: none"> ● State two main types of graphics. ● Describe the properties and uses of bitmaps and vector graphics. ● Compare various bitmap file formats and vector graphics file formats. | <ul style="list-style-type: none"> ● Inkscape ● GIMP |
| 3 Audio | 16 | <ul style="list-style-type: none"> ● Understand the properties of sound, such as loudness and pitch. ● Recognize sound cards and various audio input and output devices. ● State the difference between mono and stereo sounds. ● State the properties and uses of various audio file formats, such as WAV and MIDI. ● Describe how to edit a MIDI file. | Anvil Studio |
| 4 Video | 20 | <ul style="list-style-type: none"> ● Recognize the devices that can capture and store a video. ● Illustrate some examples of editing of a video. ● Comparing common video file formats. ● Understand how to save multimedia files as a project file in Windows Live Movie Maker. | Windows Live Movie Maker |
| 5 Animation (I) | 16 | <ul style="list-style-type: none"> ● Be familiar with the features of 2D and 3D animations, and the steps of creating them. ● Describe how to create a GIF animation. | picasion.com |

| | | | |
|---|-----|---|------------------------------|
| 6 Animation (II) | 20 | <ul style="list-style-type: none"> ● Describe the basic functions of Adobe Flash. ● Illustrate how to create a Flash movie by using Adobe Flash Professional CS6. ● Illustrate how to create tweened animations using Classic Tween and Shape Tween in Adobe Flash Professional CS6. ● Compare the properties of FLA and SWF formats. | Adobe Flash Professional CS6 |
| 7 Interactive Multimedia Production | 20 | <ul style="list-style-type: none"> ● Recognize the meaning of interactive multimedia elements. ● Illustrate how to create a button using Flash. ● Illustrate how to import audio clips to a Flash movie. ● Describe the basic functions of Action Script. | |
| Total | 132 | | - |

Theme C – Computer Systems

| Chapter name | Number of pages | Learning Objectives | Software used in student's books |
|-------------------------------|-----------------|---|---|
| 1 Basics of a Computer System | 16 | <ul style="list-style-type: none"> Describe the basic components of a computer system. Describe the meaning and the classification of peripherals. State various components inside a system unit. | -- |
| 2 Central Processing Unit | 12 | <ul style="list-style-type: none"> Describe the basic functions of a CPU. Describe the functions of ALU, CU and cache memory. Understand how the speed of a CPU is measured. Understand how the cooling system of a CPU works. Recognize the risks of overclocking a CPU. | Control Panel of Microsoft Windows |
| 3 Main Memory: RAM and ROM | 12 | <ul style="list-style-type: none"> Understand the basic concept of main memory. Describe the characteristics of RAM, ROM and cache memory. Understand how cache memory improves the performance of a computer. Describe the characteristics of flash memory. State the examples of flash memory. | <ul style="list-style-type: none"> Windows Task Manager Control Panel of Microsoft Windows Vista Bootstrap program of Windows CPU-Z DVD burning software provided by Microsoft Windows Vista |
| 4 Secondary Storage Devices | 16 | <ul style="list-style-type: none"> Describe the functions of secondary storage devices. State common types of secondary storage devices. Understand how the speed and the storage capacity of a secondary storage device are measured. Describe the internal structure of a hard disk. Describe the properties of a solid-state drive. | <ul style="list-style-type: none"> DVD burning software provided by Microsoft Windows Vista WinZip |

| | | | |
|--|-----|--|---|
| | | <ul style="list-style-type: none"> ● Compare a solid-state drive with a traditional hard disk. | |
| 5 Input and Output Devices | 16 | <ul style="list-style-type: none"> ● Be familiar with different types of input devices and output devices. ● Recognize the functions of various input devices and output devices. | <ul style="list-style-type: none"> ● Microsoft Word XP/2007/2010 ● Optical character recognition (OCR) software provided by a scanner |
| 6 System Software and Application Software | 20 | <ul style="list-style-type: none"> ● Recognize the functions and components of system software. ● State different types of operating systems and describe their functions. ● State different types of utility programs and describe their functions. ● Describe the functions of a driver program. ● Recognize the classification of application software and describe its functions. | <ul style="list-style-type: none"> ● Command Prompt (MS-DOS) ● Disk Cleanup tool in Windows Vista |
| 7 Types of Computer Systems | 16 | <ul style="list-style-type: none"> ● Recognize the classification of computers. ● Recognize the characteristics of different types of computer systems. | - |
| Total | 108 | - | - |

Theme D – Web Authoring

| Chapter name | Number of pages | Learning Objectives | Software used in student's books |
|--------------------------------------|-----------------|---|----------------------------------|
| 1 Web Authoring and HTML Basics | 20 | <ul style="list-style-type: none"> ● Explain the differences between WWW, web sites and web pages. ● Understand the meaning of web authoring. ● Familiarize students with the working environment of Adobe Dreamweaver CS6. ● Create a simple web page and preview it with common web browsers. ● Explain what HTML and HTML tags are. ● Describe how the content on a web page is formatted by HTML tags. | Adobe Dreamweaver CS6 |
| 2 Creating Hyperlinks on Web Pages | 12 | <ul style="list-style-type: none"> ● Identify hyperlinks on a web page. ● Create text hyperlinks and graphic hyperlinks. ● Describe the common usages of hyperlinks. ● Describe the items that hyperlinks can connect to. | |
| 3 Manipulating Graphics on Web Pages | 20 | <ul style="list-style-type: none"> ● Explain the differences between bitmaps and vector graphics. ● State the properties of a rollover image. ● Create a graphic hyperlink on a rollover image. ● Be familiar with different kinds of image editing – cropping an image, adjusting the brightness and contrast of an image, and adjusting image quality and file size of a bitmap image. ● Recognize additional functions provided by external image editors. ● State several common image editors. | |
| 4 Creating Multimedia Web Pages | 16 | <ul style="list-style-type: none"> ● Illustrate how to modify the layout of a web page. ● Illustrate how to add music to a web page. ● Explain the differences between GIF animations and Flash animations. ● Illustrate how to insert a Flash animation to a web page. | |

| | | | |
|---|-----|--|-----------------------|
| 5 Configuring Page Layout Using a Table | 20 | <ul style="list-style-type: none"> ● Describe the major components in the page layout of a web page. ● Describe how to create a page layout using a table. ● Illustrate how to configure various properties of a table. ● Illustrate how to duplicate a page layout from a web page to another. ● Illustrate how to link up web pages on a web site together. ● Illustrate how to copy the content of a web page to another. | Adobe Dreamweaver CS6 |
| 6 Web Site Management | 24 | <ul style="list-style-type: none"> ● Describe how to create a local web site using Adobe Dreamweaver CS6. ● State the steps of hosting a web site. ● Describe how to register a free web hosting account. ● Understand the functions of FTP. ● Familiarize students with the file management of Adobe Dreamweaver CS6. ● Illustrate how to upload web files to remote web server using Adobe Dreamweaver CS6. | |
| 7 Configuring a Page Layout Using Dreamweaver Templates | 20 | <ul style="list-style-type: none"> ● Describe how to create a customized page layout using Adobe Dreamweaver. ● State the basic functions of Cascading Style Sheet (CSS). ● Describe how to use Dreamweaver templates to control the page layout. | |
| Total | 132 | - | - |

Theme E – Internet Applications and Security

| Chapter name | Number of pages | Learning Objectives | Software used in student's books |
|--------------------------------------|-----------------|---|--|
| 1 The Networking and Internet Basics | 16 | <ul style="list-style-type: none"> ● Describe what a LAN and a WAN are. ● Recognize the differences between peer-to-peer networks and client/server networks. ● Describe the function of a network interface card, a switch and a router. ● Describe what an Internet service provider is. ● State the data transmission speeds of broadband modems nowadays. | draw.io |
| 2 Wireless Networking | 20 | <ul style="list-style-type: none"> ● Understand the advantages and disadvantages of using a wireless network. ● Recognize the features of various mobile devices. ● State the properties of Wi-Fi and the MIMO technology. ● Describe the features of a wireless router. ● Understand how a wireless LAN is identified by SSID. ● Describe the security standard used in wireless connections. ● Describe what a dual-band wireless router is. | Command Prompt of Windows Vista / 7 |
| 3 Internet Services and Applications | 20 | <ul style="list-style-type: none"> ● State what the Internet is. ● State what an IP address is. ● Describe the binary notation and dotted-decimal notation of an IPv4 address. ● Describe the notation of an IPv6 address. ● State what a domain name is. ● Describe the function of a domain name system. | <ul style="list-style-type: none"> ● Command Prompt of Windows Vista / 7 ● draw.io |

| | | | |
|--|-----|--|--|
| 4 Ethics and Intellectual Properties | 16 | <ul style="list-style-type: none"> ● State the meaning of intellectual property. ● Explain why intellectual property rights are needed. ● State the major kinds of intellectual property rights. ● State the main kinds of software. ● Describe the differences between open source software and proprietary software. | - |
| 5 Threats and Security on the Internet | 16 | <ul style="list-style-type: none"> ● Explain the natures and harm of the various malware. ● Describe the distribution means of malware. ● Understand how anti-virus software and anti-spyware programs can be used to protect computers from malware. ● Understand how a firewall can be used to protect computers from being accessed by unauthorized people from the Internet. | - |
| 6 More on Internet Services and Applications | 20 | <ul style="list-style-type: none"> ● Describe the convention of domain names. ● Describe how a URL is structured. ● Recognize the mechanism of a search engine. | Search engine (e.g. Internet Explorer) |
| Total | 108 | - | - |

Theme F – RAPTOR Programming

| | Number of pages | Learning Objectives | Software used in student's books |
|---|------------------------|---|---|
| 1 Problem-Solving Procedure | 8 | <ul style="list-style-type: none"> ● Explain why we have to learn problem solving. ● Illustrate the procedure of solving problems in a systematic manner. ● Recognize some flowchart symbols and the operations they represent. | RAPTOR |
| 2 Introduction to RAPTOR Programming | 16 | <ul style="list-style-type: none"> ● Understand the basic function provided by RAPTOR. ● Be familiar with the working environment of RAPTOR. ● Recognize the flowchart symbols in RAPTOR. ● Illustrate how to draw, edit and execute a RAPTOR flowchart. ● State how a variable works. ● Understand how the assignment operation works. | |
| 3 Programming Control Structures (I) – Sequence and Selection | 16 | <ul style="list-style-type: none"> ● Understand the three basic control structures in programming. ● State the property of a sequence control structure. ● State the property of a selection control structure. ● Be familiar with the logic of a selection control structure. ● Recognize the relational operators in RAPTOR. | |
| 4 Programming Control Structures (II) – Iteration | 16 | <ul style="list-style-type: none"> ● Illustrate how an iteration control structure works. ● State the differences between a pretest loop and a posttest loop. ● State the meaning of data validation. ● Illustrate how validity checks can be performed using selection control structures and iteration control structures. | |

| | | | |
|--|----|--|---|
| 5 Dry Run and More on Iteration Control Structures | 16 | <ul style="list-style-type: none">• Describe how iteration is controlled by counters.• Recognize how an algorithm is debugged by dry run. | |
| Total | 72 | | - |