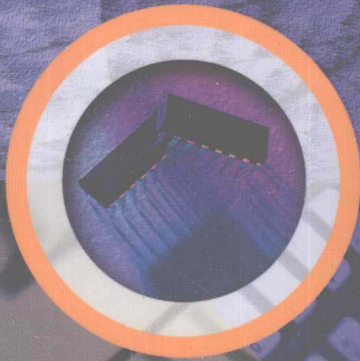


WILLIAMS | SAWYER

SIXTH  
EDITION



COMPLETE  
VERSION



Online  
LearningCenter

# Using Information Technology

A Practical Introduction to Computers & Communications

Sixth Edition

# Using Information Technology

A Practical Introduction  
to Computers & Communications

Complete Version

**Brian K. Williams**

**Stacey C. Sawyer**



**Technology  
Education**

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## USING INFORMATION TECHNOLOGY, COMPLETE EDITION

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Some ancillaries, including electronic and print components, may not be available to customers outside the United States.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 QPD/QPD 0 9 8 7 6 5 4 3

ISBN 0-07-288293-X

Editor in chief: *Bob Woodbury*

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Cover design and image: *Asylum Studios*

Typeface: *10/12 Trump Medieval*

Compositor: *GTS—Los Angeles, CA Campus*

Printer: *Quebecor World Dubuque Inc.*

## Library of Congress Cataloging-in-Publication Data

Williams, Brian K., 1938-

Using information technology : a practical introduction to computers & communications : complete version / Brian K. Williams, Stacey C. Sawyer. —6th ed.  
p. cm.

Includes bibliographical references and index.

ISBN 0-07-288293-X (alk. paper) — ISBN 0-07-111242-1 (international : alk. paper)

1. Computers. 2. Telecommunication systems. 3. Information technology. I. Sawyer,

Stacey C. II. Title.

QA76.5W5332 2005

004—dc22

2003066618

INTERNATIONAL EDITION ISBN 0-07-1112421

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The International Edition is not available in North America.

www.mhhe.com

Photo and other credits are listed in the back of the book.

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# What Reviewers Said about the 5th Edition of UIT, Complete Version

"I feel the authors of the Fifth Edition have performed an excellent task; I don't see how anyone could place so much good information into 466 pages as they have."

— Charles Brown, Plymouth State College, New Hampshire

"Practicality is in the title of the book and is definitely practiced in each chapter. Readability means clear writing, and that is also evident in the text."

— Nancy Webb, San Francisco City College

"The practical approach to information technology, along with the book's superior readability, make this a strong text. The book's emphasis on being current and a three-level learning system are great."

— DeLyse Totten, Portland Community College, Oregon

"I would rate the writing style as superior to the book I am currently using and most of the books I have reviewed. . . . I found this book much easier to read than most books on the market."

— Susan Fry, Boise State University, Idaho

"The easy-to-understand way of speaking to the readers is excellent. You put computer terminology into an easily understandable way to read. It's excellent."

— Ralph Caputo, Manhattan College, New York

"The major difference that I notice between your text and other texts is the informal tone of the writing. This is one of the main reasons we adopted your book—the colloquial feel."

— Todd McLeod, Fresno City College, California

"[The text] is written in a clear and non-threatening manner, keeping the student's interest through the use of real, colorful anecdotes and interesting observations. The authors' emphasis on the practical in the early chapters gets the students' interest by centering on real-life questions that would face everyone purchasing a new personal computer."

— Donald Robertson, Florida Community College—Jacksonville

"I enjoyed the writing style. It was clear and casual, without trivializing. I think the examples and explanations of Williams and Sawyer are excellent."

— Martha Tillman, College of San Mateo, California

"Williams and Sawyer do a consistently good job of explaining material. The graphics and examples are well done."

— David Burris, Sam Houston State University, Texas

"[UIT is] easy for students to read and follow."

— Hashem Anwari, Northern Virginia Community College—Loudoun Campus

"The presentation of the material is fresh and fun."

— Evelyn Lulis, DePaul University, Illinois

"Ethics topics are far . . . superior to [those in] many other textbooks."

— Maryann Dorn, Southern Illinois University

"[The critical thinking emphasis is important because] the facts will change, the underlying concepts will not. Students need to know what the technology is capable of and what is not possible . . ."

— Joseph DeLibero, Arizona State University

# To the Instructor

## Introduction

As we embark on our tenth year of publication, we are extremely pleased at the continuing enthusiasm for *USING INFORMATION TECHNOLOGY* as a concepts textbook for the introductory college course on computers. More than half a million students have been introduced to this dynamic and exciting subject through UIT's five earlier editions, and instructors in over 600 schools have selected it for use in their courses.

What are the reasons for this acceptance? One is that UIT was the first textbook to foresee and define the impact of digital convergence—the fusion of computers and communications—as the new and broader foundation for this course. And we have continued to try to pioneer in coverage of new developments. Thus, we are gratified to hear reviewers label UIT as the most up-to-date text published for this course.

## The UIT Difference: A Book to Motivate the Unmotivated, & to Teach to a Variety of Students' Computer Backgrounds

But there are two other important reasons, we think, for UIT's frequent adoption. We've often asked instructors—in reviews, surveys, and focus groups—**"What is your most significant challenge in teaching this course?"**

### Quote

What instructors say is the most significant challenge in teaching this course

"Keeping the students interested."  
– Evelyn Lulis,  
DePaul University

"Keeping a wide variety of students on the same page."  
– Donald Robertson,  
Florida Community College—  
Jacksonville

- **The first most frequent answer is: "Trying to make the course interesting and challenging."** One professor at a state university seems to speak for most when she says: "Making the course interesting and challenging." Others echo her with remarks such as "Keeping students interested in the material enough to study" and "Keeping the students engaged who know some, but not all, of the material." Said one professor, "Many students take the course because they must, instead of because the material interests them." Another speaks about the need to address a "variety of skill/knowledge levels while keeping the course challenging and interesting"—which brings us to the second response.
- **The second most frequent answer is: "Trying to teach to students with a variety of computer backgrounds."** The most significant challenge in teaching this course "is trying to provide material to the varied levels of students in the class," says an instructor at a large Midwestern university. Another says the course gets students from all backgrounds, ranging from "Which button do you push on the mouse?" to "Already built and maintain a web page with html." Says a third, "mixed-ability classes [make] it difficult to appeal to all students at the same time." And a fourth: "How do you keep the 'techies' interested without losing the beginners?"

As authors, we find information technology tremendously exciting, but we recognize that many students take the course reluctantly. And we also recognize that many students come to the subject with attitudes ranging from complete apathy and unfamiliarity to a high degree of experience and technical understanding.

To address the problem of **motivating the unmotivated and teaching to a disparity of backgrounds**, UIT offers unequalled treatment of the following:

1. Practicality
2. Readability
3. Currentness
4. Three-level critical thinking system

We explain these features below.

## Feature #1: Emphasis on Practicality

### Quote

About UIT's practicality

"The practical approach to information technology, along with the book's superior readability, make this a strong text."

– DeLyse Totten,  
Portland  
Community  
College, Oregon

This popular feature received overwhelming acceptance by both students and instructors in past editions. **Practical advice**, of the sort found in computer magazines, newspaper technology sections, and general-interest computer books, is expressed not only in the text but also in the following:

- **The Experience Box:** Appearing at the end of each chapter, the Experience Box is optional material that may be assigned at the instructor's discretion. However, students will find the subjects covered are of immediate value. *Examples:* "Web Research, Term Papers, & Plagiarism." "Career Strategies for the Digital Age." "How to Buy a Notebook." "Preventing Your Identity from Getting Stolen." "Virtual Meetings: Linking Up Electronically."

**New to this edition:** "The Mysteries of Tech Support." "Is the Boss Watching You? Trustworthiness in the Workplace."

- **Bookmark It! Practical Action Box:** This box consists of optional material on practical matters. *Examples:* "Tips for Managing Your E-Mail." "Succeeding at Distance Learning." "When Software Causes Problems."

**New to this edition:** "How to Search the Internet." "The Risks of Online Intimacy." "Installing & Reinstalling Software."

- **Survival Tips:** In the margins throughout we present utilitarian **Survival Tips** to aid students' explorations of the infotech world.

**New to this edition—more than 30 new Survival Tips:** "Recycling Old PCs." "Getting Antispam Software." "Don't Be Traced." "Urban Legends & Lies on the Internet." "Decimal to Binary Conversion." "Are Your PC's USB Ports 1.1 or 2.0?" "Data Recovery." "CD

## Experience Box

Web Research, Term Papers, & Plagiarism

page 86

## BOOKMARK IT!

## PRACTICAL ACTION

Choosing an Internet Service Provider

page 50

See the list of *Experience Boxes and Practical Action Boxes* on the inside back cover.

See the list of *Survival Tips* on the inside back cover.

## Survival Tips

### Accessing Email While Traveling Abroad

To access your email using a local call while traveling outside North America, get a free email account with Yahoo! (<http://mail.yahoo.com>), Hotmail ([www.hotmail.com](http://www.hotmail.com)), or Mail.com ([www.mail.com](http://www.mail.com)).

Read, Write, & Rewrite Speeds." "Zip vs. Tape." "Removing Temp Files." "Temp File Removal." "Your Choice: More Colors or More Resolution?" "Customize Your Sounds." "Security for Your WiFi."

- **Early discussion of Internet:** Many instructors have told us they like having "**e-concepts**" **treated earlier and more extensively** in this text compared with other books.

Accordingly, the Internet and World Wide Web are **discussed in Chapter 2** instead of in a later chapter, reflecting their importance in students' daily lives.

- **How to understand a computer ad:** In the hardware chapters (Chapters 5 and 6), we explain important concepts by showing students **how to understand the hardware components in a hypothetical PC ad.**



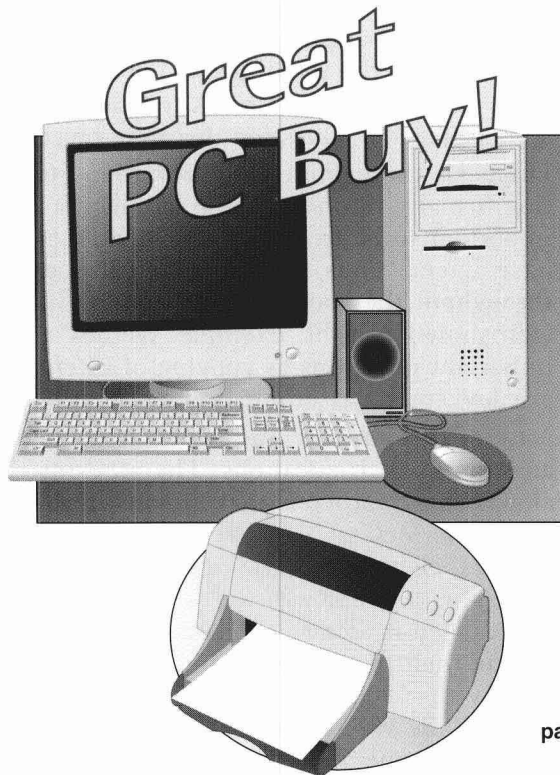
## Chapter 2

THE INTERNET & THE WORLD WIDE  
WEB: EXPLORING CYBERSPACE 39

### Quote

About UIT's  
practicality

"The authors' emphasis on the practical in the early chapters gets the students' interest by centering on real-life questions that would face everyone purchasing a new personal computer."  
—Donald Robertson, Florida Community College—Jacksonville



- 7-Bay Mid-Tower Case
- Intel Pentium 4 Processor 2 GHz
- 128 MB 266 MHz DDR SDRAM
- 512KB L2 Cache
- 2 USB Ports
- 56 Kbps Internal Modem
- 3D AGP Graphics Card (64 MB)
- Sound Blaster Digital Sound Card
- 3.5" Floppy Drive
- Iomega 250 MB Zip Drive
- 80 GB Ultra ATA 7200 RPM Hard Drive
- 4X DVD-RW
- 104-Key Keyboard
- Microsoft IntelliMouse
- 17", .27dp Monitor (16" Display)
- HP DeskJet 970Cse Printer

page 184

Details of this ad are explained throughout this chapter. See the little magnifying glass:



## Feature #2: Emphasis on Readability & Reinforcement for Learning

We offer the following features for reinforcing student learning:

- **Interesting writing:** Studies have found that textbooks **written in an imaginative style** significantly improve students' ability to retain information. Both instructors and students have commented on the distinctiveness of the writing in this book. We employ a number of journalistic devices—colorful anecdotes, short biographical sketches, interesting observations in direct quotes—to make the material as interesting as possible. We also use real anecdotes and examples rather than fictionalized ones.

### Quote

About UIT's  
readability

"The-easy-to-understand way of speaking to the readers is excellent."

– Ralph Caputo,  
Manhattan College

### Quote

About UIT's  
readability

"I think the depth and level of coverage and the great writing style are the major advantages of this book."

– Susan Fry, Boise  
State University

See *Ethics* examples on  
pp. 25, 60, 62, 86, 98,  
170, 331, 366–369, 387,  
389, 392, 408, 415, 425,  
433, 435

**New readability/  
reinforcement features!**  
See inside *front* cover for  
pages on which *More  
Info!* and *Security* icons  
appear.

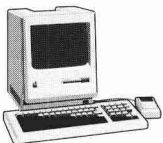
- **Key terms AND definitions emphasized:** To help readers avoid any confusion about which terms are important and what they actually mean, we print each key term in ***bold italic underscore*** and its definition in **boldface**. *Example* (from Chapter 1): "***Data* consists of raw facts and figures that are processed into information.**"
- **Material in bite-size portions:** Major ideas are presented in **bite-size form**, with generous use of advance organizers, bulleted lists, and new paragraphing when a new idea is introduced. Most **sentences have been kept short**, the majority not exceeding 22–25 words in length.
- **Key Questions—to help students read with purpose:** We have **crafted the learning objectives as Key Questions** to help readers focus on essentials. Each Key Question appears in two places: on the first page of the chapter and beneath the section head. Key Questions are also tied to the end-of-chapter summary, as we will explain.
- **QuickChecks:** Appearing periodically throughout the text, **QuickChecks** spur students to recall facts and concepts they have just read.
- **Summary:** Each chapter ends with a **Summary** of important terms, with an explanation of **what they are and why they are important**. The terms are accompanied, when appropriate, by a picture. Each concept or term is also given a cross-reference page number that refers the reader to the main discussion within the text. In addition, the term or concept is given a Key Question number corresponding to the appropriate Key Question (learning objective).
- **Emphasis throughout on ethics:** Many texts discuss ethics in isolation, usually in one of the final chapters. We believe this topic is too important to be treated last or lightly, and users have agreed. Thus, **we cover ethical matters throughout the book**, as indicated by the special icon shown at right. *Example:* We discuss such all-important questions as copying of Internet files, online plagiarism, privacy, computer crime, and netiquette.
- **New to this edition! More Info! icons help students find their own answers** to their questions. The previous edition featured "Click-along" marginal icons that directed readers to the McGraw-Hill website for updates, elaboration, and further examples. This concept was well received, but we realized it didn't enable students to pursue their own range of interests—exactly the kind of thing that makes the World Wide Web such a valuable learning instrument. Accordingly, in this edition we have initiated a "**More Info!**" page-margin icon that shows students how to begin their own journey of discovery, often starting from a particular URL. *Examples:* "Links to Security Software." "Where to Learn More about Freeware and Shareware." "More about Watermarks." See the pages listed on the inside front cover.
- **New to this edition!** In the post 9-11 era, security concerns are of gravest importance. Although we devote several pages (in Chapter 9) to security, we also reinforce student awareness by **highlighting with page-margin Security icons instances of security-related material throughout the book**. *Example:* On p. 62, we use the special icon shown at right to highlight the advice that one should pretend that every email message one sends "is a postcard that can be read by anyone."
- **New to this edition! Addition of timelines to provide deeper historical perspective:** Some instructors requested more about the history of



### more info!

If you refuse cookies? Read the article at <http://computer.howstuffworks.com/cookie.htm>.

### SECURITY

1992	1993	1994	1995	1996
“Surfing the internet” coined by Jean Armour Polly	Multimedia desktop computers; NAPs replace NSFNET; first graphical web browser, Mosaic, developed by Marc Andreessen 	Apple and IBM introduce PCs with full-motion video built in; wireless data transmission for small portable computers; Netscape Navigator released	NSFNET reverts to research project; internet now in commercial hands	Microsoft releases Internet Explorer

**New readability/  
reinforcement feature!**  
See the timelines beginning on pp. 22, 42, 128, 162, 182, 242, 288, 354

computing. Not wishing to add greatly to the length of the book and fearing that students would be reluctant to read history in narrative form, we decided on a **student-friendly approach: the presentation of eight pictorial timelines showing the most significant historical IT events.** These timelines, which occur in most chapters, appear along the bottom page area. Each timeline repeats certain “benchmark” events to keep students oriented, but **each one is modified to feature the landmark discoveries and inventions appropriate to the different chapter material.** Examples: In Chapter 4, “System Software,” the timeline features innovations in operating systems. In Chapter 7, “Telecommunications,” the timeline highlights innovations in data transmission.

## Feature #3: Currentness

### Quote

About UIT’s currentness

“Very knowledgeable, very good research.”  
– Maryann Dorn,  
Southern Illinois  
University

Reviewers have applauded previous editions of UIT for being **more up to date than other texts.** For example, we have traditionally ended many chapters with a forward-looking section that offers a preview of technologies to come—some of which are realized even as students are using the book. Among the new topics and terms covered in this edition are: *abandonware, accessDTV PC Card, American Registry for Internet Numbers, Apple Macintosh G4 and G5, Athlon 64 FX-51, backbone provider, backside bus, base-band transmission, biometric identifiers, blog/weblog, CMTS, concurrent-use license, Control Web, DDR-SDRAM, drum scanner, DSLAM, DVD regions, Dynamic IP address, Employee Internet Management Software, FireWire, flash drive, flatbed scanner, Fortezza, The Grid, hard-geometry security system, human-computer interaction (HCI), hyperthreading, ICANN Whosis database, Internet Fraud Complaint Center, Internet Message Access, keychain memory, Klez worm, LaserCard, “last mile,” Lindows, Lycoris, middleware, M-RAM, multiple-user license, MyLifeBits, nanocomputer, national identity card, National Nanotechnology Initiative, network-centric computing, network service provider, Nigerian letter scam, NTFS, online dating, ouvonic unified memory, Palladium, perpendicular recording technology, personal electronic pens, predictive-statistical model software, private-key encryption, private/peer NAPs, public-key encryption, QXGA monitors, RSA encryption, RDRAM, Regional Internet Registries, rule-based detection software, runtime libraries, sheetfed scanners, smart mobs, Smart Personal Objects Technology, software-defined radio, spambots, SQL Slammer Code worm, strong AI, superscalar architecture, 2D and 3D bar codes, USA Patriot Act, USB 1.1 and 2.0, USB hub, virtual private networks, weak AI, Web services, Windows CE .NET, Window Rights Management Services, Windows Server 2003, Windows XP Service Pack 1, Windows XP Tablet PC Edition.*

**New currentness feature!**  
See inside front cover for pages on which More-Info! icons appear.

In addition, in this latest edition, **we have taken the notion of currentness to another level through the “More Info!” feature to encourage students to obtain their own updates** about material. Example: The subject of instant messaging is one that changes

**more  
info!**

constantly. Thus, to help students stay current, on p. 59 we give them More-Info! advice that enables them to investigate new IM services and products.

## Feature #4: Three-Level System to Help Students Think Critically about Information Technology

### Quote

About UIT's critical thinking emphasis

"[It] is very important because it helps students comprehend and make sound decisions."

– Maryann Dorn,  
Southern Illinois  
University

"A critical thinking emphasis is very important because . . . it represents a higher level of understanding."

– Evelyn Lulis,  
DePaul University

This feature, which has been in place for the preceding two editions, has been warmly received. More and more instructors seem to have become familiar with **Benjamin Bloom's *Taxonomy of Educational Objectives***, describing a hierarchy of six critical-thinking skills: (a) two lower-order skills—*memorization* and *comprehension*; and (b) four higher-order skills—*application*, *analysis*, *synthesis*, and *evaluation*. Drawing on our experience in writing books to guide students to college success, we have implemented Bloom's ideas in a three-stage pedagogical approach, using the following hierarchical approach in the Chapter Review at the end of every chapter:

- **Stage 1 learning—memorization: "I can recognize and recall information."** Using self-test questions, multiple-choice questions, and true/false questions, we enable students to test how well they recall basic terms and concepts.
- **Stage 2 learning—comprehension: "I can recall information in my own terms and explain them to a friend."** Using open-ended short-answer questions, we enable students to re-express terms and concepts in their own words.
- **Stage 3 learning—applying, analyzing, synthesizing, evaluating: "I can apply what I've learned, relate these ideas to other concepts, build on other knowledge, and use all these thinking skills to form a judgment."** In this part of the Chapter Review, we ask students to put the ideas into effect using the activities described. The purpose is to help students take possession of the ideas, make them their own, and apply them realistically to their own ideas.

## Resources for Instructors

The instructor supplements for the last edition UNDERWENT A MAJOR REVISION, with a focus on enhancing instructors' ability to understand and utilize all the resources provided for the text. **We and the publisher have tried to maintain the same respect and care with these supplements in this edition as well.**

- **Instructor's Manual:** The electronic Instructor's Manual, available as part of the Instructor's Resource Kit, now **incorporates all of the resources available to the instructor for each chapter.** Instructors now have the ability to harness different visual assets to create effective lectures. The Instructor's Manual works like a web page that is easy to navigate and simple to understand because it provides links to appropriate assets elsewhere on the Web or CD-ROM. Each chapter contains an overview of the changes to this edition, a chapter overview, teaching tips, PowerPoint slides with speaker's notes, group projects, outside projects, web exercises, text figures, and links to appropriate information and games on the book's website.
- **Testbank:** The Testbank format **allows instructors to effectively pinpoint areas of content within each chapter on which to test students.** Each chapter starts off with a "Test Table" that provides a convenient guide for finding questions that pertain to chapter objectives and difficulty level. The Test Table also indicates the type of question so that instructors can create exams using the question types of their choice.

## Test Table

Learning Level	1	2	3
Key Questions	Knows Basic Terms and Facts	Understands Concepts and Principles	Applies Principles
2.1 What are the means of connecting to the Internet, and how fast are they?	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14  117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130  244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257	15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27  131, 132, 133, 134, 135, 136, 137, 138, 139  258, 259, 260, 261, 262, 263, 264	28, 29, 30, 31, 32  140, 141, 142, 143, 144, 145  329*, 330*, 331*
2.2 What is an Internet service provider, and what kinds of services do ISPs provide?	33, 34, 35  146, 147  265, 266, 267	36, 37, 38  148  332*	149, 150

### Quote

About UIT's ancillaries

"I particularly like the idea that the PowerPoints include additional material that will make them more interesting to students who have already read the chapter."

– DeLyse Totten,  
Portland  
Community College

The test questions are first organized by chapter objectives and then learning level; they include answers, Key Question numbers, learning levels, page references from the text, and rationales. Following each chapter's test bank questions is a Quick Quiz, designed for use when instructors don't have time to tailor an exam.

**Diploma by Brownstone:** Diploma is the most flexible, powerful, and easy-to-use computer-based testing system available for higher education. The Diploma system allows instructors to create an exam as a printed version, as a LAN-based online version, or as an Internet version. Diploma also includes grade book features, which automate the entire testing process.

- **PowerPoint presentation:** The PowerPoint presentation **includes additional material** that expands upon important topics from the text, allowing instructors to create interesting and engaging classroom presentations. Each chapter of the presentation includes important illustrations, and animations to enable instructors to emphasize important concepts in memorable ways. **Each slide of the presentation is integrated into the Instructor's Manual** so that instructors can quickly and effectively determine which slides they would like to use in their presentations.
- **Figures from the book:** All of the photos, illustrations, screenshots, and tables are available electronically for use in presentations, transparencies, or handouts.
- **Online Learning Center:** ([www.mhhe.com/cit/uit6e](http://www.mhhe.com/cit/uit6e)) Designed to provide a wide variety of learning opportunities for students, the website for the sixth edition now includes a Web Summary for each chapter, with all of the key terms linked to relevant exercises, games, web

links, and self-quizzes. Additional end-of-chapter exercises, web exercises, group projects, outside projects, Instructor's Manual, and PowerPoint presentations are also available online for instructors to download.

- **Interactive Companion:** Twenty interactive tutorial labs on some of the most popular topics are available on the Online Learning Center. These tutorials expand the reach and scope of the text by combining video, interactive exercises, animation, additional content, and actual "lab" tutorials. The labs include the following topics:

### Using Information Technology Interactive Companion Labs

Lab	Function	Chapter
<i>Binary Numbers</i>	Explore binary numbers including such topics as binary numbers as switches, how to make a binary number, binary addition, and binary logic.	5
<i>Basic Programming</i>	Learn about the thought processes and tools used to instruct computers to perform our work. This lab includes topics on basic computer tasks (input, processing, and output), variables, constants, assignment, mathematical calculations, and reusing code.	App.A
<i>Computer Anatomy</i>	Learn the parts that make up a personal computer, including Input, Output, Storage, and Processing devices.	5 & 6
<i>Disk Fragmentation</i>	Understand how data and programs are stored and accessed. Includes concepts such as disk storage, blocks, fragmentation, defragmentation, media types, and data storage.	5
<i>E-mail Essentials</i>	Learn the tools, techniques, and etiquette needed to communicate by e-mail.	2 & 7
<i>Multimedia Tools</i>	Learn the basics of creating a simple multimedia presentation by understanding the types of media, virtual reality, interactivity, multimedia applications, and the uses of multimedia.	2 & 3
<i>Workplace Issues</i>	Learn how Ethics, Privacy, Security, and Time Wasters affect you, either as an employer or as an employee.	All
<i>Introduction to Databases</i>	This lab will introduce you to the many concepts involved in making, maintaining, and using a database to store large amounts of related data. You will have the opportunity to design a database, create the database, and use the information you entered to generate useful reports.	8
<i>Programming II</i>	Learn some of the essentials of visual programming, then implement them to build a working program.	App.A
<i>Network Communications</i>	Explore the many types of computer-based communications; how they work and how to use them effectively.	2 & 7
<i>User Interfaces</i>	Learn the basics of user interface elements, key Windows interface features, customizing the Windows interface, key Macintosh interface features, customizing the Macintosh interface, and key Unix (Linux) interface features.	3 & 4
<i>Purchasing Decisions</i>	Explore the factors you should consider when deciding what computer to buy, including software, the differences between PCs and Macs, the myths about CPU power, internal upgrades, and external upgrades.	5
<i>File Organization</i>	Learn about the way files are stored on your hard drive and how you can configure this storage to help you work more efficiently.	8
<i>Word Processing and Spreadsheets</i>	Learn the common features of word processing and spreadsheet programs, the basic features of word processing programs, and the basic features of spreadsheet programs.	3
<i>Internet Overview</i>	Explore features of the Internet including communication, browsing, sharing, and how to get connected.	2

## Using Information Technology Interactive Companion Labs (continued)

Lab	Function	Chapter
<i>Computer Troubleshooting</i>	Learn how to avoid, repair, and troubleshoot computer problems.	All
<i>Presentation Techniques</i>	Learn the tricks for making effective presentations such as focusing your presentation to reach your audience, creating effective graphics, using sound and video in your presentation, and creating auxiliary materials to help augment your presentation or generate discussions.	3
<i>Photo Editing</i>	Learn how to edit digital photos including such topics as capturing digital images, storing devices, resizing and enhancement, and other manipulation techniques.	3
<i>Programming Overview</i>	Learn how code is written and changed into machine language by compilers or interpreters. Learn the different types of languages including object-oriented, procedural, and declarative.	App.A
<i>SQL Queries</i>	Learn what a relational database is (RDBMS), what a structured language is (SQL), how to use SQL to build a database, and how to use SQL to retrieve data from a database.	8

### Digital Solutions to Help You Manage Your Course

**PageOut:** PageOut is our Course Web Site Development Center and offers a syllabus page, URL, McGraw-Hill Online Learning Center content, online exercises and quizzes, gradebook, discussion board, and an area for student Web pages.

PageOut requires no prior knowledge of HTML, no long hours of coding, and a way for course coordinators and professors to provide a full-course website. PageOut offers a series of templates—simply fill them with your course information and click on one of 16 designs. The process takes under an hour and leaves you with a professionally designed website. We'll even get you started with sample websites, or enter your syllabus for you! PageOut is so straightforward and intuitive, it's little wonder why over 12,000 college professors are using it. For more information, visit the PageOut website at [www.pageout.net](http://www.pageout.net)

The Online Learning Center can be delivered through any of these platforms:

**McGraw-Hill Learning Architecture (TopClass)**

**Blackboard.com**

**Ecollege.com (formerly Real Education)**

**WebCT (a product of Universal Learning Technology)**

McGraw-Hill has partnerships with WebCT and Blackboard to make it even easier to take your course online. Now you can have McGraw-Hill content delivered through the leading Internet-based learning tool for higher education. At McGraw-Hill, we have the following service agreements with WebCT and Blackboard:

**SimNet Concepts:** This is the TOTAL solution for training and assessment in computer concepts. SimNet Concepts offers a unique graphic-intensive environment for assessing student understanding of computer concepts. It includes interactive labs for 77 different computer concepts and 160 corresponding assessment questions. The content menus parallel the contents of the McGraw-Hill text being used for the class, so students can cover topics for each chapter of the text you are using.

SimNet Concepts also offers the only truly integrated learning and assessment program available today. After a student has completed any SimNet Concepts Exam, he or she can simply click on one button to have SimNet assemble a custom menu that covers just those concepts that the student answered incorrectly or did not attempt. These custom lessons can be saved to disk and loaded at any time for review. *Assessment Remediation*, a new

feature, records and reports what the student did incorrectly for each question on an exam that was answered incorrectly.

## Microsoft Applications Manuals

The following list presents McGraw-Hill Microsoft Applications books that are available for use with *Using Information Technology*. For more information about these books, visit the McGraw-Hill Computer and Information Technology Supersite at [www.mhhe.com/it](http://www.mhhe.com/it) or call your McGraw-Hill campus representative.

### Windows Applications

Advantage Series by Coulthard, Hutchinson, Miller, and Graves	
<i>Microsoft Office 2003</i>	Microsoft Office Word 2003 (Brief, Intro, Complete) Microsoft Office Excel 2003 (Brief, Intro, Complete) Microsoft Office Access 2003 (Brief, Intro, Complete) Microsoft Office PowerPoint 2003 (Brief, Intro) Microsoft Office System 2003
<i>Microsoft Office XP</i>	Microsoft Word 2002 (Brief, Intro, Complete) Microsoft Excel 2002 (Brief, Intro, Complete) Microsoft Access 2002 (Brief, Intro, Complete) Microsoft PowerPoint 2002 (Brief, Intro) Microsoft Office XP Integrating and Extending Microsoft Office XP
<i>Microsoft Windows</i>	Microsoft Windows XP Microsoft Windows 2000 Microsoft Windows 98
Professional Approach by Juarez, Carter, Stewart, Hinkle, et al.	
<i>Microsoft Office 2003</i>	Microsoft Office Word 2003 (Specialist, Comprehensive) Microsoft Office Excel 2003 (Specialist, Comprehensive) Microsoft Office Access 2003 (Comprehensive) Microsoft Office PowerPoint 2003 (Comprehensive) Microsoft Office System 2003 (Specialist)
<i>Microsoft Office XP</i>	Microsoft Word 2002 (Core, Expert) Microsoft Excel 2002 (Core, Expert) Microsoft Access 2002 (Core, Expert) Microsoft PowerPoint 2002 (Comprehensive) Microsoft Outlook 2002 (Core)
<i>Microsoft Windows</i>	Microsoft Windows XP

## Acknowledgments

Two names are on the front of this book, but a great many others are important contributors to its development. First, we wish to thank our editor-in-chief, Bob Woodbury, and our sponsoring editor, Marc Chernoff, for their support and encouragement during this fast-moving revision process. Thanks also go to our marketing champions, Andrew Bernier and Paul Murphy, for their enthusiasm and ideas. Lisa Chin-Johnson deserves our special thanks for her excellent handling of the supplements program. Everyone in production provided support and direction: Christine Vaughan, Adam Rooke, Sesha Bolisetty, Judy Kausal, and Rose Range. We also thank our media technology

producer, Greg Bates, for helping us develop an outstanding Instructor's Resource Kit.

Outside of McGraw-Hill we were fortunate—indeed, blessed—to once again have the most professional of all development services, those of Burrston House, specifically the help of Glen and Meg Turner. Jonathan Lippe provided creative ideas for the Chapter Review exercises, especially internet activities. Photo researcher Judy Mason, copyeditor Sue Gottfried, proofreader Martha Ghent, and indexer James Minkin all gave us valuable assistance. Thanks also to all the extremely knowledgeable and hard-working professionals at GTS Graphics, who provided so many of the prepress services.

Finally, we are grateful to the following reviewers for helping to make this the most market-driven book possible.

Hashem Anwari  
*Northern Virginia Community  
College—Loudoun Campus*  
Charles Brown  
*Plymouth State College, New  
Hampshire*  
David Burris  
*Sam Houston State University,  
Texas*  
Ralph Caputo  
*Manhattan College, New York*  
Joseph DeLibero  
*Arizona State University*  
Maryann Dorn  
*Southern Illinois University*  
Susan Fry  
*Boise State University, Idaho*  
Evelyn Lulis  
*DePaul University, Illinois*

Todd McLeod  
*Fresno City College, California*  
Donald Robertson  
*Florida Community College—  
Jacksonville*  
Russell Sabadosa  
*Manchester Community College,  
Connecticut*  
Martha Tillman  
*College of San Mateo, California*  
DeLyse Totten  
*Portland Community College,  
Oregon*  
Nancy Webb  
*San Francisco City College,  
California*

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