SAWYER | WILLIAMS

SIXTH
EDITION

INTRO
VERSION

Online
LearningCenter
with POWERWEB

Using Information Technology

A Practical Introduction to Computers & Communications
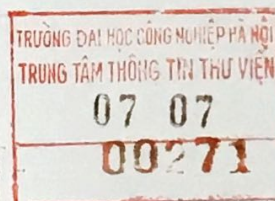
Sixth Edition

Using Information Technology

A Practical Introduction to Computers & Communications

Introductory Version

Stacey C. Sawyer

Brian K. Williams

McGraw Hill **Technology Education**

Boston   Burr Ridge, IL   Dubuque, IA   Madison, WI   New York   San Francisco   St. Louis
Bangkok   Bogotá   Caracas   Kuala Lumpur   Lisbon   London   Madrid   Mexico City
Milan   Montreal   New Delhi   Santiago   Seoul   Singapore   Sydney   Taipei   Toronto

Brief Contents

What Reviewers Said about the 5th Edition of Sawyer & Williams's UIT Introductory Version

"I think the writing style is outstanding. The text is readable yet the tone isn't too casual. The style reflects a respect for the reader. . . . The examples are very good. I think the explanations are clearly presented."

—Lynn Wermers, North Shore Community College, Massachusetts

"[This text] is unique in its readability. The writing style makes the content flow, thus enhancing student focus and concentration. The mix of practical items . . . and conceptual subject matter . . . does indeed distinguish S&W from other texts."

—Edmund Mannion, California State University—Chico

"I'm particularly impressed by the authors' writing style and organization of thought, with smooth segues between sections; emphasis throughout on ethics; key terms AND definitions emphasized; . . . [and] the format of the Summary sections."

—Ken Baldauf, Florida State University

"Sawyer & Williams's writing style is more story-like compared to our current text . . . which reads much more like a book of terminology."

—Tim Pinkelman, Bowling Green State University, Ohio

"This is an easy book to read and use. The depth of the material is right for my course."

—Sandy Week, University of Nevada—Reno

"The text we use at present is [another publisher's] 'complete' edition, with 16 chapters having in-depth coverage. . . . S&W covers most topics and is at par with our current text."

—Khondkar Islam, George Mason University, Virginia

"I like the way that they have presented the main ideas in smaller chunks of information. I follow this same methodology myself. . . . Also, I really like the definition summary listed at the end of each chapter—very practical!"

—Maureen Ellis, Indiana University—Bloomington

"Your pedagogical approach is excellent."

—Arthur Valentine, Sussex County Community College, New Jersey

"Emphasis on practicality is the most important [feature]."

—Mary Kay Tarver, East Central University, Oklahoma

"I especially liked that you have attempted to cover ethical issues throughout, rather than in an isolated unit."

—Ruthann Williams, Central Missouri State University

"The ethics emphasis is one thing that made this book stand out."

—Ruth Schwartz, Indiana University—South Bend

"Critical thinking emphasis is very important and a life-long skill. Students have difficulty in this area, and it's great to see a textbook attempting to deal with the issue."

—Laurie Shteir, Temple University, Pennsylvania

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?"**

- **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 unequaled 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

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:

See the list of Practical Action Boxes on the inside <u>back</u> cover.

See the list of Survival Tips on the inside <u>back</u> cover.

- **Bookmark It! Practical Action Box:** This box consists of optional material on practical matters. *Examples:* "Managing Your E-Mail." "Web Research, Term Papers, & Plagiarism." "How to Buy a Notebook." "Preventing Your Identity from Getting Stolen."
  New to this edition: "Installing & Reinstalling Software."

BOOKMARK IT!

PRACTICAL ACTION B
Choosing an Internet Service Provider

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- **Survival Tips:** In the margins throughout we present utilitarian **Survival Tips** to aid students' explorations of the infotech world. *Examples:* "Recycling Old PCs." "Handling the Annoyance of Spam," "Don't Be Traced," "Urban Legends & Lies on the Internet," "Don't Trash Those Icons," "Decimal to Binary Conversion," "Are Your PC's USB Ports 1.1 or 2.0?," "Data Recovery," "CD Read, Write, & Rewrite Speeds," "Zip vs. Tape," "Temp File Removal," "Your Choice: More Colors or More Resolution?," "Customize Your Sounds."

Survival Tip

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)*, Hotmail *(www.hotmail.com)*, or Mail.com *(www.mail.com)*.

- **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.

Chapter 2
THE INTERNET & THE WORLD WIDE WEB: EXPLORING CYBERSPACE 37

- **How to understand a computer ad:** In the hardware chapters (Chapters 4 and 5), we explain important concepts by showing students **how to understand the hardware components in a hypothetical PC ad.**

Great PC Buy!

- 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

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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.

- **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