

English

for the Students of

Computer

Manoochehr Haghani

**Tehran
2019/1397**



**The Organization for Researching and Composing
University Textbooks in the Humanities (SAMT)
Institute for Research and Development in the Humanities**

Table of Contents

Unit	Title	Page
	Schematic Chart	VII
	Introduction	VIII
Unit One: Cloud Computing		1
	Reading 1: Cloud Computing in a Nutshell	2
	Reading 2: Hardware Virtualization	10
Unit Two: Data Mining		14
	Reading 1: Data Mining	15
	Reading 2: Input: Concepts, Instances, and Attributes	22
Unit Three: Computer Networks		26
	Reading 1: Computer Networks	27
	Reading 2: Network Software	36
Unit Four: Software-Defined Networking		41
	Reading 1: Software-Defined Networking	42
	Reading 2: Inside OpenFlow	48
Unit Five: What Is an Embedded System?		53
	Reading 1: What Is an Embedded System?	54
	Reading 2: Characteristics of Embedded Systems	62
Unit Six: Embedded System Design		66
	Reading 1: Elements of Embedded Design	67
	Reading 2: Safety of Embedded Computer Control Systems	74
Unit Seven: The Basics of Network Processors		78
	Reading 1: The Basics of Network Processors	79
	Reading 2: Software Considerations	86

Unit	Title	Page
Unit Eight: Software Maintenance	90
Reading 1: Software Maintenance	91
Reading 2: Potential Solutions to Maintenance Problems	97
Unit Nine: Fundamentals of Expert Systems	101
Reading 1: Fundamentals of Expert Systems	102
Reading 2: Fundamentals of Expert Systems	110
Unit Ten: Software Engineering Processes	116
Reading 1: Software Engineering Processes	117
Reading 2: Software Requirements Analysis	125
Unit Eleven: Other Process Models	131
Reading 1: Other Process Models	132
Reading 2: Extreme Programming (XP)	142
Unit Twelve: Device Fabrication Technology	146
Reading 1: Device Fabrication Technology	147
Reading 2: Thin-Film Deposition	157
References	163

Schematic Chart

	Major Theme	Reading Strategy	Building Vocabulary	Language Focus
1	Cloud Computing	Skimming	Using the Context	As
2	Data Mining	Topic vs Main Idea	Compound Words	Time Clauses: When; Once
3	Computer Networks	Scanning	Grouping Words	Relative Clauses with a Participle
4	Software-Defined Networking	Transitional Expressions	Using Verbs as Adjectives	The Final -ing Clause (Result)
5	What Is an Embedded System?	Identifying Organizational Patterns; Classification	Compound Nouns (Noun + Noun)	Function of an Item
6	Embedded System Design	Supporting Main Ideas	Keeping a Vocabulary Notebook	Requirements: be + to do something
7	The Basics of Network Processors	Three Commonly-Used Patterns Organizing Ideas: Time, Order of Importance or Differences	Collocations: Verb+ Noun	-ing Clause Used to Explain How Something Is Done
8	Software Maintenance	Using Headings	Word Forms	Purpose: to; in order to
9	Fundamentals of Expert Systems	Making Inferences	Compound Adjectives	Understanding Voice
10	Software Engineering Processes	Note-taking	Using Modifiers	Wh-noun Clauses
11	Other Process Models	Paragraphs Organized by Comparison and Contrast	Intensifying Adverbs	Result
12	Device Fabrication Technology	Paragraphs Organized by Definition	Collocations: Adjective + Noun; Adverb + Adjective	Explanation of Cause

Introduction

English for the Students of Computer is designed as an English for Academic Purposes (EAP) textbook for undergraduate university students of computer, ranging from pre-intermediate to upper-intermediate levels of English proficiency. The book aims to help students consolidate general reading skills and strategies they have already acquired through general English courses and transfer these skills and strategies to their target academic tasks. Hence, a wide range of computer text types/genres have been included in the book to provide students with ample opportunities to learn and practice discipline-based reading skills. With the main focus on reading, the other language skills and components (i.e., vocabulary, grammar, discourse, and genre) are used as a springboard for fostering the reading skills and strategies.

The book consists of 12 units based on computer themes and topics of maximum authenticity and relevance to the students of computer. The centerpiece of each unit is two reading passages developing the same theme with all activities of each unit geared towards that theme. To this end, there is an efficient integration of relevant content and language with a good distribution of common genres in the field of computer.

The units are divided into various sections, as introduced below:

Title Page: It is designed to give readers a general overview of the theme and content of the unit.

Pre-reading Sections: They aim to engage students mentally to think about the topic of the reading and relate it to their lives. A preliminary focus on important vocabulary items is also intended.

Reading Passages: Texts from a variety of authentic and credible sources are accompanied by glosses and technical notes.

Post-reading Sections: These parts assess the readers' comprehension of the texts through a broad range of comprehension questions and tasks.

Reading Strategy: A reading strategy that is helpful in academic contexts is introduced in each unit. It matches with the nature of the relevant reading passage.

Vocabulary Section: Different aspects of word knowledge are taken into account through both explicit instruction and task-based activities.

Grammar Section: Grammar is mostly treated through a discovery approach. The grammar point in each unit is taken from the related reading passage.

Translation: This section is designed as a reading practice as well as a translation activity. It also offers focused activity on vocabulary, grammar, and some features of genres presented in the unit.

Self-check: To give the learners a sense of achievement, each unit ends up with a self-check part in which the main objectives of the unit are worded explicitly.