

Ciprian Adrian Rusen

IC³[®]

Internet and Computing Core Certification Global Standard 4 **STUDY GUIDE**

COMPUTING FUNDAMENTALS EXAM

Covers 100% of exam objectives, including understanding common OS features, managing computer files and folders, understanding computer hardware and concepts, and much more...

Includes interactive learning environment and study tools with:

- + 2 custom practice exams
- + More than 60 Electronic Flashcards
- + Searchable key term glossary
- + Practice files for exercises in the book

IC³[®] Internet and Computing Core Certification Computing Fundamentals

Study Guide



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Ciprian Adrian Rusen

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About the Author

Ciprian Adrian Rusen is a recognized Windows Consumer Expert – Microsoft Most Valuable Professional (MVP). He has published several books about Windows and Microsoft Office, and he's also a very active tech blogger at <http://www.7tutorials.com>.

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Introduction

Welcome to the *IC3 Internet and Computing Core Certification Computing Fundamentals Study Guide* for the IC3 Digital Literacy Certification. The purpose of this book is to help you prepare for the Computing Fundamentals certification exam, which covers subjects needed for a good basic understanding of computing, including knowledge and use of computer hardware, software, and operating systems.

The book contains all of the information you need to pass the Computing Fundamentals exam. It also includes notes and warnings from the author to help reduce issues you may be experiencing in your own environment. By studying for and passing this exam, you will gain insight that will make you more valuable in your current position and will make you more likely to be recognized.

In the remainder of this introduction, we will look at some of the facts about the exam, give some commonsense tips for taking the exam, and review the process for registering for the exam.

Exam Facts

Individuals seeking IC3 certification are required to take and pass all three IC3 exams: Computing Fundamentals, Key Applications, and Living Online. Here are some facts about them:

- The IC3 exams are administered by Certiport and are taken at Certiport Authorized Testing Centers.
- The exams are based on Microsoft Windows 7 and Microsoft Office 2010.
- There are 45 multiple-choice questions for each exam.
- There is a time limit of 50 minutes for each exam.
- Each exam has a maximum score of 1000.
- The minimum passing score could range from 620 in difficult tests to 720 on easier tests.
- There is a short survey before the exam begins (taking the survey does not use any of the available 50 minutes).
- If you do not pass the exam, you can retake it as many times as you want, but you must wait 24 hours before taking the exam a second time. If you do not pass the exam again, a two-day waiting period will be imposed for each subsequent exam retake.

Tips for Taking the IC3 GS4 Exams

Here are some general tips for improving the odds of passing your certification exam:

- Read each question carefully. Although the test is not written to be confusing, there are times when the obvious choice is not the correct choice.

- Make sure you answer each question. Any unanswered questions are considered wrong, so you are better off making an educated guess than leaving a question unanswered.
- For any questions where you are unsure of the correct answer, use a process of elimination to remove any obviously incorrect answers first. Once you have eliminated the obviously incorrect answers, make an educated guess from the remaining answers.
- If you are unsure about a question, select the answer you think is most likely to be correct, mark it for review, and come back to it at a later time.
- Get a good night's sleep the night before the exam. This will help you to be more alert and think clearly during the exam.

Exam Registration

Take the following steps to register for the IC3 exams:

1. Using a browser, navigate to the Certiport website: <http://www.certiport.com>.
2. To register with Certiport, click the Register link in the top-right corner and provide all the required personal information.
3. Once the registration process is complete, select that you would like to take an exam or prepare for an exam and click Next.
4. Register for the IC3 certification.
5. Locate a Certiport Authorized Testing Center (CATC) near you.
6. Once you have found a CATC, you should then contact the Testing Center directly to confirm that they offer the exam(s) you wish to take, determine their prices and fees, set up a date and time to take the exam, and find out what exam preparation resources/courses they offer.

You can find the exam policies that you must abide by at this webpage:

<http://www.certiport.com/PORTAL/desktopdefault.aspx?page=common/pagelibrary/LiveApp.htm>.

IC3 requires certification candidates to accept the terms of a nondisclosure agreement before taking certification exams.

Who Should Read This Book?

This book is intended for individuals who want to prepare for the Computing Fundamentals exam as part of earning their IC3 GS4 certification. For both the student and the job-seeker, IC3 provides the foundation of knowledge needed for success, and it is a well-respected and internationally recognized credential that reflects the most relevant skills needed in today's academic and business environments.

What's Inside?

Here is a glance at what's in each chapter:

Chapter 1: Understanding Operating Systems This chapter introduces basic concepts like hardware, software, and operating systems and explains how they work together. It also explains the basics of managing files on a computer and customizing an operating system.

Chapter 2: Understanding Hardware This chapter goes into more detail about hardware and provides more information about different types of hardware, what they are used for, and how to measure their performance.

Chapter 3: Understanding Software This chapter demonstrates how to install, uninstall, and reinstall various software. It explains the different licensing models and the basics of using several types of software.

Chapter 4: Troubleshooting Problems with Your Computer This chapter describes the most common types of problems you may encounter when dealing with both software and hardware and how to deal with them.

What's Included with the Book

This book includes many helpful items intended to prepare you for the Computing Fundamentals exam that's part of the IC3 GS4 certification.

Assessment Test The assessment test at the conclusion of the book's introduction can be used to quickly evaluate where you are with your general computing knowledge and skills that prove your competency in digital literacy. This test should be taken prior to beginning your work in this book, and it should help you identify areas in which you are either strong or weak. Note that these questions are purposely simpler than the types of questions you may see on the exams.

Objective Map and Opening List of Objectives At the start of this book is a detailed exam objective map showing you where each of the exam objectives is covered in this book. In addition, each chapter opens with a list of the exam objectives it covers. Use these to see exactly where each of the exam topics is covered.

Exam Essentials The end of each chapter provides a brief overview of the concepts covered in the chapter. We recommend reading through these sections carefully to check your recollection of each topic and returning to any sections of the chapter you're not confident about having mastered.

Chapter Review Questions Each chapter includes review questions. The material for these questions is pulled directly from information that was provided in the chapter. These questions are based on the exam objectives, and they are similar in difficulty to items you might actually encounter on the IC3 GS4 exams.

Interactive Online Learning Environment and Test Bank

The interactive online learning environment that accompanies this book provides a test bank with study tools to help you prepare for the certification exams—and increase your chances of passing it the first time! The test bank includes the following:

Sample Tests All of the questions in this book are provided: the assessment test, which you'll find at the end of this introduction, and the chapter tests that include the review questions at the end of each chapter. In addition, there are two practice exams. Use these questions to test your knowledge of the study guide material. The online test bank runs on multiple devices.

Flashcards Questions are provided in digital flashcard format (a question followed by a single correct answer). You can use the flashcards to reinforce your learning and provide last-minute test prep before the exam.

Practice Files Many exercises in this book use practice files that were created specifically for this book. You can find them online, in the Other Study Tools section of the interactive learning environment that was created for this book. Before going through all the exercises that are offered, please register and download all the practice files.

Other Study Tools A glossary of key terms from this book is available as a fully searchable PDF.



Go to <http://sybextestbanks.wiley.com> to register and gain access to this interactive online learning environment and test bank with study tools.

How to Use This Book

If you want a solid foundation for preparing for the Computing Fundamentals exam, then look no further. We've spent a lot of time putting this book together with the sole intention of helping you to pass the exam!

This book is loaded with valuable information. You'll get the most out of your study time if you follow this approach:

1. Take the assessment test immediately following this introduction. (The answers are at the end of the test, but no peeking!) It's okay if you don't know any of the answers—that's what this book is for. Carefully read over the explanations for any question you get wrong, and make note of the chapters where that material is covered.
2. Study each chapter carefully, making sure you fully understand the information and the exam objectives listed at the beginning of each one. Again, pay extra-close attention to any chapter that includes material covered in questions you missed on the assessment test.
3. Answer all the review questions related to each chapter. Specifically note any questions that confuse you, and study the corresponding sections of the book again. And don't just skim these questions—make sure you understand each answer completely.

4. Test yourself using all the electronic flashcards. This is a brand-new and updated flashcard program to help you prepare for the Computing Fundamentals exam, and it is a really great study tool.

Learning every bit of the material in this book is going to require applying yourself with a good measure of discipline. So try to set aside the same time period every day to study, and select a comfortable and quiet place to do so. If you work hard, you will be surprised at how quickly you learn this material. If you follow the steps listed here and study with the review questions, practice exams, and electronic flashcards, you will increase your chances of passing the exam.

How to Contact Sybex

Sybex strives to keep you supplied with the latest tools and information that you need for your work. Please check the website at <http://sybextestbanks.wiley.com>.

IC3 GS4 Exam Objectives

IC3—Module 1: Computing Fundamentals

| Objective Number | Objectives and Skill Sets | Chapter |
|------------------|--|---------|
| 1.0 | Operating System Basics | 1 |
| 1.1 | What is an OS and what does it do? | |
| 1.1.1 | Explain the differences between software applications and operating systems and demonstrate their uses. | |
| 1.1.2 | Common OS features, explain each of their uses: Power On/Power Off Log on/log off/switch user Lock/Unlock Differences between common OSs | |
| 1.1.3 | Explain how hardware can influence the Operating System and software and vice versa. | |
| 1.1.4 | Software updates, security fixes, bugs, adaption to new hardware. Demonstrate how to update software, using manual and automatic settings. | |

continues

| Objective Number | Objectives and Skill Sets | Chapter |
|------------------|--|---------|
| 1.2 | Manage computer files and folders. | 1 |
| 1.2.1 | Directory and folder hierarchy and structure: Menu, Toolbar, and Window Navigation Expand and Collapse Folder views | |
| 1.2.2 | File/Folder management: Keyboard shortcuts Copy Paste Delete Move Rename Create shortcuts Search | |
| 1.2.3 | Identify file extensions and their associations such as .docx, .xlsx, .pdf, .mp3, etc. | |
| 1.3 | Manage computer configuration, Control Panel, OS, and drivers. | |
| 1.3.1 | Basic Desktop Customization Visual options Languages Date and Time Accessibility options | |
| 1.3.2 | Describe the various states of operation available in a typical consumer-level OS. Include Shutdown, hibernation, standby, fully awake, etc. | |
| 1.3.3 | User accounts and rights: Group policy (specifically mobile) Read/Write Administrative vs. standard user rights File and Directory Permissions | |
| 2.0 | Computer hardware and concepts | 2 |
| 2.1 | Common computer terminology | |

| Objective Number | Objectives and Skill Sets | Chapter |
|------------------|--|---------|
| 2.1.1 | Define the terms and explain the differences between input/output devices and hardware and peripherals. Processing: Gigahertz, Hertz, CPU Input/Output: Monitor and Projector, Mice, Keyboards, Stylus, Microphone, Speakers, Touchpad Printers | 2 |
| 2.1.2 | Explain the different types of memory (Volatile, Nonvolatile). Volatile – RAM Nonvolatile - SSD drive, Magnetic hard drive, ROM, Flash drives (USB, Jump, Thumb, etc.) Units of measurement: Mega, giga, tera, peta Explain the difference between Bit vs. Byte. | |
| 2.2 | Types of devices | |
| 2.2.1 | Explain these different types of computers. Compare and contrast uses and capabilities. Server Desktop Laptop Tablet Smartphone | |
| 2.3 | Computer performance | |
| 2.3.1 | Specify criteria that could be used to evaluate the pros and cons of various computing devices and peripherals, Focus on performance issues. | |
| 2.3.2 | Processing vs. memory vs. storage: Describe the concepts of Processing capacity, Processing speed, Memory capacity, Memory speed, Storage capacity, and Storage speed including how each interacts with the other to determine overall computing capacity, speed and power. | |
| 3.0 | Computer software and concepts | 3 |
| 3.1 | Software management | |

continues