ALL ■ IN ■ ONE

CEH Certified Ethical Hacker

EXAM GUIDE

Matt Walker

New York • Chicago • San Francisco • Lisbon
London • Madrid • Mexico City • Milan • New Delhi
San Juan • Seoul • Singapore • Sydney • Toronto

McGraw-Hill is an independent entity from the International Council of E-Commerce Consultants® (EC-Council) and is not affiliated with EC-Council in any manner. This study/training guide and/or material is not sponsored by, endorsed by, or affiliated with EC-Council in any manner. This publication and CD may be used in assisting students to prepare for The Certified Ethical Hacker (CEH™) exam. Neither EC-Council nor McGraw-Hill warrant that use of this publication and CD will ensure passing any exam. CEH is a trademark or registered trademark of EC-Council in the United States and certain other countries. All other trademarks are trademarks of their respective owners.

The McGraw·Hill Companies

Cataloging-in-Publication Data is on file with the Library of Congress

CEH™ Certified Ethical Hacker All-in-One Exam Guide

1234567890 QFR QFR10987654321

ISBN: Book p/n 978-0-07-177230-3 and CD p/n 978-0-07-177231-0
of set 978-0-07-177229-7

MHID: Book p/n 0-07-177230 8 and CD p/n 0-07-177231-6
of set 0-07-177229-4

Sponsoring Editor
Timothy Green

Editorial Supervisor
Jody McKenzie

Project Editor
Emilia Thiuri, Fortuitous Publishing Services

Acquisitions Coordinator
Stephanie Evans

Technical Editor
Brad Horton

Copy Editor
Bart Reed

Proofreader
Louise Watson

Indexer
Jack Lewis

Production Supervisor
James Kussow

Composition
Apollo Publishing Services

Illustration
Lyssa Wald

Art Director, Cover
Jeff Weeks

The views and opinions expressed in all portions of this publication belong solely to the author and/or editor and do not necessarily state or reflect those of the Department of Defense or the United States Government. References within this publication to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, do not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government.

Some glossary terms included in this book may be considered public information as designated by The National Institute of Standards and Technology (NIST). NIST is an agency of the U.S. Department of Commerce. Please visit www.nist.gov for more information.

Information has been obtained by McGraw-Hill from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, McGraw-Hill, or others, McGraw-Hill does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions or the results obtained from the use of such information.

This book is dedicated to my children:
Faith, Hope, Christian, and Charity.
They are the world to me.

ABOUT THE AUTHOR

Matt Walker, an IT Security and Education professional for over 20 years, has served as the Director of the Network Training Center and the Curriculum Lead/Senior Instructor for the local Cisco Networking Academy on Ramstein AB, Germany. After leaving the U.S. Air Force, Matt served as a Network Engineer for NASA's Secure Network Systems (NSS), designing and maintaining secured data, voice, and video networking for the Agency. Soon thereafter, Matt took a position as Instructor Supervisor and Senior Instructor at Dynetics, Inc., in Huntsville, Alabama, providing onsite certification awarding classes for ISC2, Cisco, and CompTIA, and after two years came right back to NASA as the IT Security Manager for UNITeS, SAIC, at Marshall Space Flight Center. He has written and contributed to numerous technical training books for NASA, Air Education and Training Command, the U.S. Air Force, as well as commercially, and he continues to train and write certification and college-level IT and IA Security courses. Matt holds numerous commercial certifications, including CEHv7, CPTS, CNDA, CCNA, and MCSE. Matt is currently the IT Security Manager for Lockheed Martin at Kennedy Space Center.

About the Technical Editor

Brad Horton currently works as an Information Security Specialist with the U.S. Department of Defense. Brad has worked as a security engineer, commercial security consultant, penetration tester, and information systems researcher in both the private and public sectors.

This has included work with several defense contractors, including General Dynamics C4S, SAIC, and Dynetics, Inc. Mr. Horton currently holds CISSP, CEH, CISA, and CCNA trade certifications. Brad holds a bachelor's degree in Commerce and Business Administration from the University of Alabama, a master's degree in Management of Information Systems from the University of Alabama in Huntsville (UAH), and a graduate certificate in Information Assurance from UAH. When not hacking, Brad can be found at home with his family or on a local golf course.

The views and opinions expressed in all portions of this publication belong solely to the author and/or editor and do not necessarily state or reflect those of the Department of Defense or the United States Government. References within this publication to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, do not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government.

About the Contributing Editor

Angie Walker is currently an Information Systems Security Engineer for Harris Corporation, located in Melbourne, Florida. Among the many positions she has filled over the course of her 20-plus years in Information Technology and Information Assurance are Chief Information Security Officer for the University of North Alabama, Manager of the Information Systems Security (ISS) office for the Missile Defense Agency (MDS) South, and lead for the MDA Alternate Computer Emergency Response Team (ACERT). She served as Superintendent of the United States Air Forces in Europe (USAFE) Communications and Information Training Center, Superintendent of the 385 Communications Squadron on Ali Al Saleem AB, Kuwait, and Senior Information Security Analyst for Army Aviation Unmanned Aircraft Systems. Angie holds several industry certifications, including CISSP, Network+ and Security+, and a master's degree in Information Systems Management. She has developed and taught courseware worldwide for the U.S. Air Force, as well as several computer science courses for the University of Alabama in Huntsville and Kaplan University in Fort Lauderdale, Florida.

CONTENTS AT A GLANCE

CONTENTS