



Your competence will be assessed as you complete the HAC2/ARV2/FNV2 EC-Council Certified Ethical Hacker Exam (312-50) assessment for this course of study. This course of study may take up to 8 weeks to complete.

Note: WGU students will NOT be able to register for the CEHv7 exam until after November 1, 2011. If you refer prior to that date, you will be taking the CEHv6 exam. Please refer to the course instructor or your mentor for further inquiries.

Introduction

Overview

This course of study will help you acquire the skills necessary to protect an organization's information system from unauthorized access and system hacking. You will learn about security threats, penetration testing, vulnerability analysis, risk mitigation, business-related issues, and countermeasures.

An ethical hacker is someone who purposefully tries to gain unauthorized access to a network and computer system with the goal of exposing vulnerabilities. Companies want to complete these kinds of tests to gauge how secure their systems really are.

In this course, you will learn how to expose system vulnerabilities and learn solutions for eliminating and/or preventing vulnerabilities. You will learn how to apply your hacking skills on different types of networks and platforms. The skills you acquire help you protect your employer's network and computer systems against potential vulnerabilities.

Remember, in order to understand many of the concepts presented, you will need to utilize the skills you acquired in previous courses.

Outcomes and Evaluation

There are 6 competencies covered by this course of study; they are listed in the "[Competencies for Ethical Hacking \(HAC2/ARV2/FNV2\)](#)" page.

You will complete the following assessments as you work through the course of study.

Pre-Assessment

You will complete the following pre-assessment:

- uCertify Exam PrepKit - Certified Ethical Hacker

External Assessment

You will complete the EC-Council Certified Ethical Hacker Exam (312-50). This exam includes

- a random selection of 150 questions and
- a four hour time limit.



You must score at least a 70% to pass.

Note: EC-Council officially refers to the exam on their website as 312-50. However, they state that the exam code varies by testing center.

You will need to submit your scores to WGU after completing this exam.

Preparing for Success

The information in this section is provided to help you become ready to complete this course of study. As you proceed, you will need to be organized in your studies in order to gain competency in the indicated areas and prepare yourself to pass the final assessments.

Your Learning Resources

Enroll in or order the learning resources for this course as early as possible so as to give them time to arrive and give you enough time to become familiar with them.

Automatically Enrolled Learning Resources

You will be automatically enrolled at the activity level for the following learning resources. Simply click on the links provided in the activities to access the learning materials.

Somo Learning Environment

The following learning environment will be utilized as the primary learning resource for completion of this course of study:

- Ethical Hacking

This learning environment will contain links at the activity level to the following additional learning resources:

VitalSource E-Texts

The following textbooks are available to you as e-texts within this course of study. You will be linked by volume to specific readings required within the activities that follow. You will have to navigate to the specified chapter once you have entered the resource.

Ethical Hacking and Countermeasures, five volume set

- International Council of Electronic Commerce Consultants (2009). *Ethical hacking and countermeasures: Attack phases*. (Vol. 1). Course Technology, Cengage Learning.
- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Threats and defense mechanisms*. (Vol. 2). Course Technology, Cengage Learning.
- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Web applications and data servers*. (Vol. 2). Course Technology, Cengage Learning.
- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Linux, Macintosh, and mobile systems*. (Vol. 4). Course Technology,



Cengage Learning.

- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Secure network infrastructures*. (Vol. 5). Course Technology, Cengage Learning.

Note: These e-texts are available to you free of charge, but you may purchase hard copies at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.

Cengage Student Resource Guides

The e-texts for this course of study are paired with Student Resource Guides for each text. These sites contain extra documents and supplemental materials to support your learning from the main e-texts. You will be directed to the use of the materials within the activities that follow.

- International Council of Electronic Commerce Consultants (2009). *Ethical hacking and countermeasures: Attack phases*. (1st ed.): Student Resource Center. Course Technology, Cengage Learning.
- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Threats and defense mechanisms*. (1st ed.): Student Resource Center. Course Technology, Cengage Learning.
- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Web applications and data servers*. (1st ed.): Student Resource Center. Course Technology, Cengage Learning.
- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Linux, Macintosh, and mobile systems*. (1st ed.): Student Resource Center. Course Technology, Cengage Learning.
- International Council of Electronic Commerce Consultants. (2009). *Ethical hacking and countermeasures: Secure network infrastructures*. (1st ed.): Student Resource Center. Course Technology, Cengage Learning.

SkillSoft and Books 24x7

You will access SkillSoft items at the activity level within this course of study. For more information on accessing SkillSoft items, please see the "[Accessing SkillSoft Learning Resources](#)" page.

Enroll in Learning Resources

You will need to enroll in or subscribe to additional learning resources as a part of this course of study.

You may already have enrolled in these resources for other courses. Please check the "Learning Resources" tab and verify that you have access to the following learning resources. If you do not currently have access, please enroll or renew your enrollment at this time.

Note: For instructions on how to enroll in or subscribe to learning resources through the "Learning Resources" tab, please see the "[Acquiring Your Learning Resources](#)" page.



uCertify

Enroll in the following resource on the Learning Resources tab:

- "uCertify Access"

Note: The online version of the uCertify learning resource is provided to you by WGU as part of your enrollment. If you wish to use the offline version, you may purchase it yourself from uCertify.

LearnKey

LearnKey is an interactive, video-based learning resource that provides you with engaging video presentations, activities, practice tests, and labs. Once you have enrolled, you will receive an e-mail with instructions regarding how to log in.

This resource includes the following:

- "Hacking Revealed 2008" - 12 hours of interactive training
 - Session 1 (7 sections)
 - Session 2 (7 sections)
 - Session 3 (9 sections)
 - Session 4 (7 sections)
 - Session 5 (6 sections)
 - Session 6 (6 sections)
 - Session 7 (7 sections)

Other Learning Resources

You will use the following learning resources for this course of study.

Lab Environment

All of the ethical hacking activities in this course should only be completed on an experimental system isolated from a production environment. Many of the software tools used in the labs may place an undue burden on live networks (especially in testing mode), and some may violate acceptable use policies on your organization's network. You are encouraged to run these activities in a lab environment.

The labs associated with the chapters of your textbook give you step-by-step exercises to provide hands-on ethical hacking skills. The companion website Student Resource Center contains all the freeware used in the exercises.

It is recommended that you invest in certain equipment (Windows XP workstation and Linux Fedora workstation) to get the full effect of the labs. You may also wish to install and configure a virtual machine for lab exercises as described in the Virtual Machine activity in this course. It is strongly recommended that you either invest in the extra equipment or partition your current computer.

Many of these labs will have you looking at settings on your home computer and will often have



you make changes. Be sure to backup your settings before making any changes.

You can conduct hands-on practice in one of the following ways:

- *Acquire two computers, one for Windows XP and one for Linux Fedora.*

You can obtain a fully licensed version (180-day trial) of Windows Server and Windows XP Professional through the Microsoft DreamSpark.

Go to the IT Program Learning Community and search for Microsoft DreamSpark. There, you will find how to download your copy. It is recommended that you download the latest version of Linux Fedora:

- [Fedora](#)

- *Partition your current computer. (Recommended Solution)*

You can partition your hard drive on your current computer. This will allow you to install Windows XP Professional and Linux Fedora on one PC, and you can avoid buying additional hardware (i.e., desktop, laptop, hard drives) in order to conduct hands-on practices for the assessment.

Virtualization Software

It is strongly encouraged that you complete the hands-on activities you encounter. To cope with the different operating systems that may be required, you are encouraged to use virtualization software; such software will allow you to run multiple operating systems on the same computer

VMware

VMware is a commercial product. Access to it is free for WGU candidates.

To gain access to VMware, contact the [Learning Resources Department](#). Include your e-mail address, and use the following subject line:

- "VMware Access"

VirtualBox

VirtualBox is an open source alternative available from Sun Microsystems. VirtualBox does not have licensing or maintenance fees.

VirtualBox runs on Windows, Mac OS X, and Linux. You can download the host software for free from the VirtualBox Download:

- [VirtualBox Wiki | Downloads](#)



VirtualBox allows you to run many guest operating systems. A full listing can be found in the documentation at the VirtualBox Guest OSes:

- [VirtualBox Wiki | Guest OSes](#)

EC Council Student Release Form

When you refer for the Enterprise Continuity exam, you need to fill out an active student exam release form. Access the form at:

- [Western Governors University Active Student Exam Release Form](#)

Please submit a copy of your [EC-Council](#) Certification score along with this completed form using the "[Following Outside Vendor Assessments](#)" instructions.

Additional Preparation

There are many different learning tools available to you within your course of study in addition to the learning resources already discussed. Take the time to familiarize yourself with them and determine how best to fit them into your learning process.

Message Boards, FAQs, Note-Taking Tool

Message boards, FAQs, and a note-taking tool are available in every course of study.

Use the "[Additional Learning Tools](#)" page to review these tools.

The WGU Central Library

The [WGU Central Library](#) is available online to WGU students 24 hours a day. The library offers access to a number of resources, including over 60,000 full-text e-books; articles from journals, magazines, and newspapers; course e-reserves; and tutorials on how to use these resources and the library. The library also includes a reference service for help with research questions or navigating the library.

For more information about using the WGU Library, view the "WGU Library: Finding Articles, Books & E-Reserves" video in the Student Resources section of [The WGU Channel](#).

Center for Writing Excellence: The WGU Writing Center

If you need help with any part of the writing or revision process, contact the Center for Writing Excellence (CWE). Whatever your needs—writing anxiety, grammar, general college writing concerns, or even ESL language-related writing issues—the CWE is available to help you. The CWE offers personalized individual sessions and weekly group webinars. For an appointment, please e-mail writingcenter@wgu.edu.

Course Instructor Assistance



Course instructors are available to help you. Their job is to aid understanding in areas where you need to improve and to guide you to learning resources. Request their help as needed when preparing for assessments.

Course instructors cannot provide reviews of entire assessments. If you fail assessment attempts, review the provided feedback first, then ask the course instructor specific questions about what you can do to meet the competency standard. Request course instructor assistance as necessary in preparing for second attempts at objective assessments or performance task revisions. Mentors cannot guarantee you pass as they do not evaluate assessments; however, they can provide the assistance and advice necessary to help you succeed.

CEHv7 Exam Objective Map

This course of study includes a "[CEHv7 Exam Objective Map](#)" to help you visualize the elements of this course of study.

This map will also provide general pacing guidelines for your work.

To view the exam objectives for the CEH v7 exam and other exam information directly from EC-Council please visit the following site:

- [EC-Council](#)

Ethical Hacking Learning Environment

All activities and learning resources for this course of study are found by accessing the Ethical Hacking learning environment.

Competencies covered by this subject

426.4.1 - Ethics and Legality

The graduate analyzes ethical and legal issues related to the unauthorized or unwanted access into and of information assets, including types of hacking technologies and related skills.

426.4.2 - Pre-Attack Planning

The graduate evaluates techniques used in footprinting and implements industry best practices to protect against this type of information asset vulnerability.

426.4.3 - System Hacking

The graduate evaluates various network system hacking counter-techniques.

426.4.5 - Hacking Web Servers

The graduate identifies known Web server vulnerabilities and demonstrates industry best practices to protect against this type of threat.

426.4.6 - Web Application Vulnerabilities

The graduate identifies common web application vulnerabilities and uses industry best practices to protect against this type of threat.

426.4.7 - Wireless Hacking

The graduate evaluates industry best practices for securing a wireless network, identifies the threats to wireless security, and associates threats with known countermeasures.

Learning Environment

The material for this course of study is housed in a separate learning environment. In this



learning resource, you will be able to

- complete the activities and reading assignments to prepare for the assessment for this course;
- answer the quizzes to gauge your learning; and
- communicate with your mentor and other students as you study.

Once you have completed the material within the learning environment, you should return to this course of study for the information for your exam.

Ethical Hacking Environment

Access the learning environment for this course and complete the readings, activities, and quizzes for the following section:

- [Ethical Hacking](#)

Final Steps

Congratulations on completing the activities in this course of study! This section will guide you through the assessment process.

Assessment Information

The activities in this course of study have prepared you to complete the HAC2/ARV2/FNV2 objective assessment.

Accessing External Assessments

Complete the following assessment:

- EC-Council Certified Ethical Hacker Exam (312-50)

For directions on how to receive access to objective assessments, see the "[Accessing Objective Assessments](#)" page.

Remember: The exam code varies when taken at different testing centers.

- [EC-Council](#)

Submitting External Assessment Scores

After completing an external assessment, follow the directions for submitting a score report on the "[Following Outside Vendor Assessments](#)" page.