# **GIAC** CERTIFICATIONS

## Deeper Knowledge. Advanced Security.

## The Leader in Hands-On InfoSec Certifications for 20 Years Running

## **About GIAC Certifications**



The Global Information Assurance Certification (GIAC) Program was founded in 1999

We provide 35 **skill-specific** certifications that are directly aligned with critical InfoSec job duties

GIAC exams validate **real-world** competency by testing **hands-on** concepts and pragmatics vs just theory

Certifications range from Cyber Security Fundamentals to highly specialized areas of expertise such as Reverse Engineering Malware and Advanced Smartphone Forensics

GIAC leads the industry with eleven ISO/IEC/ANSI 17024 Accredited certifications



## **Current State of Cyber Security**



### Skills Mismatch

#### Emphasis on theory over practice

- Education focus on theoretical over applied knowledge
- Lack of real-world skills
- 95% of security incidents involve human error

### Threat Proliferation Outpacing ability to respond

- "97% of Fortune 500 companies have been hacked. The other 3% have too, they just don't know it"
- Average annualized cost of cyber incidents for U.S. companies is \$15.4 million

## Increasing Risk & Cost

Increasing data breaches Increasing vulnerabilities *Yahoo: \$350 million* 

## Undervalued

#### in the organization

 "Rarely has something been so important and so talked about with less clarity and less understanding"

#### **Talent Crisis** Severe shortage of skills

- ~300,000 open positions over 12 months
- Est. to grow to 1.8 million by 2022
- Fast growth across all industry verticals
- Only 11% female

#### Center for Strategic and International Studies (CSIS)

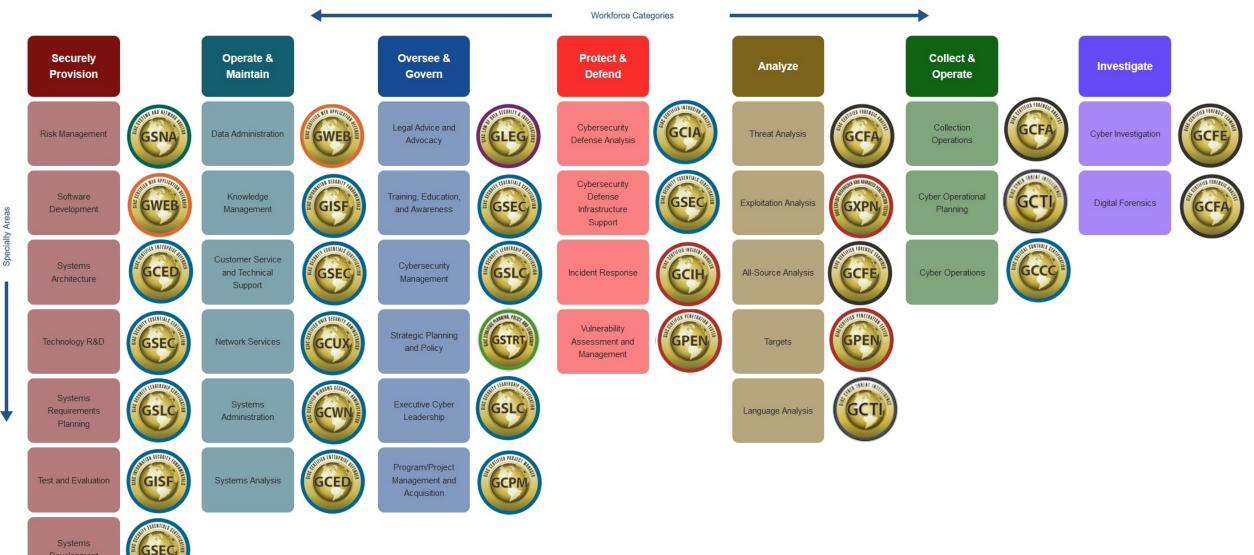
#### GIAC's Broad Range of Certifications Align with **Industry Career Paths** CERTIFICATIONS

| Cyber Defense  | ICS Pen Testing   | g Digital Forensics & Incident Response      | Management & Leadership                       | Developer |
|--|---|--|---|-----------|
| GISF<br>GSEC<br>GCED<br>GCIA<br>GCWN<br>GCUX<br>GMDN | GICSP GCIH<br>GRID GPEN<br>GCIP GWAPT<br>GPYC<br>GMOB<br>GAWN<br>GXPN | GCFE<br>GCFA<br>GNFA<br>GCTI<br>GASF<br>GREM | GISP<br>GSLC<br>GSTRT<br>GCPM<br>GLEG<br>GSNA | GWEB      |
| GDSA<br>GCDA<br>GCCC<br>GDAT                         |   |  | <b>SF</b> The GSE is an end                   | -         |



performance based, nands-on Certification

## **GIAC** Alignment to National Initiative for **Cybersecurity Education (NICE) Work Roles**



Certifications

Development

## Why GIAC is Unique



### GIAC technical exams focus on interactive hands-on content

- The family of GIAC certifications target job-based skill sets rather than taking a one-size-fits-all approach
- We provide technical certifications that are **directly aligned** with critical InfoSec skills, job roles and duties
- GIAC is uniquely committed to **validating the hands-on skills** of today's security professional

By offering a wide range of certification disciplines, we target the hands-on skills required for mastery of many important job duties and technologies

## **GIAC Interactive VM-Based Hands-on Content**

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| ( Hands-On Exercise )   | Computer  | root@kali:+   | _ 0 x  |  |  |
| Please take a moment to read the given (  |   | File Edit View Search Terminal Help   |  |  |  |
|   |   | /root   |  |  |  |
| (Question 55)<br>Choose the statement that best describe  |   | <pre>root@kali:~# pcap pcap-config pcaphistogram.pl pcapinfo</pre>  |  |  |  |
| choose the statement that best describe   |   | <pre>root@kali:-# pcaphistogram.pl testing/5.pcap set title "Packet Payload Histogram for testing/5</pre>   |  | _ 0 X  |  |
|   |   | set xlabel "Byte Values"  | ImageMagick: 5.png   |  |  |
| <ul> <li>(Answer)</li> <li>There is a large cluster of characters</li> <li>The largest cluster of characters is a</li> <li>The largest cluster of characters is a</li> <li>There is a large cluster of characters</li> <li>There is a large cluster of characters</li> <li>There is a large cluster of characters</li> <li>The histogram isn't flat, but there is</li> <li>This histogram is relatively flat</li> <li>The largest cluster of characters is a</li> </ul> |   | <pre>set ylabel "Frequency" set autoscale set terminal png set output "5.png" set yrange [0:*] set xrange [0:255] set format x "%02x" set nokey set size 1,0.5 plot "5.data" with points lc 3 quit root@kali:-# ls 5.data bootcamp Desktop lab pictures pxe px root@kali:-# display display display.im6 root@kali:-# display 5.png </pre> | Packet Payload Histogram for testing/5.pcap                  |  |  |
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CERTIFICATIONS

# Example of Content Alignment Between GIAC and Typical Cyber Security Undergraduate Programs





- Prevention of attacks and detection of adversaries
- Networking Concepts, Defense in Depth, Secure Communications
- Foundational Windows and Linux Security



- Fundamentals of Traffic Analysis and Application Protocols
- Open Source IDS: Snort and Zeek (formerly Bro)
- Network Traffic Forensics and Monitoring



- Manage security incidents
- Methods used to detect, respond, and resolve computer security incidents.
- Understanding common attack techniques, vectors and tools as well as defending against and/ or responding to such attacks when they
  occur

#### All GIAC Exam Certification Objectives & Outcome Statements are listed on www.giac.org

# GIAC's Partnership with the SANS Technology Institute - Offering Graduate and Undergraduate Programs

#### **Three Avenues of Certificates or Degree**

- Master's of Science in Security Engineering (MSISE): 36 Credit Hours, 3-4 years
- <u>Graduate Certificates</u>: 5 Industry focused programs, 12 Credit Hours, 24 months
- Undergraduate Certificate (Upper Division), <u>Certificate in Applied Cyber Security</u>: 4 courses, 6-12 months (must have Associate's Degree or 48 hours of Undergraduate Study)
- **Overall design:** Combines the best of SANS technical training (any modality) with security-focused leadership, management, and communications courses, papers, presentations, group projects
- **GIAC:** Students earn GIAC certifications in most courses after passing the exam.
- Middle States Accreditation and Title IV eligibility:
  - Corporate Tuition Reimbursement
  - 529 Savings Plans
  - VA Education Benefits (Post-9/11, Montgomery)
- The SANS Technology Institute is accredited by <u>The Middle States Commission on Higher Education</u>, an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation



The Best. Made Better.

### **Benefits to Students and Overlap with Programs**



Most GIAC certification areas are job role specific, intrinsically tied to labor market value GIAC Certs align with Undergrad programs focusing on **experience-based learning** 

- **Opportunity:** The breadth of GIACs offerings enables lots of possible overlap with specific undergrad course content
- Limitation: Given the level of expertise needed for advanced job roles in cyber, more alignment with basic topics
- **Opportunity:** The more an undergrad curriculum would include a hands-on approach the more it would align
- Limitation: True practical skills that make a difference are often expensive and require experience-based learning

### **Contact Info**

- Jeff Frisk jfrisk@giac.org
- GIAC: <u>http://www.giac.org</u>
- SANS: <u>http://www.sans.org</u>
- SANS Technology Institute: <u>http://sans.edu</u>

"GIAC has opened doors for me in my cybersecurity career. The security of your cyber-assets depends directly on the skills and knowledge of your security team that GIAC exams validate."

-Trey Blalock, GWAPT, GCFA, GPEN

