**CAREER ANALYSIS: COMPUTER FORENSICS**

by Matthew Ferry

April, 15, 2011

**CAREER ANALYSIS: COMPUTER FORENSICS**

**CAREER ANALYSIS: COMPUTER FORENSICS**

Prepared for

Matthew Ferry

Prepared by

Matthew Ferry

Open Options Services

April 5, 2011

**Table of Contents**

[Letter of Transmittal 5](#_Toc290506384)

[INTRODUCTION 6](#_Toc290506385)

[CAREER ANALYSIS: COMPUTER FORENSICS 7](#_Toc290506386)

[Possible Career Choices 7](#_Toc290506387)

[Information Security Consultant: 7](#_Toc290506388)

[Information Security Operations Engineer: 8](#_Toc290506389)

[Specific Comparisons 8](#_Toc290506390)

[Salary: 8](#_Toc290506391)

[Professional Certifications: 9](#_Toc290506392)

[Software Knowledge: 9](#_Toc290506393)

[Programming Knowledge: 11](#_Toc290506394)

[Travel 11](#_Toc290506395)

[Conclusions and Recommendations 12](#_Toc290506396)

[REFERENCES 13](#_Toc290506397)

[Appendix A 14](#_Toc290506398)

[Appendix B 17](#_Toc290506399)

[Appendix C 20](#_Toc290506400)

[Appendix D 22](#_Toc290506401)

#

# Letter of Transmittal

Date: April 15, 2011

To: Matthew Ferry

From: Matthew Ferry

Memo: Career Analysis on Computer Forensics

As requested on April 1, 2011 an analysis of a career in computer forensics has been prepared as well as a recommendation. Two careers were analyzed in this reporting, showing a wide range of required experience and skills. The enclosed report and recommendation is based off what should provide the best goals and opportunities in this career field.

If you have any questions about the information in the report or recommendations please feel free to contact me.

Sincerely,

Matthew Ferry

Career Analyst

Open Option Services

Phone Number

Email Address

# INTRODUCTION

The field of “Computer Forensics” is a very technical and challenging field of work that has the potential to be an extremely rewarding experience. As requested, this report will analyze two careers and some of their differences, and provide a suggestion on which career would suite you the best.

After our discussion about your interests, we have narrowed the information down to a couple of general positions to decide between, and project as a goal. Some of the key differences between these two careers are the following: salary, professional certifications, software knowledge, programming knowledge, and travel.

A copy of your interview transcript has been attached (Appendix C), as well as two job postings (Appendix A and B). The United States Department of Labor, Salary.com and other websites have also been utilized in preparing this report. These sources can be found on the references page.

# CAREER ANALYSIS: COMPUTER FORENSICS

 While neither of the positions analyzed for this report were entry-level positions, they are both positions that pertain to the field of computer forensics and would both be acceptable career goals on where you would like to find yourself in 5 – 10 years.

## Possible Career Choices

### Information Security Consultant:

 The first possible career choice, is that of Information Security Consultant. This position is for a consulting firm based in Dallas, TX. Below is a brief breakdown of the job posting (careerbuilder.com, 2011).

* Job Experience: Min 3 Years, Max 6 Years
* Travel Required: Extensive (50% of the job)
* Estimated Salary: 60k – 110k (90k Average) (salary.com Information Services Consultant: closest matching job title found)
* Education: Bachelor’s degree in relevant discipline
* Professional Certifications: CISSP, CISM, GSEC, GIAC, CEH, CPT, and PCI
* Security Software Familiarity: Nessus, Kismet, Airsnort, nmap, Etheral, WebInspect, etc.
* Manual Detection Skills: OWASPtop 10, Cross-site Scripting, SQL injections, Session High-Jacking, and Buffer Overflows.
* Additional Forensics and Networking Skills: network traffic forensic analysis, utilizing packet capturing software, isolate malicious network behavior, detect inappropriate network use, and identification of insecure network protocols, and attack and penetration experience for testing network infrastructure and web-based applications.
* Preferred Industry Skills: Source code security review, ISO 1799/27001, NIST Publications and other related security Standards. Industry Regulations including Gramm-Leach Bliley act, and HIPAA, Payment Card Industry(PCI) or Corporate Compliance

### Information Security Operations Engineer:

 The second career option that was analyzed was that of a Information Security Operations Engineer, for Raytheon, which is also located locally in Garland, TX (www.applyhr.com, 2011).

* Job Experience: 6+ Years with at least 4 years in Information Security
* Travel Required: None or not listed in job posting
* Estimated Salary: 36k – 75k (54k Average) (salary.com Security Coordinator: Closest matching job title found)
* Education: Bachelor’s degree in relevant discipline
* Professional Certifications: GCIH, GCIA, GCWN, GCFA, GPEN, GCUX, CISSP
* Security Software Familiarity: tcpdump, Wireshark, ngrep, nmap, strings, hexdump, md5sum, sysools, Mazu, Arbor, Qradar, CS-MARS, ArcSight, SNORT, Proventia, BoIDS, Nessus, IP360, Retina
* Manual Detection Skills: None directly listed, although some items listed in the security software list, require manually looking at file data
* Additional Forensics and Networking Skills: Intrusion detection, Vulnerability Assessment, Event log collectin, network traffic flow monitoring, network traffic analysis, code analysis, computer media analysis.
* Preferred Industry Skills: Coding using PERL, SQL, web programming skills (ASP, JavaScript, ColdFusion). Windows/Linux Admin With understanding of file systems, RAID, and OS internals.

## Specific Comparisons

### Salary:

 A salary comparison of these two positions was extremely difficult, and the information that has been found is a best guess estimation.

 The reason for the best guess estimate is that neither of the career titles could be found as an exact match for salary information. (www.salary.com) . It should be noted that of these two careers, the salary for the engineering position falls into the salary range currently being reported by the United States Department of Labor for fields dealing with computer forensics (United States Department of Labor: Bureau of Labor Statistics, 2010 - 11). While important to keep in mind, as mentioned in your interview salary is not a major concern so long as it meets your financial requirements. Both of these careers should easily fulfill that requirement.

### Professional Certifications:

 When comparing the professional certifications required by both careers, there are a few key points of interest. Both careers require the CISSP certification (International Information Systems Security Certification Consortium, Inc., (ISC)), which means that you will definitely want to obtain this certification to continue the furtherance of your career.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |

|  |
| --- |
|  |

 |  Consultant |  |  Engineer |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  | CISM |  | GCIH |  |  |
|  |  | GSEC | CISSP | GCIA |  |  |
|  |  | CEH | GIAC | GCWN |  |  |
|  |  | CPT |  | GCFA |  |  |
|  |  | PCI |  | GPEN |  |  |
|  |  |  |  | GCUX |  |  |
|  |  |  |  |  |  |  |

 Both careers also require other professional certifications. It should be noted that the engineering posting requires several certifications that are all tested and backed through the same organization of GIAC (Global Information Assurance Certification), which is why it has been listed as a common certification above. Regardless of the final career decision, it is highly suggested that you obtain as many certifications through this organization due to their level of recognition.

 The only other major differences in professional certifications are for CISM, CEH, CPT, and PCI. If the above suggestion on getting as many GIAC certifications as possible is followed, the CPT certification should already be accomplished, or easily obtainable. Also the CEH (EC-Council) certification should be heavily considered, as it will be a good supplemental certification to the various GIAC certifications. The PCI certification should only be considered if you will be working with credit card information, such as with billing and point of sale systems.

\*\* All certification acronyms can be found in Appendix D

### Software Knowledge:

Both jobs require extensive software knowledge including Nessus (Tenable Network Security), nmap (nmap.org), and experience with a version of snort (snort.org) (airsnort). Outside of these similarities, the software requirements for each position are considerably different. The engineering position is much more specific as to the required software knowledge, while the consultant position is greatly condensed. It is possible that this difference in specifics is due to an assumption of knowledge by the consultant position because of the knowledge required to obtain the necessary certifications.

Because of these differences, the engineering position stands out over that of the consultant by allowing you to have a better expectation of what to expect in the job position and what will be expected of you.

### Programming Knowledge:

While the programming skills required for each position are difficult to compare due to the consulting position again being nonspecific as to the exact programming languages that will be required, there is enough information provided to allow for a basic understanding that programming skills will be required for both positions.

The consulting position shows this with the requirements of being able to detect and prevent cross-site scripting, SQL injections, High-Jacking and buffer overflows. The engineering position shows coding requirements that include PERL, SQL, ASP, JavaScript, and ColdFusion.

Your experience with SQL would be extremely useful for both positions, however the lack of coding knowledge in other areas may be a hindrance pending how well you are able to pick up on ASP, JavaScript and other languages and learn the syntax differences from the C# that you already know.

### Travel:

 Finally, there is a short comparison between the posted job listings and the required amount of travel. While no travel requirements have been posted for the engineering posting, there is extensive travel posted for the consultant position.

 While you should expect at least some travel in the engineering position, it is highly likely that you will be based out of a local office, and only travel as needed. On the other hand with the consulting firm, by default, companies of this nature tend to have hefty travel requirements, as there is no one single location where the employees services will be needed. Also depending upon how active the company is, this could result in making multiple trips per week, and extended hotel stays. It is possible that the degree of travel required for the consulting position has influenced the salary of this position, as consultants are not generally cheap.

 In your interview, you made it clear that while minor traveling would be acceptable, extensive traveling, while doable, would be extremely inconvenient to you and other members of your family.

# Conclusions and Recommendations

 In conclusion, it is clear that even though only two careers were analyzed there are quite a few variables that need to be consider before making a decision.

 With such wide-ranging salaries, it will be difficult to judge any career based on salary, unless money is a main driving factor behind your career goals. Positions such as consulting may offer more money, but have drawbacks such as extended travel; and positions like the engineering position may call for extensive technical knowledge, yet make only a fraction of the income.

 In regards to professional certifications, any career in the computer forensics field is going to have these requirements, and your best choice will be to examine multiple career options outside of this report that lead to the desired goal. By obtaining professional certifications, you will be building documentation of your training and experience. Once you have a career goal you should find a company that supports these goals allowing you to grow and improve your career.

 Software knowledge, this type of information is good to know up front, so that what is expected of you is clearly understood. However, it is unlikely that you will obtain experience using some of this software outside of the work environment. While setting up a private LAN is a good idea for some of these software packages (tcpdump, ngrep, nmap, etc.) as they are available free, other software packages such as Nessus, are enterprise level applications and extremely expensive, making that experience obtainable through the career experience only.

 Unlike certifications, and software experience, programming knowledge will be selective based upon the career that is pursued. Familiarity with C# this is an extremely strong starting point for this area, due to common factors to other coding languages. Given proper career motivations and additional training, you should be able to adapt to any programming language easily enough.

 Finally travel requirements are going to be specific to the chosen career. While it is understandable not wanting to travel extensively, you should keep this option viable, as you never know when your feelings towards travel might change, and allow for further growth in your career.

 Based on this information and the information that you have given us through your interview, it is recommended that you set the engineering position as your career goal. While the consulting career could be an extremely lucrative career, with salary not being a main focus for you at this point in time, and no desire for extensive travel, this particular career would cause conflicts to your personal priorities.

 The engineering career would also be more advantageous at this particular point in time due to better-defined certification and software knowledge, all of which will provide experience and be useful should your priorities and goals change in the future.

#

# REFERENCES

airsnort. (n.d.). *Airsnort*. Retrieved April 12, 2011, from Airsnort: http://sourceforge.net/projects/airsnort

careerbuilder.com. (2011, April 04). *Information Security Consultant*. Retrieved April 07, 2011, from CareerBuilder.com:

http://www.careerbuilder.com/JobSeeker/Jobs/JobDetails.aspx?IPath=ILKV0E&ff=21&APath=2.31.0.0.0&job\_did=J3F03K6BB3L4C73HNHZ

EC-Council. (n.d.). *EC-Council*. Retrieved April 12, 2011, from EC-Council: http://wwweccouncil.org

Global Information Assurance Certification. (n.d.). *Information Security Certification - GIAC*. Retrieved April 12, 2011, from Global Information Assurance Certification: http://www.giac.org

International Information Systems Security Certification Consortium, Inc., (ISC). (n.d.). *CISSP Education and Certification*. Retrieved April 12, 2011, from International Information Systems Security Certification Consortium, Inc., (ISC): https://www.isc2.org/cissp/Default.aspx

nmap.org. (n.d.). *nmap - Free Security Scanner for Network Exploration and Security Audits*. Retrieved April 12, 2011, from nmap.org: http://www.nmap.org

snort.org. (n.d.). *Snort*. Retrieved April 12, 2011, from snort.org: http://www.snort.org

Tenable Network Security. (n.d.). *Tenable Nessus*. Retrieved April 12, 2011, from Tenable Network Security: http://www.nessus.org/products/nessus/

United States Department of Labor: Bureau of Labor Statistics. (2010 - 11). *Occupational Outlook Handbook 2010 - 11.* Retrieved April 04, 2011, from United States Department of Labor: Bureau of Labor Statistics: http://www.bls.gov/oco/ocos157.htm

www.applyhr.com. (2011, March 21). *Job Posting Details.* Retrieved April 04, 2011, from Applyhr.com: http://www.applyhr.com/19161054

www.salary.com. (n.d.). *Salary.com*. Retrieved April 09, 2011, from www.salary.com: http://www.salary.com

# Appendix A

Information Security Consultant

JOB LOCATION

[US-TX-Dallas](http://www.careerbuilder.com/JobSeeker/Jobs/JobDetails.aspx?IPath=ILKV0E&ff=21&APath=2.31.0.0.0&job_did=J3F03K6BB3L4C73HNHZ#lat=32.7874,lon=-96.7989,mapsize=small,thumbnailmap=False,streetlevel=False,maptoken=Z1kPIB0YGhMP9laOCHmcM8_IVeQ8V-C4mmGm_VaZCpNVvCA8R6IF8_Tw1xULWq7-L1ySzkb2e-VvTCuHF_6R8w2)



JOB OVERVIEW

Company:

[CyberCoders Engineering](http://www.careerbuilder.com/JobSeeker/Companies/CompanyDetails.aspx?HHName=CyberCodersEngineering&sc_cmp1=JS_JobDetails_CoLogoLink)

Salary:

N/A

Industry:

Consulting
Computer Hardware
Computer Software

Relocation:

Yes

Location:

[US-TX-Dallas](http://www.careerbuilder.com/JobSeeker/Jobs/JobDetails.aspx?IPath=ILKV0E&ff=21&APath=2.31.0.0.0&job_did=J3F03K6BB3L4C73HNHZ#lat=32.7874,lon=-96.7989,mapsize=small,thumbnailmap=False,streetlevel=False,maptoken=Z1kPIB0YGhMP9laOCHmcM8_IVeQ8V-C4mmGm_VaZCpNVvCA8R6IF8_Tw1xULWq7-L1ySzkb2e-VvTCuHF_6R8w2)

Experience:

At least 3 year(s)

Education:

None

Required Travel:

Up to 50%

CONTACT

Recruiter's Name:

Bryan McQuilkin

Email:

[Send Email Now](http://www.careerbuilder.com/JobSeeker/ApplyOnline/ApplyStart.aspx?IPATH=ILKV0E&el=true&Job_DID=J3F03K6BB3L4C73HNHZ)

Phone:

Not Available

Job ID:

BMC-secsrcondal

JOB DESCRIPTION

This position is open as of 4/4/2011.

Information Security Consultant

Information Security Consultant

If you are an Information Security Consultant who is versed in security and privacy program development efforts including architecture and design, evaluation and compliance, and/or incidence response please read on...

A global Business Management Consulting Firm is in need of an Information Security consultant for its office in Dallas. This is a full time position and will require travel up to 50%.
This is a mid-level position; 6 years experience max. please.
This position has primary responsibility for day-to-day execution of information security and privacy engagements for external clients.

What you need for this position:

- Prior experience with the utilization of Information Security tools such as Nessus, Kismet, Airsnort, NMAP, Ethereal, WebInspect, etc. and manual techniques to exploit the vulnerabilities in the OWASP top 10 including but not limited to cross-site scripting, SQL injections, session hi-jacking and buffer overflows to obtain access to target systems.
- Ability to perform network traffic forensic analysis, utilizing packet capturing software, to isolate malicious network behavior, innappropriate network use, or identification of insecure network protocols.
- Attack and Penetration experience in testing of internet infrastructure and web-based applications utilizing manual and automated tools.

Preferred Technical/Industry Knowledge & Skills

- Application source code security review skills
- Knowledge of industry standards, e.g. ISO 17799/27001, NIST Publications and other industry related security standards
- Knowledge of Industry regulations e.g. Gramm-Leach Bliley Act(GLBA), HIPAA, Payment Card Industry (PCI) or Corporate Compliance

Educational & Professional Credentials Required

- Bachelors degree in a relevant discipline
- 3-6 years experience in a related field, preferably in professional services
- Professional certifications such as CISSP, CISM, GSEC, GIAC, CEH, CPT, PCI

So, if you are a Information Security Consultant with experience, please apply today!

**Required Skills**

cross-site scripting, SQL Injections, session hi-jacking, vulnerability assessments, network traffic forensic analysis, attack and penetration,

If you are a good fit for the Information Security Consultant position, and have a background that includes:

cross-site scripting, SQL Injections, session hi-jacking, vulnerability assessments, network traffic forensic analysis, attack and penetration, and you are interested in working the following job types:

Information Technology, Engineering, Professional Services

Within the following industries:

Consulting, Computer Hardware, Computer Software

Our privacy policy: Your resume and information will be kept completely confidential.

Looking forward to receiving your resume through our website and going over the job in more detail with you!

CyberCoders, Inc is proud to be an Equal Opportunity Employer. Applicants are considered for all positions without regard to race, color, religion, sex, national origin, age, disability, sexual orientation, ancestry, marital or veteran status.

# Appendix B

Information Security Operations Engineer

Raytheon

Garland, TX United States

We are seeking a talented IT Security Professional with a strong background in information security and network security infrastructure to join our cutting edge Cyber Threat Operations team. This position is within our Information Security Operations Infrastructure team, directly supporting our advanced Cyber Threat Operations defense efforts. Responsibilities include:

 Maintain and support defensive security infrastructure in direct support for our Security Operations Center (SOC) and Cyber Threat Operations group as a whole

 Required experience in a broad range of related technologies such as Intrusion Detection Systems (IDS), Vulnerability Assessment (VA), event log collectors, network traffic flow capabilities, network traffic analysis, code analysis, computer media analysis

 Assist in advanced network security assessments and intrusion analysis (Tier 3/4)

 Evaluate, recommend and implement new security technologies, processes and methodologies that directly intertwine with monitoring a large enterprise

 Maintain and support Security Operations Center which will require experience with a wide range of related technologies such as IDS, VA, log collectors, network traffic flow capabilities, network traffic analysis, code analysis, computer media analysis

 Ability to write custom tools, and/or modify existing tools used for integrating products together for seamless security functions

 Maintain and continually evaluate cyber threat intelligence sources for changes that increase effectiveness and timeliness.

 Analyze output from various security devices, incidents, and malware reports to devise new and creative ways of detecting and stopping future incidents

 Provide assistance to teams that perform reviews/audits of mixed Unix and Microsoft Windows environments, including network devices, databases, web services, and enterprise applications.

 Assist in network incident investigations to help determine details surrounding specific incidents

 Ability to work with various internal organizations to gather data and formulate mitigation plans needed for effective and real time incident response

 Report findings, and provide countermeasure recommendations and business cases based on standard security principles, policies, standards and industry best practices

 Ability to work with limited direct supervision

 Excellent oral and written communication skills

 This position may require participation in an on-call rotation

Required Skills, Knowledge and Experience:

Bachelor's degree or equivalent experience, and 6+ years applicable work experience

 At least 4 years experience in information security

 Conversant with security concepts and techniques

 Computer Forensics and Incident Handling experience

 Demonstrable knowledge of networking (TCP/IP, topology, and security), operating systems (Windows/UNIX), and web technologies (Internet security)

 Ability to read and understand system data, including, but not limited to, security event logs, Netflow, SNMP Traps and database structures

 Programming skills, including Perl and SQL, plus web programming skills (example, ASP, JavaScript, ColdFusion) for the development of tools specific to our environment

 Ability Administer both Windows and Linux systems with understanding of file systems, RAID and OS internals

Additional Experience/Skills, considered a plus:

 Familiar with the use of tools used for security analysis (tcpdump, Wireshark, ngrep, nmap, strings, hexdump, md5sum, systools).

 Programming skills a definite plus, scripting skills such as Perl, Python, Shell, C/C++ and Java

 Experience with Network Behavior Analysis products (Mazu, Arbor, Qradar, CS-MARS, etc)

 Experience with Security Event Incident Management systems (ArcSight, CS-MARS, QRadar, etc)

 Understanding of IDS systems (SNORT/Sourcefire, Proventia, BroIDS, etc)

 Working knowledge of VA tools (Nessus, IP360, Retina)

 Experience with analyzing forensic data concerning system and network security compromises.

 Hands-on administrative experience with major operating systems

 Experience in code reviews and analysis

 GCIH, GCIA, GCWN, GCFA, GPEN, GCUX, CISSP certifications or similar

Required Education (including degree):

 Bachelor's degree in Computer Science, Computer Engineering, Information Systems/Technology, Electrical Engineering or other related technical field or equivalent experience

Raytheon is an equal opportunity employer and considers qualified applicants for employment without regard to race, color, creed, religion, national origin, sex, sexual orientation, gender identity and expression, age, disability, or Vietnam era, or other eligible veteran status, or any other protected factor.

Raytheon Company, with 2010 sales of $25 billion, is a technology and innovation leader specializing in defense, homeland security and other government markets throughout the world. With a history of innovation spanning 89 years, Raytheon provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of sensing; effects; and command, control, communications and intelligence systems, as well as a broad range of mission support services. With headquarters in Waltham, Mass., Raytheon employs 72,000 people worldwide.

Click here to apply for this position.

Job code: 7047BR

19161054

# Appendix C

Transcript of Self Interview

What do you know about Computer Forensics and how they operate? I know that skills are used to detect and prevent computer attacks and other network security issues.

Why do you want to get into Computer Forensics? Because I’ve always been good with computers, and after doing medial tech support for 11 years, I’d like to learn how to do something productive, and useful, while at the same time it not being repetitive nonsense like my last job.

Are you aware that Computer Forensics requires HEAVY certification outside of what you will learn in college? Yes, certifications are one of the few automatics about just about any computer field of work.

Are you aware that these certifications can be expensive and require upkeep costs and training over the years? Yes, hopefully I will find a company that supports its employees by paying for, or assisting with these items.

Why should a Company invest in you, when most employees change jobs every few years? I am not a normal employee. I was in my last job for 11 years because I enjoyed the work, and it covered my expenses. I do not believe in changing jobs unless there is a conflicting moral or ethical reason to do so, or the company has practices that I do not agree with and find unacceptable.

What type of Salary range are you looking for ? To start out I preferably need something in the 40k range, due to having family that is currently supporting me in my college endeavors but will need me supporting them very soon.

How important is salary to you? So long as it meets my current financial needs, salary is much less important than the overall working environment and work ethics of the company.

Have you attempted to look into careers of this field on your own? Yes, practically all of them require previous experience making it extremely difficult to get your foot in the door.

Would you be willing to move to obtain a position? At this point in time, no, any position I take must be local. All of my family is located where I am, and being forced to move out of state or to a different region of Texas would mean no longer being able to fulfill some family obligations for which the other family members will not be willing to move.

Would you be willing to travel? Within reason, I do not see travel being an issue…However, I do not want to travel extensively and be away from family for extended periods.

Are you open to “Internships” Paid or Unpaid? If they are local internships, yes I would be open to them. Paid vs Unpaid , would depend upon my financial situation at the time of the internship.

Do you have any preferences on when you would prefer to work? Due to family obligations this would be a preferred Dayshift of some sort. 6am – 6pm time frame…. At this time evening shifts while I could do them occasionally such as in instances where overtime is required it would be extremely inconvenient for a regular schedule. I have worked Evening and Overnight shifts in the past without issue, however circumstances have changed since then.

What type of programming skills do you have? I understand coding in C# and the basics of COBOL. C# programming provides a basic understanding of C/C++ and JavaScript as it is sort of a combination of the two languages, however there are quite a few syntax differences between these languages.

Have you ever worked with SQL? Yes, I have managed websites before that incorporate SQL databases, and my college degree included database management courses.

Are you familiar with ASP, ColdFusion, or other webpage languages? C# is the only programming language I am currently familiar with, as I am not a webpage designer. However, ASP integrates easily with C# so if needed, I should be able to learn and apply ASP.

# Appendix D

CISSP: Certified Information Systems Security Professional

CISM: Certified Information Security Manager

CEH: Certified Ethical Hacker

CPT: Certified Penetration Tester

PCI: Payment Card Industry

GIAC: Global Information Assurance Certification

GSEC: GIAC Security Essentials Certification

GCIH: GIAC Certified Incident Handler

GCIA: GIAC Certified Intrusion Analyst

GCWN: GIAC Certified Windows Security Administrator

GCFA: GIAC Certified Forensic Analyst

GPEN: GIAC Certified Penetration Tester

GCUX: GIAC Certified Unix Security Administrator