CRYPTOGRAPHER/CRYPTANALYST
AKA ENCRYPTION EXPERT

DEGREE REQUIRED?
Yes
Master’s Degree
Focusing on Mathematics or Computer Science is Encouraged

MEDIAN SALARY
+$100,000

JOB GROWTH
21%

COMMON JOB DUTIES
▶ Protect important information from interception, copying, modification and/or deletion
▶ Evaluate, analyze and target weaknesses in cryptographic security systems and algorithms
▶ Design robust security systems to prevent vulnerabilities
▶ Develop statistical and mathematical models to analyze data and solve security problems
▶ Test computational models for reliability and accuracy
▶ Investigate, research and test new cryptology theories and applications
▶ Probe for weaknesses in communication lines (e.g. wireless network, secure telephone, cellphones, email, etc.)
▶ Ensure message transmission data (e.g. wireless network, secure telephone, cellphones, email, etc.) are not illegally accessed or altered in transit
▶ Decode cryptic messages and coding systems for military, political and/or law enforcement agencies

SOFT SKILLS
Intelligent, Analytical & Creative
Capable of Tackling Complex Mathematical Problems
Trustworthiness

for more info
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DEGREE REQUIRED?
No
Bachelor’s Degree in Cybersecurity or Computer Science is a plus though

MEDIAN SALARY
+$80,000

JOB GROWTH
+20%

SOFTWARE SKILLS
Capable of Handling Stress
Flexible
Problem-Solving
Analytical
Good Communication

COMMON JOB DUTIES
► Actively monitor systems and networks for intrusions
► Identify security flaws and vulnerabilities
► Perform security audits, risk analysis, network forensics and penetration testing
► Perform malware analysis and reverse engineering
► Develop a procedural set of responses to security problems
► Establish protocols for communication within an organization and dealings with law enforcement during security incidents
► Create a program development plan that includes security gap assessments, policies, procedures, playbooks, training and tabletop testing
► Produce detailed incident reports and technical briefs for management, admins and end-users
► Liaison with other cyber threat analysis entities
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**DEGREE REQUIRED?**
Yes
Bachelor’s Degree in Cybersecurity or Computer Science
[Master’s Degree in Computer Forensics helps]

**MEDIAN SALARY**
+$70,000

**JOB GROWTH**
+28%

**SOFTWARE SKILLS**
Curiosity & Insight
Strong Communication
Ability to Write Reports & Explain Evidence, Potentially in Front of Lawyers & Judges

**COMMON JOB DUTIES**
- Conduct data breach and security incident investigations
- Recover and examine data from computers and electronic storage devices
- Dismantle and rebuild damaged systems to retrieve lost data
- Identify additional systems/networks compromised by cyber attacks
- Compile evidence for legal cases
- Draft technical reports, write declarations and prepare evidence for trial
- Give expert counsel to attorneys about electronic evidence in a case
- Advise law enforcement on the credibility of acquired data
- Train law enforcement officers on computer evidence procedures
- Keep abreast of emerging technologies, software and methodologies

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[QR Code for more info]

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CISA
Cybersecurity Infrastructure

[Logo]

NICERC
National Incident Command System

[Logo]
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**DEGREE REQUIRED?**
Yes
Juris Doctorate Degree is required

**MEDIAN SALARY**
$92,000

**JOB GROWTH**
28%

**COMMON JOB DUTIES**
- Advocate for an organization in legal and legislative proceedings
- Evaluate contracts
- Evaluate regulations, policies and procedures
- Interpret and apply laws
- Resolve conflicts in policies and procedures
- Maintain a working knowledge of relevant constitutional issues
- Evaluate the impact of changes to laws and regulations
- Help implement changes to laws
- Provide legal guidance to management, personnel, or clients

**SOFT SKILLS**
- Good communicator
- Good listener
- Approachable
- Interpersonal skills

**JOB PROFILE:**
CYBER LEGAL ADVISOR

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For more info

[QR Code for more info]
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JOB PROFILE:

CYBER SECURITY ENGINEER

DEGREE REQUIRED?
Yes
Bachelor's Degree in Cybersecurity or Computer Science

MEDIAN SALARY
+$90,000

JOB GROWTH
+20%

COMMON JOB DUTIES
- Create new ways to solve existing production security issues
- Configure and install firewalls and intrusion detection systems
- Perform vulnerability testing, risk analyses and security assessments
- Develop automation scripts to handle and track incidents
- Investigate intrusion incidents, conduct forensic investigations and mount incident responses
- Collaborate with colleagues on authentication, authorization and encryption solutions
- Evaluate new technologies and processes that enhance security capabilities
- Test security solutions using industry standard analysis criteria
- Respond to information security issues during each stage of a project's lifecycle
- Define, implement and maintain corporate security policies
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**DEGREE REQUIRED?**

Yes

Bachelor’s Degree in Cybersecurity or Computer Science

**MEDIAN SALARY**

$110,000

**JOB GROWTH**

+20%

**SOFT SKILLS**

Strong Leadership

Good Communication

Efficient Multitasker

Creative Problem Solver

Comfortable Delegating

**COMMON JOB DUTIES**

- Manage organizational resources (time, money, personnel, etc.) to support security goals and policies
- Create and execute strategies to improve the reliability and security of IT projects
- Define, implement and maintain corporate security policies and procedures
- Spearhead vulnerability audits, forensic investigations and mitigation procedures
- Respond immediately to security-related incidents and provide a thorough post-event analysis
- Manage a diverse team of security administrators, analysts and IT professionals
- Advise leadership on organization’s cybersecurity status
- Institute organization-wide training in security awareness, protocols and procedures
- Assess, test and select new security products and technologies
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DEGREE REQUIRED?
Yes
Bachelor’s Degree in target language is encouraged if applicant is not a native speaker.

MEDIAN SALARY
$55,000

JOB GROWTH
42%

SOFTWARE SKILLS
Good Communicator
Detail-oriented
Analytical
Identify contexts & subtleties in written & verbal communications

COMMON JOB DUTIES
- Analyze and process information using language and cultural expertise
- Compile and interpret data for intelligence
- Assess a target’s motivation and frame of reference for intelligence context
- Analyze metadata to look for patterns, anomalies, or events
- Identify cyber threat tactics
- Identify foreign languages and dialects in initial source data
- Help optimize the development of language processing tools
- Analyze social network activities
- Translate voice and graphic data
- Identify cyber or technology-related terminology used in target languages
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DEGREE REQUIRED?
Yes
Associate’s Degree
A Bachelor’s or Master’s in Computer Science is Encouraged

MEDIAN SALARY
$70,000

JOB GROWTH
24%

SOFTWARE DEVELOPER

JOB PROFILE:
Develops, creates, maintains, and writes/codes computer applications, software, or utility programs

Design, implement, and test software

Assist in the development of a company-wide software security strategy

Facilitate meetings and workshops to define client processes and needs

Create new software systems or forensic tools

Participate in the lifecycle development of software systems using different methodologies

Design and build proof-of-concept prototype solutions

Institute programming techniques that are free from logical design and technical implementation flaws

Gain a thorough knowledge of attack vectors that may be used to exploit software

Support software deployments to customers

COMMON JOB DUTIES

SOFT SKILLS
Good Communicator
Able to Work on a Team
Analytical
Meet Deadlines
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**VULNERABILITY ASSESSMENT ANALYST**

**AKA**

VULNERABILITY ASSESSOR

**DEGREE REQUIRED?**

No

Real-world experience is much more valued than a degree, though a degree won’t hurt

**MEDIAN SALARY**

$75,000

**JOB GROWTH**

+20%

**COMMON JOB DUTIES**

- Identify critical flaws in applications and systems that cyber attackers could exploit
- Conduct vulnerability assessments for networks, applications and operating systems
- Conduct network security audits and scanning on a predetermined basis
- Use automated tools (e.g. Nessus) to pinpoint vulnerabilities and reduce time-consuming tasks
- Use manual testing techniques and methods to gain a better understanding of the environment and reduce false negatives
- Develop, test and modify custom scripts and applications for vulnerability testing
- Compile and track vulnerabilities over time for metrics purposes
- Write and present a comprehensive Vulnerability Assessment and maintain a database
- Supply hands-on training for network and systems administrators

**SOFT SKILLS**

- Alternative Problem Solving
- Curious & Creative
- Attention to Detail
- Strong Communication
- Interest in Hacking

for more info

for more info
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