

- a. **Using your favorite search engine conduct a search for the most popular certifications are (in terms of what people hold, not necessarily what employers demand):**

Ans:

1. The Certified Ethical Hacker term was initially used to describe someone who possessed the skills necessary to be a hacker but whose moral code constrains them to stay within the bounds of legal activity. Over the years, the term ethical hacker has come to include all security professionals that provide offensive services, whether red team or freelance offensive consultant.

2. The Certified Information Systems Security Professional (CISSP) is an information security certification for security analysts. It was created by the International Information Systems Security Certification Consortium (ISC). The certification was created to ensure professionals in computer security have standardized knowledge of the field. Earning a Certified Information Systems Security Professional certificate can help you have a successful career as a computer security professional.

3. The Cisco Certified Internetwork Expert Security (CCIE Security) program recognizes security experts who have the knowledge and skills to architect, engineer, implement, troubleshoot, and support the full suite of Cisco security technologies and solutions using the latest industry best practices to secure systems and environments against modern security risks, threats, vulnerabilities, and requirements.

4. CompTIA Security+ is the first security certification a candidate should earn. It establishes the core knowledge required of any cybersecurity role and provides a springboard to intermediate-level cybersecurity jobs. Security+ incorporates best practices in hands-on troubleshooting, ensuring candidates have practical security problem-solving skills required to.

- b. **Pick three certifications from the list above and provide more detail below about the certification requirements / knowledge gained ie: vendor specific or neutral, number of exams to gain certification, exam requirements, topics covered etc.**

Ans:

Certified Ethical Hacker (CEH): For white hat hackers. Earned to demonstrate skill in uncovering vulnerabilities before malicious actors do. Skills include penetration testing, attack detection, etc. Knowledge in Network: reconnaissance, access maintenance, enumeration, and disguising evidence of a breach No formal educational requirements but a strong backgrounding information technology, computer engineering, or a related field is strongly recommended. At least two years of experience working in IT or completion of a CEH training course. Candidates need to take one exam made up of 125-multiple choice questions and Valid for 3 years and to maintain it you must complete 120ECE credits within the 3 years to renew. The International Council of Electronic Commerce Consultants, or EC-Council provides certifications.

Information Security Certifications (ISC)^2: - (CISSP) Certified Information Systems Security Professional Topic covered in certifications Disaster recovery planning, networking security, cryptography, asset security, security architecture and engineering, etc. Shows you have what it takes to effectively design, implement, and manage a best-in-class security program BA deep knowledge of cybersecurity topics and all relevant information of the cyber security world.

Minimum of 5 years of work experience in two or more of the eight CISSP domains. You can satisfy one year of experience with educational experience. Candidates with 5 years of experience can also become an associate of the ISC<sup>2</sup>, pass the exam and acquire the required work experience within 6 years. The International Information System Security Certification Consortium, or (ISC)<sup>2</sup> provides certifications. Candidates need to take one exam to gain the certifications and Valid for 3 years; to maintain certificate holders must earn 40 credits of continued professional education (CPE) or retake the exam.

Cisco Certified Internetwork Expert (CCIE) Topics covered Substructure networking design, networking fundamentals, iServices and security fundamentals technical certification to distinguish top-level internetworking professionals. No formal requirements. Must pass written qualifications exams. Qualifying exam: 2 hours, Lab exam: 8 hours; total of 10 hours and it is Valid for 3 years, first-time recertification must be done within the first 6 months which extends validity for 3 years. Cisco provides certifications, technical certification to distinguish top-level internetworking professionals.

**A      How many new job listings were posted within the last two weeks?**

Ans:

1. Assess the security posture of an enterprise environment and recommend and implement appropriate security solutions
2. Monitor and secure hybrid environments, including cloud, mobile, and IoT.
3. Operate with an awareness of applicable laws and policies, including principles of governance, risk, and compliance.
4. Identify, analyze, and respond to security events and incidents.

**B      What is the salary range for the top 10 listings?**

- 114 jobs posted in indeed.com from past two week
- 90,000 to 100,000 dollars average
- Communication and Problem solving
- Teamwork
- Analytical, quantitative
- Professionalism, work ethic
- Leadership

**C. What are the most common qualifications required by employers?**

- CompTIA Security+
- CompTIA Advanced Security Practitioner (CASP)
- Certified Information Security Manager
- Certified Information Systems Security Professional
- Some employers doesn't see certifications they see knowledge and experience.

**D. What industry certifications are required by these employers?**

Presently I don't have above mentioned certifications but I will try hard to get at least one by end of the semester.

**E. Investigate online resources that allow you to legally test your hacking skills. These tools allow a novice with limited cyber security experience to sharpen their penetration testing skills, such as Google Gruyere (Web Application Exploits and Defenses).**

- . Hack The Box
- CTFlearn
- bWAPP
- HackThisSite
- Google Gruyere
- Damn Vulnerable iOS App - DVIA
- Hellbound Hackers
- OWASP Mytilidae II
- Hack This II
- Web Goat

