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# CyberSecurity Devils

## Newsletter

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February 2021

### What is the difference?

- Cybersecurity
- Information Security
- Information Assurance

### Career Opportunities

#### ITP Focus areas:

- Security
- Network
- Information System

### Announcement

- SLACK
- PITCHFORK Award



# is the difference? Cybersecurity, Information Security, Information Assurance



There are evolving terms of security that are often used interchangeably, which are actually different in scope and coverage. Cybersecurity is a subset of Information Security which is a sub-discipline of Information Assurance.

**Information Assurance (IA)** takes a horizontal and vertical approach to physical and electronic measures of security. Information Security begins to focus more on the electronic realm more specifically. Cybersecurity is very focused on the electronic or virtual space.

IA is an interdisciplinary concept that crosses multiple fields to include accounting, fraud examination, forensic science, criminology, computer science, management science and systems and security engineering. “Measures that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality and non-repudiation. These measures include provisions for the restoration of information systems by incorporating protection, detection, and reaction capabilities” (NIST SP 800-12 Rev.1).

Information Assurance principles apply to all phases of the information cycle. From the storage of information, to the processing and processes that manipulate information, to the transmission of information in various forms.

**Information Security** is “the protection of information and information systems from unauthorized access, use, disclosure, disruption, modification, or destruction in order to provide confidentiality, integrity, and availability” (NIST SP 800-12 Rev.1).

Information Security has two categories (Stanger, 2019):

**Physical Security:** Focuses on how you keep people and infrastructure safe, which range from securing buildings, server rooms, wiring closets, to proper lighting for buildings and parking lots.

**Cybersecurity:** Focuses on protecting electronic assets – including Internet, WAN and LAN resources – used to store and transmit that information. Cybersecurity tends to focus on how malicious actors use these resources to attack information. Those individuals interested in cybersecurity are the ones interested in making sure that hackers cannot use electronic means to gain improper access to data and information.





# Career Opportunities



Cyberattacks happen every day, all over the world. Keeping data safe, secure and out of the hands of cybercriminals is more important than ever. As the need for digital protection rises, so does the demand for talented cybersecurity professionals. Between 2016 and 2026, the field is projected to see a 28% increase in jobs, according to the [U.S. Bureau of Labor Statistics \(https://www.bls.gov/\)](https://www.bls.gov/).

**Security architect** is the individual responsible for maintaining the security of a company's computer system. They must think like hackers to anticipate many of the tactics used to gain unauthorized access. Median Salary: \$120,091

**Cryptographers** analyze and decipher encrypted data and work alongside law enforcement or government agencies to solve crime, threats or security concerns. Median Salary: \$112,560

**Security Manager** oversee entire teams of people who are responsible for protecting the digital assets from cyber threats. Median Salary: \$100,215

**Security Engineer** focuses on the security aspects in the design of systems that need to be able to deal robustly with possible sources of disruption, ranging from natural disasters to malicious acts. Median Salary: \$85,177

**Ethical Hacker** who systematically attempts to penetrate a computer system or network for the purpose of finding security vulnerabilities preventing a malicious hacker from exploiting those vulnerabilities. Median Salary: \$72,000

**Penetration Tester** is the practice of testing a computer system, network or application to find vulnerabilities that an attacker (malicious hacker) may exploit. Median Salary: \$71,660

**Security Analyst** plan and implement security measures to protect an organization's computer networks and systems. Their responsibilities continually expand along with the increase in cyber-attacks. Median Salary: \$70,096

**Security Software Developer** develop security software or integrate security into the design of application software. Median Salary: \$68,927

**Security Administrator** is the point individual for cyber security systems. Individuals will be responsible for installing, administering and troubleshooting your organization's security solutions. Median Salary: \$61,500

**Incident Responder** (CSIRT Engineer or Intrusion Analyst) is a cyber first responder, who rapidly attends to security threats within an organization. This position utilizes a number of forensic tools. Median Salary: \$50-90K



# Information Technology Program

Once you complete the required courses, you will select your primary focus area courses. The focus areas are: Network, Information Systems, Security.

Networking Focus Area	Information Systems Focus Area	Security Focus Area
IFT 366: TCP/IP and Routing	IFT 360: Applications in Artificial Intelligence	IFT 380: Advanced Systems Configuration Management
IFT 420: Cloud Architecture for Information Technology	IFT 365: Applied Programming Language for Information Technology	IFT 422: Cloud Security and Operations for Information Technology
IFT 460: Managing Intelligent Devices in an Enterprise Environment	IFT 370: Mobile Computing and Applications for Information Technology	IFT 475: Security Analysis
IFT 466: Advanced Computer Networks for Information Technology	IFT 380: Advanced Systems Configuration Management	IFT 482: Network Forensics
IFT 488: Systems Administration of UNIX	IFT 410: Big Data Tools and Practices	IFT 483: Developing Security Policy
IFT 494: Wireless Architecture	IFT 421: Data in the Cloud for Information Technology	IFT 494: Cybersecurity Compliance



We have our own slack channel  
**#fso-cybersecuritydevils**

If it is your first-time using Slack, check out <https://ets.engineering.asu.edu/slack/>



## YOUR VOICE WAS HEARD BY YOUR VOTE!

Pitchfork Award is a university-wide program that celebrates students, organizations and events that make an impact at ASU.

The Pitchfork Award winners are decided through a combination of live event votes and committee selection.

We will find out in April 2021!

Stay tuned for more awesome articles from our CyberSecurity Devils!

If you have questions, comments or would like to contribute content to your Newsletter.

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Stanger, J. (2019). What is the difference between IT security and cybersecurity. COMPTIA