SANS

The Most Trusted Source for Information Security Training, Certification, and Research

SAN FRANCISCO FALL 2017

September 5-10

Protect Your Business and Advance Your Career

Seven hands-on, immersion-style information security courses taught by real-world practitioners

CYBER DEFENSE
ETHICAL HACKING
DIGITAL FORENSICS
MANAGEMENT

GIAC CERTIFICATIONS

"Top-notch instructors who are truly experts in their field and have the teaching skills to convey the topic."
-Steven Seifert, Eli Lilly and Company

SAVE $400

Register and pay by July 12th – Use code **EarlyBird17**

www.sans.org/san-francisco-fall

SANS Instructors

SANS instructors are real-world practitioners who specialize in the subjects they teach. All instructors undergo rigorous training and testing in order to teach SANS courses. This guarantees that what you learn in class will be up to date and relevant to your job. The SANS San Francisco Fall 2017 lineup of instructors includes:

Chris Christianson
Certified Instructor
@cchristianson

Russell Eubanks
Certified Instructor
@russelleubanks

Paul A. Henry
Senior Instructor
@phenrycissp

David R. Miller
Certified Instructor
@DRM_CyberDude

Cindy Murphy
Certified Instructor
@cindymurph

Dave Shackleford
Senior Instructor
@daveshackleford

Peter Szczepankiewicz
Certified Instructor
@_s14

Evening Bonus Sessions

Take advantage of these extra evening presentations and add more value to your training. Learn more on page 9.

KEYNOTE: ***Evolving Threats***
Paul A. Henry

Save $400 when you register and pay by July 12th using code EarlyBird17

Courses at a Glance

	TUE 9-5	WED 9-6	THU 9-7	FRI 9-8	SAT 9-9	SUN 9-10
SEC401 Security Essentials Bootcamp Style	Page 2					
SEC501 Advanced Security Essentials – Enterprise Defender	Page 3					
SEC504 Hacker Tools, Techniques, Exploits, and Incident Handling	Page 4					
SEC545 Cloud Security Architecture and Operations	Page 5 *BETA!*					
SEC566 Implementing and Auditing the Critical Security Controls – In-Depth	Page 6					
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Securing **Approval** and **Budget** for Training

Packaging matters

Write a formal request

- All organizations are different, but because training requires a significant investment of both time and money, most successful training requests are made via a written document (short memo and/or a few Powerpoint slides) that justifies the need and benefit. Most managers will respect and value the effort.
- Provide all the necessary information in one place. In addition to your request, provide all the right context by including the summary pages on Why SANS?, the Training Roadmap, the instructor bio, and additional benefits available at our live events or online.

Clearly state the benefits

Be specific

- How does the course relate to the job you need to be doing? Are you establishing baseline skills? Transitioning to a more focused role? Decision-makers need to understand the plan and context for the decision.
- Highlight specifics of what you will be able to do afterwards. Each SANS course description includes a section titled "You Will Be Able To." Be sure to include this in your request so that you make the benefits clear. The clearer the match between the training and what you need to do at work, the better.

Set the context

Establish longer-term expectations

- Information security is a specialized career path within IT with practices that evolve as attacks change. Because of this, organizations should expect to spend 6%-10% of salaries to keep professionals current and improve their skills. Training for such a dynamic field is an annual, per-person expense—not a once-and-done item.
- Take a GIAC Certification exam to prove the training worked. Employers value the validation of skills and knowledge that a GIAC Certification provides. Exams are psychometrically designed to establish competency for related job tasks.
- Consider offering trade-offs for the investment. Many professionals build annual training expenses into their employment agreements even before joining a company. Some offer to stay for a year after they complete the training.

SEC401

Security Essentials Bootcamp Style

GSEC Certification
Security Essentials

www.giac.org/gsec

Six-Day Program
Tue, Sep 5 - Sun, Sep 10
9:00am - 7:00pm (Days 1-5)
9:00am - 5:00pm (Day 6)
46 CPEs
Laptop Required
Instructor: Russell Eubanks

Who Should Attend

- Security professionals who want to fill the gaps in their understanding of technical information security
- Managers who want to understand information security beyond simple terminology and concepts
- Operations personnel who do not have security as their primary job function but need an understanding of security to be effective
- IT engineers and supervisors who need to know how to build a defensible network against attacks
- Administrators responsible for building and maintaining systems that are being targeted by attackers
- Forensic specialists, penetration testers, and auditors who need a solid foundation of security principles to be as effective as possible at their jobs
- Anyone new to information security with some background in information systems and networking

"This training answers the 'why' of my work practices, and asks the 'why not' for the practices my company doesn't follow."
-Thomas Petro, Southern California Edison

This course will teach you the most effective steps to prevent attacks and detect adversaries with actionable techniques you can directly apply when you get back to work. You'll learn tips and tricks from the experts so you can win the battle against the wide range of cyber adversaries that want to harm your environment.

STOP and ask yourself the following questions:

- **Do you fully understand why some organizations get compromised and others do not?**
- **If there were compromised systems on your network, are you confident you would be able to find them?**
- **Do you know the effectiveness of each security device and are you certain they are all configured correctly?**
- **Are proper security metrics set up and communicated to your executives to drive security decisions?**

If you do not know the answers to these questions, SEC401 will provide the information security training you need in a bootcamp-style format that is reinforced with hands-on labs.

SEC401: Security Essentials Bootcamp Style is focused on teaching you the essential information security skills and techniques you need to protect and secure your organization's critical information assets and business systems. Our course will show you how to prevent your organization's security problems from being headline news in the *Wall Street Journal*!

Prevention Is Ideal but Detection Is a Must

With the rise in advanced persistent threats, it is almost inevitable that organizations will be targeted. Whether the attacker is successful in penetrating an organization's network depends on the effectiveness of the organization's defense. Defending against attacks is an ongoing challenge, with new threats emerging all of the time, including the next generation of threats. Organizations need to understand what really works in cybersecurity. What has worked, and will always work, is taking a risk-based approach to cyber defense. Before your organization spends a dollar of its IT budget or allocates any resources or time to anything in the name of cybersecurity, three questions must be answered:

- **What is the risk?**
- **Is it the highest priority risk?**
- **What is the most cost-effective way to reduce the risk?**

Security is all about making sure you focus on the right areas of defense. In SEC401 you will learn the language and underlying theory of computer and information security. You will gain the essential and effective security knowledge you will need if you are given the responsibility for securing systems and/or organizations. This course meets both of the key promises SANS makes to our students: (1) You will learn up-to-the-minute skills you can put into practice immediately upon returning to work; and (2) You will be taught by the best security instructors in the industry.

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www.sans.edu

www.sans.org/8140

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www.sans.org/ondemand

Russell Eubanks *SANS Certified Instructor*

Russell Eubanks is Vice President and Chief Information Security Officer for the Federal Reserve Bank of Atlanta. He is responsible for developing and executing the information security strategy for both the Retail Payments Office and the Atlanta Reserve Bank. Russell has developed information security programs from the ground up and actively seeks opportunities to measurably increase their overall security posture. He is a handler for the SANS Internet Storm Center, serves on the editorial panel for the Critical Security Controls and maintains securityeverafter.com. He holds a bachelor's degree in computer science from the University of Tennessee at Chattanooga. **@russelleubanks**

SEC501

GCED Certification
Certified Enterprise Defender
www.giac.org/gced

Advanced Security Essentials – Enterprise Defender

Six-Day Program
Tue, Sep 5 - Sun, Sep 10
9:00am - 5:00pm
36 CPEs
Laptop Required
Instructor: Paul A. Henry

Who Should Attend

- Incident response and penetration testers
- Security Operations Center engineers and analysts
- Network security professionals
- Anyone who seeks technical in-depth knowledge about implementing comprehensive security solutions

"SEC501 is the perfect course to immerse enterprise security staff into essential skills. Failing to attend this course is done at the peril of your organization." -John N. Johnson, Houston Police Department

Effective cybersecurity is more important than ever as attacks become stealthier, have a greater financial impact, and cause broad reputational damage. **SEC501: Advanced Security Essentials – Enterprise Defender** builds on a solid foundation of core policies and practices to enable security teams to defend their enterprise.

It has been said of security that "prevention is ideal, but detection is a must." However, detection without response has little value. Network security needs to be constantly improved to prevent as many attacks as possible and to swiftly detect and respond appropriately to any breach that does occur. This PREVENT - DETECT - RESPONSE strategy must be in place both externally and internally. As data become more portable and networks continue to be porous, there needs to be an increased focus on data protection. Critical information must be secured, regardless of whether it resides on a server, in a robust network architecture, or on a portable device.

"The hands-on lab approach is a great way to make sense of what is being taught, and working with other classmates helped expand our knowledge and brought cohesion." -Rachel Weiss, UPS Inc.

Despite an organization's best efforts to prevent network attacks and protect its critical data, some attacks will still be successful. Therefore, organizations need to be able to detect attacks in a timely fashion. This is accomplished by understanding the traffic that is flowing on your networks, looking for indications of an attack, and performing penetration testing and vulnerability analysis against your organization to identify problems and issues before a compromise occurs.

Finally, once an attack is detected we must react quickly and effectively and perform the forensics required. Knowledge gained by understanding how the attacker broke in can be fed back into more effective and robust preventive and detective measures, completing the security lifecycle.

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with this course
www.sans.org/ondemand

Paul A. Henry *SANS Senior Instructor*

Paul is one of the world's foremost global information security and computer forensic experts, with more than 20 years' experience managing security initiatives for Global 2000 enterprises and government organizations worldwide. Paul is a principal at vNet Security, LLC and is keeping a finger on the pulse of network security as the security and forensic analyst at Lumension Security. Throughout his career, Paul has played a key strategic role in launching new network security initiatives to meet our ever-changing threat landscape. He also advises and consults on some of the world's most challenging and high-risk information security projects, including the National Banking System in Saudi Arabia, the Reserve Bank of Australia, the U.S. Department of Defense's Satellite Data Project, and both government and telecommunications projects throughout Southeast Asia. Paul is frequently cited by major publications as an expert on perimeter security, incident response, computer forensics, and general security trends and serves as an expert commentator for network broadcast outlets such as FOX, NBC, CNN, and CNBC. In addition, Paul regularly authors thought leadership articles on technical security issues, and his expertise and insight help shape the editorial direction of key security publications such as the *Information Security Management Handbook*, to which he is a consistent contributor. Paul is a featured speaker at seminars and conferences worldwide, delivering presentations on diverse topics such as anti-forensics, network access control, cyber crime, DDoS attack risk mitigation, perimeter security, and incident response. **@phenrycissp**

SEC504

Hacker Tools, Techniques, Exploits, and Incident Handling

GCIH Certification
Incident Handler

www.giac.org/gcih

Six-Day Program
Tue, Sep 5 - Sun, Sep 10
9:00am - 7:15pm (Day 1)
9:00am - 5:00pm (Days 2-6)
37 CPEs
Laptop Required
(If your laptop supports only wireless, please bring a USB Ethernet adapter.)
Instructor:
Peter Szczepankiewicz

Who Should Attend

- Incident handlers
- Leaders of incident handling teams
- System administrators who are on the front lines defending their systems and responding to attacks
- Other security personnel who are first responders when systems come under attack

"As someone who works in information security but has never had to do a full incident report, SEC504 taught me all the proper processes and steps."
-Todd Choryan, Motorola Solutions

"SANS has taken me from a good employee to a rock star among my peers!"
-Ian Trimble, Blue Cross Blue Shield

The Internet is full of powerful hacking tools and bad guys using them extensively. If your organization has an Internet connection and one or two disgruntled employees (and whose does not!), your computer systems will get attacked. From the five, ten, or even one hundred daily probes against your Internet infrastructure to the malicious insider slowly creeping through your most vital information assets, attackers are targeting your systems with increasing viciousness and stealth. **As defenders, it is essential we understand these hacking tools and techniques.**

""The training offered at SANS is the best in industry and the SEC504 course is a must for any IT Security Professional – highly recommended."
-Michael Hoffman, Shell Oil Products US

This course enables you to turn the tables on computer attackers by helping you understand their tactics and strategies in detail, giving you hands-on experience in finding vulnerabilities and discovering intrusions, and equipping you with a comprehensive incident handling plan. It addresses the latest cutting-edge, insidious attack vectors, the "oldie-but-goodie" attacks that are still prevalent, and everything in between. Instead of merely teaching a few hack attack tricks, this course provides a time-tested, step-by-step process for responding to computer incidents and a detailed description of how attackers undermine systems so you can prepare for, detect, and respond to those attacks. In addition, the course explores the legal issues associated with responding to computer attacks, including employee monitoring, working with law enforcement, and handling evidence. Finally, students will participate in a hands-on workshop that focuses on scanning, exploiting, and defending systems. **This course will enable you to discover the holes in your system before the bad guys do!**

The course is particularly well-suited to individuals who lead or are a part of an incident handling team. General security practitioners, system administrators, and security architects will benefit by understanding how to design, build, and operate their systems to prevent, detect, and respond to attacks.

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Peter Szczepankiewicz *SANS Certified Instructor*

Working with the military, Peter has responded to network attacks and has worked with both defensive and offensive red teams. Currently, Peter is a Senior Security Engineer with IBM. People lead technology, not the other way around, and Peter works daily to extract actionable intelligence from disparate security devices for customers, making systems interoperable. "Putting together networks only to tear them apart is just plain fun," Peter explains, "and it allows students to take the information learned from books and from this hands-on experience back to their particular work place." @_s14

SEC545

Cloud Security Architecture and Operations *BETA!*

Five-Day Program
Tue, Sep 5 - Sat, Sep 9
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: Dave Shackleford

Who Should Attend

- Security analysts
- Security architects
- Senior security engineers
- Technical security managers
- Security monitoring analysts
- Cloud security architects
- DevOps and DevSecOps engineers
- System administrators
- Cloud administrators

"Dave knows his stuff and explains the material in an easy-to-understand way."
-Jonathan O'Neal, Monster.com

As more organizations move data and infrastructure to the cloud, security is becoming a major priority. Operations and development teams are finding new uses for cloud services, and executives are eager to save money and gain new capabilities and operational efficiency by using these services. But, will information security prove to be an Achilles' heel? Many cloud providers do not provide detailed control information about their internal environments, and quite a few common security controls used internally may not translate directly to the public cloud.

SEC545: Cloud Security Architecture and Operations will tackle these issues one by one. We'll start with a brief introduction to cloud security fundamentals, and then cover the critical concepts of cloud policy and governance for security professionals. For the rest of day one and all of day two, we'll move into technical security principles and controls for all major cloud types (SaaS, PaaS, and IaaS). We'll learn about the Cloud Security Alliance framework for cloud control areas, then delve into assessing risk for cloud services, looking specifically at technical areas that need to be addressed.

The course then moves into cloud architecture and security design, both for building new architectures and for adapting tried-and-true security tools and processes to the cloud. This will be a comprehensive discussion that encompasses network security (firewalls and network access controls, intrusion detection, and more), as well as all the other layers of the cloud security stack. We'll visit each layer and the components therein, including building secure instances, data security, identity and account security, and much more. We'll devote an entire day to adapting our offense and defense focal areas to cloud. This will involve looking at vulnerability management and pen testing, as well as covering the latest and greatest cloud security research. On the defense side, we'll delve into incident handling, forensics, event management, and application security.

We wrap up the course by taking a deep dive into SecDevOps and automation, investigating methods of embedding security into orchestration and every facet of the cloud life cycle. We'll explore tools and tactics that work, and even walk through several cutting-edge use cases where security can be automated entirely in both deployment and incident detection-and-response scenarios using APIs and scripting.

Dave Shackleford *SANS Senior Instructor*

Dave Shackleford is the owner and principal consultant of Voodoo Security and a SANS analyst and course author. He has consulted with hundreds of organizations in the areas of security, regulatory compliance, and network architecture and engineering, and is a VMware vExpert with extensive experience designing and configuring secure virtualized infrastructures. He has previously worked as CSO for Configuresoft, CTO for the Center for Internet Security, and as a security architect, analyst, and manager for several Fortune 500 companies. Dave is the author of the Sybex book *Virtualization Security: Protecting Virtualized Environments*, as well as the coauthor of *Hands-On Information Security* from Course Technology. Recently Dave co-authored the first published course on virtualization security for the SANS Institute. Dave currently serves on the Board of Directors at the SANS Technology Institute and helps lead the Atlanta chapter of the Cloud Security Alliance. **@daveshackleford**

SEC566

Implementing and Auditing the Critical Security Controls – In-Depth

GCCC Certification
Critical Controls

www.giac.org/gccc

Five-Day Program
Tue, Sep 5 - Sat, Sep 9
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: Chris Christianson

Who Should Attend

- Information assurance auditors
- System implementers or administrators
- Network security engineers
- IT administrators
- Department of Defense personnel or contractors
- Staff and clients of federal agencies
- Private sector organizations looking to improve information assurance processes and secure their systems
- Security vendors and consulting groups looking to stay current with frameworks for information assurance
- Alumni of SEC/AUD440, SEC401, SEC501, SANS Audit classes, and MGT512

"Every Security Manager in the U.S. should be required to attend this course and pass the certification."

-Elvis Moreland, TISTA U.S. Government

Cybersecurity attacks are increasing and evolving so rapidly that it is more difficult than ever to prevent and defend against them. Does your organization have an effective method in place to detect, thwart, and monitor external and internal threats to prevent security breaches? This course helps you master specific, proven techniques and tools needed to implement and audit the Critical Security Controls as documented by the Center for Internet Security (CIS).

As threats evolve, an organization's security should too. To enable your organization to stay on top of this ever-changing threat scenario, SANS has designed a comprehensive course on how to implement the Critical Security Controls, a prioritized, risk-based approach to security. Designed by private and public sector experts from around the world, the Controls are the best way to block known attacks and mitigate damage from successful attacks. They have been adopted by the U.S. Department of Homeland Security, state governments, universities, and numerous private firms.

The Controls are specific guidelines that CISOs, CIOs, IGs, systems administrators, and information security personnel can use to manage and measure the effectiveness of their defenses. They are designed to complement existing standards, frameworks, and compliance schemes by prioritizing the most critical threat and highest payoff defenses, while providing a common baseline for action against risks that we all face.

The Controls are an effective security framework because they are based on actual attacks launched regularly against networks. Priority is given to Controls that (1) mitigate known attacks (2) address a wide variety of attacks, and (3) identify and stop attackers early in the compromise cycle. The British government's Center for the Protection of National Infrastructure describes the Controls as the "baseline of high-priority information security measures and controls that can be applied across an organisation in order to improve its cyber defence."

SANS' in-depth, hands-on training will teach you how to master the specific techniques and tools needed to implement and audit the Critical Controls. It will help security practitioners understand not only how to stop a threat, but why the threat exists, and how to ensure that security measures deployed today will be effective against the next generation of threats.

The course shows security professionals how to implement the Controls in an existing network through cost-effective automation. For auditors, CIOs, and risk officers, the course is the best way to understand how you will measure whether the Controls are effectively implemented.

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Chris Christianson *SANS Certified Instructor*

Chris Christianson is an information security consultant based in Northern California, with 20 years of experience and many technical certifications including the CCSE, CCDP, CCNP, GSEC, CISSP, IAM, GCIH, CEH, IEM, GCIA, GREM, GPEN, GWAPT, GISF, and GCED. He holds a Bachelor of Science degree in management information systems and was the assistant vice president in the information technology department at one of the nation's largest credit unions. Chris has also been an expert speaker at conferences and a contributor to numerous industry articles. **@cchristianson**

FOR585

Advanced Smartphone Forensics

GASF Certification
Advanced Smartphone Forensics
www.giac.org/gasf

Six-Day Program
Tue, Sep 5 - Sun, Sep 10
9:00am - 5:00pm
36 CPEs
Laptop Required
Instructor: Cindy Murphy

Who Should Attend

- Experienced digital forensic analysts who want to extend their knowledge and experience to forensic analysis of mobile devices, especially smartphones
- Media exploitation analysts who need to master Tactical Exploitation or Document and Media Exploitation (DOMEX) operations on smartphones and mobile devices by learning how individuals used their smartphones, who they communicated with, and what files they accessed
- Information security professionals who respond to data breach incidents and intrusions
- Incident response teams tasked with identifying the role that smartphones played in a breach
- Law enforcement officers, federal agents, and detectives who want to master smartphone forensics and expand their investigative skills beyond traditional host-based digital forensics
- IT auditors who want to learn how smartphones can expose sensitive information
- SANS SEC575, FOR500 (formerly FOR408), FOR508, FOR518, and FOR572 graduates looking to take their skills to the next level

"It's real-world practical info not just textbook!"
-Reza Salari, DRS Technologies

Mobile devices are often a key factor in criminal cases, intrusions, IP theft, security threats, and other types of attacks. Understanding how to leverage the data from the device in a correct manner can make or break your case and your future as an expert. **FOR585: Advanced Smartphone Forensics** will teach you those skills.

Every time the smartphone "thinks" or makes a suggestion, the data are saved. It's easy to get mixed up in what the forensic tools are reporting. Smartphone forensics is more than pressing the "find evidence" button and getting answers. Your team cannot afford to rely solely on the tools in your lab. You have to understand how to use them correctly to guide your investigation, instead of just letting the tool report what it believes happened on the device. It is impossible for commercial tools to parse everything from smartphones and understand how the data were put on the device. Examining and interpreting the data is your job, and this course will provide you and your organization with the capability to find and extract the correct evidence from smartphones with confidence.

This in-depth smartphone forensics course provides examiners and investigators with advanced skills to detect, decode, decrypt, and correctly interpret evidence recovered from mobile devices. The course features 17 hands-on labs that allow students to analyze different datasets from smart devices and leverage the best forensic tools and custom scripts to learn how smartphone data hide and can be easily misinterpreted by forensic tools. Each lab is designed to teach you a lesson that can be applied to other smartphones. You will gain experience with the different data formats on multiple platforms and learn how the data are stored and encoded on each type of smart device. The labs will open your eyes to what you are missing by relying 100% on your forensic tools.

FOR585 is continuously updated to keep up with the latest malware, smartphone operating systems, third-party applications, and encryption. This intensive six-day course offers the most unique and current instruction available, and it will arm you with mobile device forensic knowledge you can apply immediately to cases you're working on the day you finish the course.

Smartphone technologies are constantly changing, and most forensic professionals are unfamiliar with the data formats for each technology. Take your skills to the next level: it's time for the good guys to get smarter and for the bad guys to know that their texts and apps can and will be used against them!

SMARTPHONE DATA CAN'T HIDE FOREVER –
IT'S TIME TO OUTSMART THE MOBILE DEVICE!

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www.sans.org/ondemand

Cindy Murphy *SANS Certified Instructor*

Cindy Murphy served in law enforcement for more than 30 years, including 25 years at the Madison, Wisconsin Police Department, where she worked as a detective and a certified digital forensics examiner. During her time as an investigator, she saw firsthand the emergence of mobile devices as the primary source of evidence in investigations. This pushed her to grow into the mobile forensics expert she is today and enabled her to co-author the SANS FOR585: Advanced Smartphone Forensics course. Cindy has served as guest faculty for the National District Attorney's Association, testified as a computer forensics expert in state and federal court on numerous occasions, presented internationally on digital forensics topics, and written frequent articles and whitepapers. She has a master's degree in science and a degree in forensic computing and cyber crime investigation from University College in Dublin. Cindy is also a military veteran, a mother, an activist in defense of First Amendment rights, and a musician. **@cindymurph**

MGT414

SANS Training Program for CISSP® Certification

GISP Certification
Information Security Professional
www.giac.org/gisp

Six-Day Program
Tue, Sep 5 - Sun, Sep 10
9:00am - 7:00pm (Day 1)
8:00am - 7:00pm (Days 2-5)
8:00am - 5:00pm (Day 6)
46 CPEs
Laptop NOT Needed
Instructor: David R. Miller

Who Should Attend

- Security professionals who are interested in understanding the concepts covered on the CISSP® exam as determined by $(ISC)^2$
- Managers who want to understand the critical areas of information security
- System, security, and network administrators who want to understand the pragmatic applications of the CISSP® eight domains
- Security professionals and managers looking for practical ways the eight domains of knowledge can be applied to their current job

www.sans.org/8140

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WITH THIS COURSE
www.sans.org/ondemand

SANS MGT414: SANS Training Program for CISSP® Certification is an accelerated review course that is specifically designed to prepare students to successfully pass the CISSP® exam.

MGT414 focuses solely on the eight domains of knowledge as determined by $(ISC)^2$ that form a critical part of the CISSP® exam. Each domain of knowledge is dissected into its critical components, and those components are then discussed in terms of their relationship with one another and with other areas of information security.

Obtaining Your CISSP® Certification Consists of:

- **Fulfilling minimum requirements for professional work experience**
- **Completing the Candidate Agreement**
- **Review of your résumé**
- **Passing the CISSP® 250 multiple-choice question exam with a scaled score of 700 points or greater**
- **Submitting a properly completed and executed Endorsement Form**
- **Periodic audit of CPEs to maintain the credential**

"Best security training I have ever received and just the right amount of detail for each domain."
-Tony Barnes, United States Sugar Corporation

"It was extremely valuable to have an experienced information security professional teaching the course as he was able to use experiential knowledge in examples and explanations."
-Sean Hoar, Davis Wright Tremaine

"I think the course material and the instructor are very relevant for the task of getting a CISSP®. The overall academic exercise is solid."
-Aaron Lewter, Availity

David R. Miller *SANS Certified Instructor*

David has been a technical instructor since the early 1980s and has specialized in consulting, auditing, and lecturing on information system security, legal and regulatory compliance, and network engineering. David has helped many enterprises develop their overall compliance and security program, including policy writing, network architecture design (including security zones), development of incident response teams and programs, design and implementation of public key infrastructures, security awareness training programs, specific security solution designs such as secure remote access and strong authentication architectures, disaster recovery planning and business continuity planning, and pre-audit compliance gap analysis and remediation. He serves as a security lead and forensic investigator on numerous enterprise-wide IT design and implementation projects for Fortune 500 companies, providing compliance, security, technology, and architectural recommendations and guidance. Projects he's currently working on, include Microsoft Windows Active Directory enterprise designs, security information and event management systems, intrusion detection and protection systems, endpoint protection systems, patch management systems, configuration monitoring systems, and enterprise data encryption for data at rest, in transit, in use, and within email systems. David is an author, lecturer and technical editor of books, curriculum, certification exams, and computer-based training videos. **@DRM_CyberDude**

Bonus Sessions

Enrich your SANS training experience! Evening talks by our instructors and selected subject-matter experts help you broaden your knowledge, hear from the voices that matter in computer security, and get the most for your training dollar.

KEYNOTE: Evolving Threats

Paul A. Henry

For nearly two decades defenders have fallen into the "Crowd Mentality Trap." They have simply settled for doing the same thing everyone else was doing, while at the same time, attackers have clearly evolved both in terms of malware delivery vectors and attack methodology. Today our defenses focus primarily on the gateway and on attempting to outwit an attacker's delivery methods. This leaves us woefully exposed and according to a recent Data Breach Report has resulted in 3,765 incidents, 806 million records exposed, and $157 billion in data breach costs in only the past six years.

Enhance Your Training Experience

Add an
OnDemand Bundle & GIAC Certification Attempt* to your course within seven days of this event for just $689 each.

SPECIAL PRICING

Extend Your Training Experience with an OnDemand Bundle

- Four months of supplemental online review
- 24/7 online access to your course lectures, materials, quizzes, and labs
- Subject-matter-expert support to help you increase your retention of course material

"The course content and OnDemand delivery method have both exceeded my expectations."
-Robert Jones, Team Jones, Inc.

Get Certified with GIAC Certifications

- Distinguish yourself as an information security leader
- 30+ GIAC cybersecurity certifications available
- Two practice exams included
- Four months of access to complete the attempt

"GIAC is the only certification that proves you have hands-on technical skills."
-Christina Ford, Department of Commerce

MORE INFORMATION

www.sans.org/ondemand/bundles www.giac.org

*GIAC and OnDemand Bundles are only available for certain courses.

SANS Training Formats

Whether you choose to attend a training class live or online, the entire SANS team is dedicated to ensuring your training experience exceeds expectations.

Live Classroom Instruction

Premier Training Events

Our most recommended format, live SANS training events feature SANS' top instructors teaching multiple courses at a single time and location. This allows for:

- Focused, immersive learning without the distractions of your office environment
- Direct access to SANS Certified Instructors
- Interacting with and learning from other professionals
- Attending SANS@Night events, NetWars tournaments, vendor presentations, industry receptions, and many other activities

Our premier live training events in North America, serving thousands of students, are held in Orlando, Washington DC, Las Vegas, New Orleans, and San Diego. Regional events with hundreds of students are held in most major metropolitan areas during the year. See page 12 for upcoming training events in North America.

Summits

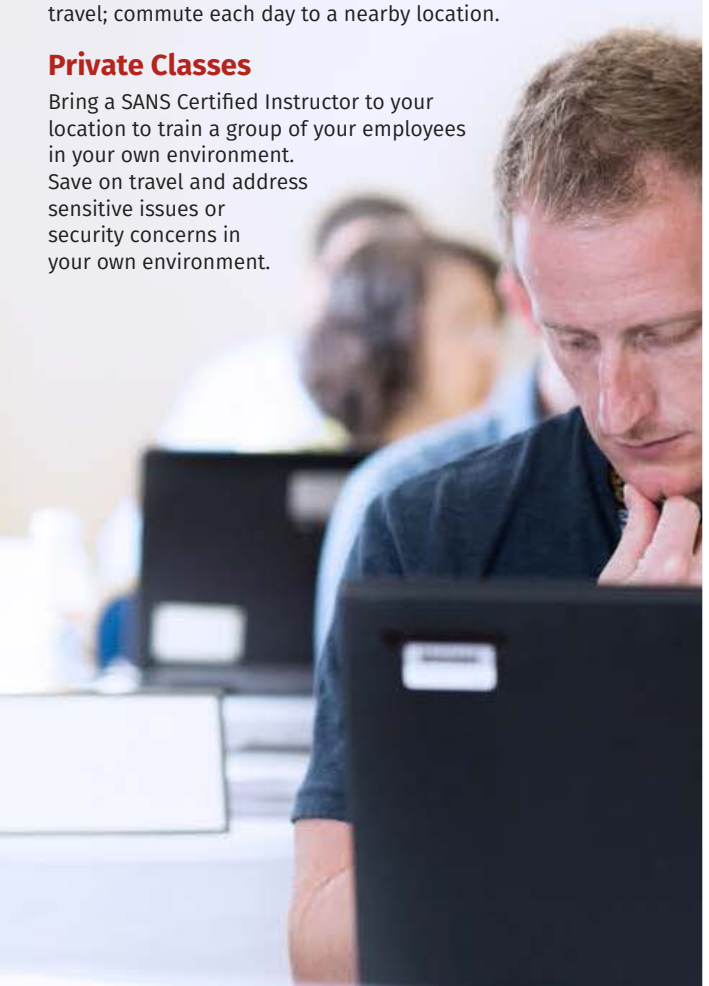
SANS Summits focus one or two days on a single topic of particular interest to the community. Speakers and talks are curated to ensure the greatest applicability to participants.

Community SANS Courses

Same SANS courses, courseware, and labs taught by up-and-coming instructors in a regional area. Smaller classes allow for more extensive instructor interaction. No need to travel; commute each day to a nearby location.

Private Classes

Bring a SANS Certified Instructor to your location to train a group of your employees in your own environment. Save on travel and address sensitive issues or security concerns in your own environment.



Online Training

SANS Online successfully delivers the same measured learning outcomes to students at a distance that we deliver live in classrooms. More than 30 courses are available for you to take whenever or wherever you want. Thousands of students take our courses online and achieve certifications each year.

Top reasons to take SANS courses online:

- **Learn at your own pace, over four months**
- **Spend extra time on complex topics**
- **Repeat labs to ensure proficiency with skills**
- **Save on travel costs**
- **Study at home or in your office**

Our SANS OnDemand, vLive, Simulcast, and SelfStudy formats are backed by nearly 100 professionals who ensure we deliver the same quality instruction online (including support) as we do at live training events.

> **"I am thoroughly pleased with the OnDemand modality. From a learning standpoint, I lose nothing. In fact, the advantage of setting my own pace with respect to balancing work, family, and training is significant, not to mention the ability to review anything that I might have missed the first time."**
>
> -Kevin E., U.S. Army

> **"The decision to take five days away from the office is never easy, but so rarely have I come to the end of a course and had no regret whatsoever. This was one of the most useful weeks of my professional life."**
>
> -Dan Trueman, Novae PLC

Future Training Events

Columbia	Columbia, MD	June 26 - July 1
Los Angeles – Long Beach	Long Beach, CA	July 10-15

SANSFIRE Washington, DC July 22-29

San Antonio	San Antonio, TX	Aug 6-11
Boston	Boston, MA	Aug 7-12
New York City	New York, NY	Aug 14-19
Salt Lake City	Salt Lake City, UT	Aug 14-19
Chicago	Chicago, IL	Aug 21-26
Virginia Beach	Virginia Beach, VA	Aug 21 - Sep 1
Tampa – Clearwater	Clearwater, FL	Sep 5-10
San Francisco Fall	San Francisco, CA	Sep 5-10

Network Security Las Vegas, NV Sep 10-17

Baltimore Fall	Baltimore, MD	Sep 25-30
Rocky Mountain Fall	Denver, CO	Sep 25-30
Phoenix-Mesa	Mesa, AZ	Oct 9-14
Tysons Corner Fall	McLean, VA	Oct 16-21
San Diego Fall	San Diego, CA	Oct 30 - Nov 4
Seattle	Seattle, WA	Oct 30 - Nov 4
Miami	Miami, FL	Nov 6-11
San Francisco Winter	San Francisco, CA	Nov 27 - Dec 2
Austin Winter	Austin, TX	Dec 4-9

Cyber Defense Initiative Washington, DC Dec 12-19

Future Summit Events

Digital Forensics and IR	Austin, TX	June 22-29
ICS & Energy	Houston, TX	July 10-15
Security Awareness	Nashville, TN	July 31 - Aug 9
Data Breach	Chicago, IL	Sep 25 - Oct 2
Secure DevOps	Denver, CO	Oct 10-17
SIEM & Tactical Analytics	Scottsdale, AZ	Nov 28 - Dec 5

Future Community SANS Events

Local, single-course events are also offered throughout the year via SANS Community. Visit **www.sans.org/community** for up-to-date Community course information.

Hotel Information

Hilton San Francisco Union Square

333 O'Farrell Street
San Francisco, CA 94102
Phone: 415-771-1400
www.sans.org/event/san-francisco-fall-2017/location

Hilton San Francisco Union Square boasts an ideal location in the heart of downtown San Francisco, with easy access to Nob Hill, Chinatown and fantastic shopping, dining and entertainment in and around Union Square. Enjoy proximity to attractions such as the Golden Gate Bridge, Fisherman's Wharf and the Marina, and easy access to public transportation such as MUNI, BART and the famous cable cars at this central San Francisco hotel.

Special Hotel Rates Available

A special discounted rate of $234.00 S/D will be honored based on space availability.

Government per diem rooms are available with proper ID; you will need to call reservations and ask for the SANS government rate. These rates include high-speed Internet in your room and are only available through **August 14, 2017**.

Top 5 reasons to stay at the Hilton San Francisco Union Square

1. All SANS attendees receive complimentary high-speed Internet when booking in the SANS block.
2. No need to factor in daily cab fees and the time associated with travel to alternate hotels.
3. By staying at the Hilton San Francisco Union Square you gain the opportunity to further network with your industry peers and remain in the center of the activity surrounding the training event.
4. SANS schedules morning and evening events at the Hilton San Francisco Union Square that you won't want to miss!
5. Everything is in one convenient location!

Registration Information

Register online at **www.sans.org/san-francisco-fall**

We recommend you register early
to ensure you get your first choice of courses.

Select your course and indicate whether you plan to test for GIAC certification. If the course is still open, the secure, online registration server will accept your registration. Sold-out courses will be removed from the online registration. Everyone with Internet access must complete the online registration form. We do not take registrations by phone.

Pay Early and Save*

Use code **EarlyBird17** when registering early

	DATE	DISCOUNT	DATE	DISCOUNT
Pay & enter code by	**7-12-17**	**$400.00**	**8-2-17**	**$200.00**

*Some restrictions apply. Early bird discounts do not apply to Hosted courses.

SANS Voucher Program

Expand your training budget!

Extend your fiscal year. The SANS Voucher Program provides flexibility and may earn you bonus funds for training.

www.sans.org/vouchers

Cancellation & Access Policy

If an attendee must cancel, a substitute may attend instead. Substitution requests can be made at any time prior to the event start date. Processing fees will apply. All substitution requests must be submitted by email to registration@sans.org. If an attendee must cancel and no substitute is available, a refund can be issued for any received payments by **August 16, 2017**. A credit memo can be requested up to the event start date. All cancellation requests must be submitted in writing by mail or fax and received by the stated deadlines. Payments will be refunded by the method that they were submitted. Processing fees will apply.

Open a **SANS Account** today to enjoy these FREE resources:

WEBCASTS

Ask The Expert Webcasts – SANS experts bring current and timely information on relevant topics in IT Security.

Analyst Webcasts – A follow-on to the SANS Analyst Program, Analyst Webcasts provide key information from our whitepapers and surveys.

WhatWorks Webcasts – The SANS WhatWorks webcasts bring powerful customer experiences showing how end users resolved specific IT Security issues.

Tool Talks – Tool Talks are designed to give you a solid understanding of a problem, and to show how a vendor's commercial tool can be used to solve or mitigate that problem.

NEWSLETTERS

NewsBites – Twice-weekly high-level executive summary of the most important news relevant to cybersecurity professionals

OUCH! – The world's leading monthly free security-awareness newsletter designed for the common computer user

@RISK: The Consensus Security Alert – A reliable weekly summary of (1) newly discovered attack vectors, (2) vulnerabilities with active new exploits, (3) how recent attacks worked, and (4) other valuable data

OTHER FREE RESOURCES

- InfoSec Reading Room
- Top 25 Software Errors
- 20 Critical Controls
- Security Policies
- Intrusion Detection FAQs
- Tip of the Day
- Security Posters
- Thought Leaders
- 20 Coolest Careers
- Security Glossary
- SCORE (Security Consensus Operational Readiness Evaluation)

www.sans.org/account