SANS Security East 2017

New Orleans, LA | January 9-14

THE MOST TRUSTED SOURCE FOR INFORMATION SECURITY TRAINING, CERTIFICATION, AND RESEARCH

PROTECT YOUR COMPANY AND ADVANCE YOUR CAREER
WITH HANDS-ON, IMMERSION-STYLE

INFORMATION SECURITY TRAINING

TAUGHT BY REAL-WORLD PRACTITIONERS

"SANS training is extremely valuable for any security professional."
-Doug Rodgers, Wells Fargo

GIAC
GIAC-Approved Training

14 courses on

- Cyber Defense
- Detection and Monitoring
- Penetration Testing
- Incident Response
- Digital Forensics
- Ethical Hacking
- Management
- ICS/SCADA Security

SAVE $400
when you register and pay by Nov 16th using code **EarlyBird17**

www.sans.org/security-east

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 Security East 2017 lineup of instructors includes:

Matt Bromiley
SANS Instructor
@505Forensics

Dr. Eric Cole
Faculty Fellow
@drericcole

Adrien de Beaupre
Certified Instructor
@adriendb

Bryce Galbraith
Principal Instructor
@brycegalbraith

G. Mark Hardy
Certified Instructor
@g_mark

Paul A. Henry
Senior Instructor
@phenrycissp

Robert M. Lee
Certified Instructor
@RobertMLee

Seth Misenar
Senior Instructor
@sethmisenar

Keith Palmgren
Senior Instructor
@kpalmgren

John Strand
Senior Instructor
@strandjs

James Tarala
Senior Instructor
@isaudit

Chad Tilbury
Senior Instructor
@chadtilbury

Alissa Torres
Certified Instructor
@sibertor

Johannes Ullrich, PhD
Senior Instructor
@johullrich

Jake Williams
Certified Instructor
@MalwareJake

Save $400 when you register and pay by Nov 16th using code EarlyBird17

Courses-at-a-Glance

SEC301:

Intro to Information Security

SANS

Five-Day Program
Mon, Jan 9- Fri, Jan 13
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: Keith Palmgren

To determine if the SANS SEC301 course is right for you, ask yourself five simple questions:

- Do you have basic computer knowledge but are new to information security and in need of an introduction to the fundamentals?
- Are you bombarded with complex technical security terms that you don't understand?
- Are you a non-IT security manager (with some technical knowledge) who lays awake at night worrying that your company will be the next mega-breach headline story on the 6 o'clock news?
- Do you need to be conversant in basic security concepts, principles, and terms, even if you don't need "deep in the weeds" detail?
- Have you decided to make a career change to take advantage of the job opportunities in information security and need formal training/certification?

If you answer yes to any of these questions, the **SEC301: Introduction to Information Security** training course is for you. Jump-start your security knowledge by receiving insight and instruction from real-world security experts on critical introductory topics that are fundamental to information security. This completely revised five-day comprehensive course covers everything from core terminology to the basics of computer networks, security policies, incident response, passwords, and even an introduction to cryptographic principles.

This course is designed for students who have a basic knowledge of computers and technology but no prior knowledge of cybersecurity. The hands-on, step-by-step teaching approach will enable you to grasp all of the information presented even if some of the topics are new to you. You'll learn the fundamentals of information security that will serve as the foundation of your InfoSec skills and knowledge for years to come.

Authored by a security professional with over 30 years of experience in both the public and private sectors, SEC301 provides uncompromising real-world insight from start to finish. The course prepares you for the Global Information Security Fundamentals (GISF) certification test, as well as for the next course up the line, **SEC401: Security Essentials Bootcamp**. It also delivers on the SANS promise: ***You will be able to use the knowledge and skills you learn in SEC301 as soon as you return to work.***

"Keith is awesome…Jedi Master!" -Cesar A., USAF 92nd IOS

GISF
www.giac.org/gisf

Bundle OnDemand
with this course
www.sans.org/ondemand

"Keith is very engaging and he not only helped me greatly to understand the topics, but made them interesting to learn."
-Jennifer Bakowski,
John Hancock Financial Services

Keith Palmgren *SANS Senior Instructor*

Keith Palmgren is an IT security professional with 26 years of experience in the field. He began his career with the U.S. Air Force working with cryptographic keys and codes management. He also worked in what was at the time the newly-formed computer security department. Following the Air Force, Keith worked as an MIS director for a small company before joining AT&T/Lucent as a senior security architect working on engagements with the DoD and the National Security Agency. As security practice manager for both Sprint and Netigy, Keith built and ran the security consulting practice, responsible for all security consulting world-wide and for leading dozens of security professionals on many consulting engagements across all business spectrums. For the last several years, Keith has run his own company, NetIP, Inc. He divides his time between consulting, training, and freelance writing projects. As a trainer, Keith has satisfied the needs of nearly 5,000 IT professionals and authored 17 training courses. Keith currently holds the CISSP, GSEC, CEH, Security+, Network+, A+, and CTT+ certifications. @kpalmgren

SEC401:
Security Essentials Bootcamp Style

SANS

Six-Day Program
Mon, Jan 9- Sat, Jan 14
9:00am - 7:00pm (Days 1-5)
9:00am - 5:00pm (Day 6)
46 CPEs
Laptop Required
Instructor: Dr. Eric Cole

www.giac.org/gsec

www.sans.edu

www.sans.org/cyber-guardian

www.sans.org/8140

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

"I was very impressed by Dr. Cole and his depth of knowledge and fantastic teaching approach."
-KATE YAMASHITA, CROWDSTRIKE

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

Learn to build a security roadmap that can scale today and into the future.

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. This course will show you how to prevent your organization's security problems from being headline news in the *Wall Street Journal*!

With the rise of 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'll 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.

PREVENTION IS IDEAL BUT DETECTION IS A MUST.

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 analysts, penetration testers, and auditors who need a solid foundation of security principles so they can be as effective as possible at their jobs
- Anyone new to information security with some background in information systems and networking

Dr. Eric Cole *SANS Faculty Fellow*

Dr. Cole is an industry-recognized security expert with over 20 years of hands-on experience. Dr. Cole has experience in information technology with a focus on helping customers focus on the right areas of security by building out a dynamic defense. Dr. Cole has a master's degree in computer science from NYIT and a doctorate from Pace University with a concentration in information security. He served as CTO of McAfee and Chief Scientist for Lockheed Martin. Dr. Cole is the author of several books, including *Advanced Persistent Threat*, *Hackers Beware*, *Hiding in Plain Sight*, *Network Security Bible* 2nd Edition, and *Insider Threat*. He is the inventor of over 20 patents and is a researcher, writer, and speaker. He is also a member of the Commission on Cyber Security for the 44th President and several executive advisory boards. Dr. Cole is the founder and an executive leader at Secure Anchor Consulting, where he provides leading-edge cybersecurity consulting services, expert witness work, and leads research and development initiatives to advance the state-of-the-art in information systems security. Dr. Cole was the lone inductee into the InfoSec European Hall of Fame in 2014. @drericcole

SEC503:
Intrusion Detection In-Depth

SANS

Six-Day Program
Mon, Jan 9- Sat, Jan 14
9:00am - 5:00pm
36 CPEs
Laptop Required
Instructor:
Johannes Ullrich, PhD

Reports of prominent organizations being hacked and suffering irreparable reputational damage have become all too common. How can you prevent your company from becoming the next victim of a major cyber attack?

Who Should Attend

- Intrusion detection (all levels), system, and security analysts
- Network engineers/administrators
- Hands-on security managers

SEC503: Intrusion Detection In-Depth delivers the technical knowledge, insight, and hands-on training you need to defend your network with confidence. You will learn about the underlying theory of TCP/IP and the most used application protocols, such as HTTP, so that you can intelligently examine network traffic for signs of an intrusion. You will get plenty of practice learning to configure and master different open-source tools like tcpdump, Wireshark, Snort, Bro, and many more. Daily hands-on exercises suitable for all experience levels reinforce the course book material so that you can transfer knowledge to execution. Basic exercises include assistive hints while advanced options provide a more challenging experience for students who may already know the material or who have quickly mastered new material. In addition, most exercises include an "extra credit" stumper question intended to challenge even the most advanced student.

Industry expert Mike Poor has created a VMware distribution, Packetrix, specifically for this course. As the name implies, Packetrix contains many of the tricks of the trade to perform packet and traffic analysis. It is supplemented with demonstration "pcaps," which are files that contain network traffic. This allows students to follow along on their laptops with the class material and demonstrations. The pcaps also provide a good library of network traffic to use when reviewing the material, especially for certification.

"It is invaluable to get real-world examples from professionals currently working in this field as well as teaching it."
-Mike Heymann, EOG Resources

Preserving the security of your site in today's threat environment is more challenging than ever before. The security landscape is continually changing from what was once only perimeter protection to protecting exposed and mobile systems that are almost always connected and often vulnerable. Security-savvy employees who can help detect and prevent intrusions are therefore in great demand. Our goal in **SEC503: Intrusion Detection In-Depth** is to acquaint you with the core knowledge, tools, and techniques to defend your networks. The training will prepare you to put your new skills and knowledge to work immediately upon returning to a live environment.

www.giac.org/gcia

www.sans.edu

www.sans.org/cyber-guardian

www.sans.org/8140

Bundle OnDemand
with this course
www.sans.org/ondemand

"Johannes is very good at explaining details on how tools work. He is very good at what he does, and has lots of great knowledge and experience."
-Ryan Hunt, Alert Logic

Johannes Ullrich, PhD *SANS Senior Instructor*

As Dean of Research for the SANS Technology Institute, Johannes is currently responsible for the SANS Internet Storm Center (ISC) and the GIAC Gold program. He founded DShield.org in 2000, which is now the data collection engine behind the ISC. His work with the ISC has been widely recognized, and in 2004, Network World named him one of the 50 most powerful people in the networking industry. Prior to working for SANS, Johannes worked as a lead support engineer for a web development company and as a research physicist. Johannes holds a PhD in physics from SUNY Albany and is based in Jacksonville, Florida. His daily podcast summarizes current security news in a concise format. @johullrich

SEC504:

Hacker Tools, Techniques, Exploits, and Incident Handling

SANS

Six-Day Program
Mon, Jan 9- Sat, Jan 14
9:00am - 7:15pm (Day 1)
9:00am - 5:00pm (Days 2-6)
37 CPEs
Laptop Required
Instructor: John Strand

www.giac.org/gcih

www.sans.edu

www.sans.org/cyber-guardian

www.sans.org/8140

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

"This was a really good course...I learned a lot that will be totally useful on my job."
-EDGAR JIMENEZ, PALO ALTO NETWORKS

The Internet is full of powerful hacking tools and bad guys using them extensively. If your organization has an Internet connection or 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.**

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

"I have had a lot of training, but SEC504 with John Strand is the best course I've ever had."
-MARK S., U.S. ARMY

This course enables you to turn the tables on computer attackers by helping you to 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 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 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.**

"Learning about what is valuable, what to focus on, and how I can improve in my work place was awesome!"
-MIKE WAXMAN, MOSAIC451

John Strand *SANS Senior Instructor*

Along with SEC504, John Strand also teaches SEC560: Network Penetration Testing and Ethical Hacking and SEC464: Hacker Detection for System Administrators. John is the course author for SEC464. When not teaching for SANS, John co-hosts PaulDotCom Security Weekly, the world's largest computer security podcast. He also is the owner of Black Hills Information Security, specializing in penetration testing and security architecture services. He has presented for the FBI, NASA, the NSA, and at DefCon. In his spare time he writes loud rock music and makes various futile attempts at fly fishing. @strandjs

SEC511:
Continuous Monitoring and Security Operations

New Extended Bootcamp Hours to Enhance Your Skills

SANS

Six-Day Program
Mon, Jan 9- Sat, Jan 14
9:00am - 7:00pm (Days 1-5)
9:00am - 5:00pm (Day 6)
Laptop Required
46 CPEs
Laptop Required
Instructor: Seth Misenar

www.giac.org/gmon

www.sans.edu

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

"This course had great lessons that will be actionable to what I do day to day, and it will help me fill in the gaps at my current work environment."
-Kevin South, Navient Corporation

We continue to underestimate the tenacity of our adversaries! Organizations are investing a significant amount of time and financial and human resources trying to prevent and combat cyber attacks, but despite this tremendous effort organizations are still getting compromised. The traditional perimeter-focused, prevention-dominant approach to security architecture has failed to prevent intrusions. No network is impenetrable, a reality that business executives and security professionals alike have to accept. Prevention is crucial, and we can't lose sight of it as the primary goal. However, a new proactive approach to security is needed to enhance the capabilities of organizations to detect threats that will inevitably slip through their defenses.

Who Should Attend

- Security architects
- Senior security engineers
- Technical security managers
- Security Operations Center analysts, engineers, and managers
- Individuals working to implement Continuous Diagnostics and Mitigation (CDM), Continuous Security Monitoring (CSM), or Network Security Monitoring (NSM)
- Computer Network Defense analysts

The underlying challenge for organizations victimized by an attack is timely incident detection. Industry data suggest that most security breaches typically go undiscovered for an average of seven months. Attackers simply have to find one way into most organizations, because they know that the lack of visibility and internal security controls will then allow them to methodically carry out their mission and achieve their goals.

"Seth is an amazing teacher. His knowledge and passion for InfoSec definitely shows."
-Eric Luellen, SAS

The Defensible Security Architecture, Network Security Monitoring (NSM)/Continuous Diagnostics and Mitigation (CDM)/Continuous Security Monitoring (CSM) taught in this course will best position your organization or Security Operations Center (SOC) to analyze threats and detect anomalies that could indicate cybercriminal behavior. The payoff for this new proactive approach is early detection of an intrusion, or successfully thwarting the efforts of attackers altogether. The National Institute of Standards and Technology (NIST) developed guidelines described in NIST SP 800-137 for Continuous Monitoring (CM), and this course will greatly increase your understanding and enhance your skills in implementing CM utilizing the NIST framework.

Seth Misenar *SANS Senior Instructor*

Seth Misenar serves as lead consultant and founder of Jackson, Mississippi-based Context Security, which provides information security thought leadership, independent research, and security training. Seth's background includes network and web application penetration testing, vulnerability assessment, regulatory compliance efforts, security architecture design, and general security consulting. He has previously served as both physical and network security consultant for Fortune 100 companies and the Health Insurance Portability and Accountability Act, and as information security officer for a state government agency. Prior to becoming a security geek, Seth received a bachelor's of science degree in philosophy from Millsaps College, where he was twice selected for a Ford Teaching Fellowship. Also, Seth is no stranger to certifications and thus far has achieved credentials that include CISSP, GPEN, GWAPT, GSEC, GCIA, GCIH, GCWN, GCFA, and MCSE. @sethmisenar

SEC550:
Active Defense, Offensive Countermeasures & Cyber Deception

SANS

Five-Day Program
Mon, Jan 9- Fri, Jan 13
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: Bryce Galbraith

The current threat landscape is shifting. Traditional defenses are failing us. We need to develop new strategies to defend ourselves. Even more importantly, we need to better understand who is attacking us and why. You may be able to immediately implement some of the measures we discuss in this course, while others may take a while. Either way, consider what we discuss as a collection of tools at your disposal when you need them to annoy attackers, determine who is attacking you, and, finally, attack the attackers.

Who Should Attend

- General security practitioners
- Penetration testers
- Ethical hackers
- Web application developers
- Website designers and architects

SEC550: Active Defense, Offensive Countermeasures, and Cyber Deception is based on the Active Defense Harbinger Distribution live Linux environment funded by the Defense Advanced Research Projects Agency (DARPA). This virtual machine is built from the ground up for defenders to quickly implement Active Defenses in their environments. The course is very heavy with hands-on activities – we won't just talk about Active Defenses, we will work through labs that will enable you to quickly and easily implement what you learn in your own working environment.

"SEC550 was great training, and very helpful to better understand analysis, offensive security, and also how to improve the protection."
-Stefania Iannelli, Palo Alto Networks

"Bryce is the strongest, most knowledgeable person I have heard speak about cybersecurity. He is able to relate real-world examples, and his personal vignettes are invaluable and underline the information being conveyed."
-Tony, U.S. Army

You Will Be Able To

- Track bad guys with callback Word documents
- Use Honeybadger to track web attackers
- Block attackers from successfully attacking servers with honeyports
- Block web attackers from automatically discovering pages and input fields
- Understand the legal limits and restrictions of Active Defense
- Obfuscate DNS entries
- Create non-attributable Active Defense Servers
- Combine geolocation with existing Java applications
- Create online social media profiles for cyber deception
- Easily create and deploy honeypots

What You Will Receive

- A fully functioning Active Defense Harbinger Distribution ready to deploy
- Class books and a DVD with the necessary tools and the OCM virtual machine, which is a fully functional Linux system with the OCM tools installed and ready to go for the class and for the students' work environments

Bryce Galbraith *SANS Principal Instructor*
As a contributing author of the international bestseller *Hacking Exposed: Network Security Secrets & Solutions*, Bryce helped bring the secret world of hacking out of the darkness and into the public eye. He has held security positions at global ISPs and Fortune 500 companies, was a member of Foundstone's renowned penetration testing team, and served as a senior instructor and co-author of Foundstone's Ultimate Hacking: Hands-On course series. Bryce is currently the owner of Layered Security, where he provides specialized vulnerability assessment and penetration testing services for clients. He teaches several of the SANS Institute's most popular courses and develops curriculum around current topics. He has taught the art of ethical hacking and countermeasures to thousands of IT professionals from a who's who of top companies, financial institutions, and government agencies around the globe. Bryce is an active member of several security-related organizations, holds several security certifications, and speaks at conferences worldwide. @brycegalbraith

SEC560:

Network Penetration Testing and Ethical Hacking

SANS

Six-Day Program
Mon, Jan 9- Sat, Jan 14
9:00am - 7:15pm (Day 1)
9:00am - 5:00pm (Days 2-6)
37 CPEs
Laptop Required
Instructor:
Adrien de Beaupre

www.giac.org/gpen

www.sans.edu

www.sans.org/cyber-guardian

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

"This course pulls together all of the tools needed for pen testing in a very clear and logical manner. SEC560 is excellent and highly valuable training!"
-Bill Hinds,
Project Management Institute

As a cybersecurity professional, you have a unique responsibility to find and understand your organization's vulnerabilities, and to work diligently to mitigate them before the bad guys pounce. Are you ready? SANS SEC560, our flagship course for penetration testing, fully arms you to address this task head-on.

With comprehensive coverage of tools, techniques, and methodologies for network penetration testing, SEC560 truly prepares you to conduct high-value penetration testing projects step-by-step and end-to-end. Every organization needs skilled information security personnel who can find vulnerabilities and mitigate their effects, and this entire course is specially designed to get you ready for that role. The course starts with proper planning, scoping and recon, then dives deep into scanning, target exploitation, password attacks, and web app manipulation, with **over 30 detailed hands-on labs** throughout. The course is chock full of practical, real-world tips from some of the world's best penetration testers to help you do your job safely, efficiently…and masterfully.

Who Should Attend

- Security personnel whose job involves assessing networks and systems to find and remediate vulnerabilities
- Penetration testers
- Ethical hackers
- Defenders who want to better understand offensive methodologies, tools, and techniques
- Auditors who need to build deeper technical skills
- Red and blue team members
- Forensics specialists who want to better understand offensive tactics

"Adrien is awesome and very knowledgeable, he relates information in common terms to the skill-sets I am trying to acquire." -Bill D., U.S. Army

SEC560 is designed to get you ready to conduct a full-scale, high-value penetration test – and on the last day of the course you'll do just that. After building your skills in comprehensive and challenging labs over five days, the course culminates with a final full-day, real-world penetration test scenario. You'll conduct an end-to-end pen test, applying knowledge, tools, and principles from throughout the course as you discover and exploit vulnerabilities in a realistic sample target organization, demonstrating the knowledge you've mastered in this course.

You will learn how to perform detailed reconnaissance, studying a target's infrastructure by mining blogs, search engines, social networking sites, and other Internet and intranet infrastructures. Our hands-on labs will equip you to scan target networks using best-of-breed tools. We won't just cover run-of-the-mill options and configurations, we'll also go over the lesser-known but super-useful capabilities of the best pen test toolsets available today. After scanning, you'll learn dozens of methods for exploiting target systems to gain access and measure real business risk. **You'll dive deep into post-exploitation, password attacks, and web apps, pivoting through the target environment to model the attacks of real-world bad guys to emphasize the importance of defense in depth.**

Adrien de Beaupre *SANS Certified Instructor*

Adrien de Beaupre works as an independent consultant in beautiful Ottawa, Ontario. His work experience includes technical instruction, vulnerability assessment, penetration testing, intrusion detection, incident response and forensic analysis. He is a member of the SANS Internet Storm Center (isc.sans.edu). He is actively involved with the information security community, and has been working with SANS since 2000. Adrien holds a variety of certifications including the GXPN, GPEN, GWAPT, GCIH, GCIA, GSEC, CISSP, OPST, and OPSA. When not geeking out he can be found with his family, or at the dojo. @adriendb

SEC566:

Implementing and Auditing the Critical Security Controls – In-Depth

SANS

Five-Day Program
Mon, Jan 9- Fri, Jan 13
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: James Tarala

www.giac.org/gccc

www.sans.edu

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

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

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."

"Great course! I really appreciate the content and context that James covers through his examples, and he tied it back to the evolution of the field."-Derrick Pendleton, Legg Mason

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.

James Tarala *SANS Senior Instructor*

James Tarala is a principal consultant with Enclave Security and is based in Venice, Florida. He is a regular speaker with the SANS Institute as well as a courseware author and editor for many SANS auditing and security courses. As a consultant, he has spent the past few years developing large enterprise IT security and infrastructure architectures, specifically working with many Microsoft-based directory services, e-mail, terminal services, and wireless technologies. He has also spent a large amount of time consulting with organizations to assist them in their security management, operational practices, and regulatory compliance issues, and he often performs independent security audits and assists internal audit groups in developing their internal audit programs. James completed his undergraduate studies at Philadelphia Biblical University and his graduate work at the University of Maryland. He holds numerous professional certifications. @isaudit

FOR508:

Advanced Digital Forensics, Incident Response, and Threat Hunting

SANS

Six-Day Program
Mon, Jan 9- Sat, Jan 14
9:00am - 5:00pm
36 CPEs
Laptop Required
Instructors: Chad Tilbury & Matt Bromiley

www.giac.org/gcfa

www.sans.edu

www.sans.org/cyber-guardian

www.sans.org/8140

Bundle OnDemand
with this course
www.sans.org/ondemand

FOR508: Advanced Incident Response and Threat Hunting course will help you:

- Detect how and when a breach occurred
- Identify compromised and affected systems
- Determine what attackers took or changed
- Contain and remediate incidents
- Develop key sources of threat intelligence
- Hunt down additional breaches using knowledge of the adversary

Who Should Attend

- Incident response team members
- Threat hunters
- Experienced digital forensic analysts
- Information security professionals
- Federal agents and law enforcement
- Red team members, penetration testers, and exploit developers
- SANS FOR408 and SEC504 graduates

DAY 0: A 3-letter government agency contacts you to say an advanced threat group is targeting organizations like yours, and that your organization is likely a target. They won't tell how they know, but they suspect that there are already several breached systems within your enterprise. An advanced persistent threat, aka an APT, is likely involved. This is the most sophisticated threat that you are likely to face in your efforts to defend your systems and data, and these adversaries may have been actively rummaging through your network undetected for months or even years.

This is a hypothetical situation, but the chances are very high that hidden threats already exist inside your organization's networks. Organizations can't afford to believe that their security measures are perfect and impenetrable, no matter how thorough their security precautions might be. Prevention systems alone are insufficient to counter focused human adversaries who know how to get around most security and monitoring tools. The key is to catch intrusions in progress, rather than after attackers have completed their objectives and done worse damage to the organization. For the incident responder, this process is known as "threat hunting."

"This was a great course. I learned some great techniques and this will lead to some changes in our incident response process." -Rick, Syngenta

This in-depth incident response and threat hunting course provides responders and threat hunting teams with advanced skills to hunt down, identify, counter, and recover from a wide range of threats within enterprise networks, including APT nation-state adversaries, organized crime syndicates, and hactivism. Constantly updated, FOR508: Advanced Incident Response and Threat Hunting addresses today's incidents by providing hands-on incident response and threat hunting tactics and techniques that elite responders and hunters are successfully using to detect, counter, and respond to real-world breach cases.

GATHER YOUR INCIDENT RESPONSE TEAM – IT'S TIME TO GO HUNTING!

Chad Tilbury *SANS Senior Instructor*

Chad Tilbury has been responding to computer intrusions and conducting forensic investigations since 1998. His extensive law enforcement and international experience stems from working with a broad cross-section of Fortune 500 corporations and government agencies around the world. During his service as a Special Agent with the Air Force Office of Special Investigations, he investigated and conducted computer forensics for a variety of crimes, including hacking, abduction, espionage, identity theft, and multi-million dollar fraud cases. Chad is a graduate of the U.S. Air Force Academy and holds a B.S. and M.S. in computer science as well as GCFA, GCIH, GREM, and ENCE certifications. See Chad's complete bio at sans.org/event/security-east-2017/instructors @chadtilbury

Matt Bromiley *SANS Instructor*

Matt has experience in incident response, digital forensics, threat intelligence, and network security monitoring. His skills include disk, database, and network forensics, incident response/triage, and network security monitoring. He is passionate about learning, sharing with others, and working on open-source tools. When not jamming with the console cowboys in cyberspace, Matt can be found with his wife, new daughter, two dogs, and sometimes hidden in a cloud of sweet, delicious smoke from a Texas BBQ pit. @505Forensics

FOR526:
Memory Forensics In-Depth

SANS

Six-Day Program
Mon, Jan 9- Sat, Jan 14
9:00am - 5:00pm
36 CPEs
Laptop Required
Instructor: Alissa Torres

Digital Forensics and Incident Response (DFIR) professionals need Windows memory forensics training to be at the top of their game. Investigators who do not look at volatile memory are leaving evidence at the crime scene. RAM content holds evidence of user actions, as well as evil processes and furtive behaviors implemented by malicious code. It is this evidence that often proves to be the smoking gun that unravels the story of what happened on a system.

FOR526: Memory Forensics In-Depth provides the critical skills necessary for digital forensics examiners and incident responders to successfully perform live system memory triage and analyze captured memory images. The course uses the most effective freeware and open-source tools in the industry today and provides an in-depth understanding of how these tools work. FOR526 is a critical course for any serious DFIR investigator who wants to tackle advanced forensics, trusted insider, and incident response cases.

In today's forensics cases, it is just as critical to understand memory structures as it is to understand disk and registry structures. Having in-depth knowledge of Windows memory internals allows the examiner to access target data specific to the needs of the case at hand. For those investigating platforms other than Windows, this course also introduces OSX and Linux memory forensics acquisition and analysis using hands-on lab exercises.

There is an arms race between analysts and attackers. Modern malware and post-exploitation modules increasingly employ self-defense techniques that include more sophisticated rootkit and anti-memory analysis mechanisms that destroy or subvert volatile data. Examiners must have a deeper understanding of memory internals in order to discern the intentions of attackers or rogue trusted insiders. FOR526 draws on best practices and recommendations from experts in the field to guide DFIR professionals through acquisition, validation, and memory analysis with real-world and malware-laden memory images.

Who Should Attend

- Incident response team members
- Experienced digital forensic analysts
- Red team members, penetration testers, and exploit developers
- Law enforcement officers, federal agents, or detectives
- SANS FOR508 and SEC504 graduates
- Forensics investigators

"Alissa is the perfect instructor for this course. She has great energy and drives home the information."
-Ray Hunter, GEFA

"An excellent course instructed by a very knowledgeable instructor with lots of real-world examples. Thanks!!!"
-Dale "Chip" McGleenon, MOD

FOR526: Memory Forensics In-Depth will teach you:

- **Proper Memory Acquisition:** Demonstrate targeted memory capture ensuring data integrity and combating anti-acquisition techniques
- **How to Find Evil in Memory:** Detect rogue, hidden, and injected processes, kernel-level rootkits, Dynamic Link Libraries (DLL) hijacking, process hollowing, and sophisticated persistence mechanisms
- **Effective Step-by-Step Memory Analysis Techniques:** Use process timelining, high-low level analysis, and walking the Virtual Address Descriptors (VAD) tree to spot anomalous behavior
- **Best Practice Techniques:** Learn when to implement triage, live system analysis, and alternative acquisition techniques and how to devise custom parsing scripts for targeted memory analysis

MALWARE CAN HIDE, BUT IT MUST RUN

Alissa Torres *SANS Certified Instructor*

Alissa Torres specializes in advanced computer forensics and incident response. Her industry experience includes serving in the trenches as part of the Mandiant Computer Incident Response Team (MCIRT) as an incident handler and working on an internal security team as a digital forensic investigator. She has extensive experience in information security spanning government, academic, and corporate environments and holds a bachelor's degree from the University of Virginia and a master's from the University of Maryland in information technology. Alissa has taught at the Defense Cyber Investigations Training Academy (DCITA), delivering incident response and network basics to security professionals entering the forensics community. She has presented at various industry conferences and numerous B-Sides events. In addition to being a GIAC Certified Forensic Analyst (GCFA), she holds the GCFE, GPEN, CISSP, EnCE, CFCE, MCT and CTT+ certifications. @sibertor

FOR578:
Cyber Threat Intelligence

SANS

Five-Day Program
Mon, Jan 9- Fri, Jan 13
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructors: Jake Williams & Scott Roberts

Make no mistake: current network defense, threat hunting, and incident response practices contain a strong element of intelligence and counterintelligence that cyber analysts must understand and leverage in order to defend their networks, proprietary data, and organizations.

FOR578: Cyber Threat Intelligence will help network defenders, threat hunting teams, and incident responders to:

- Understand and develop skills in tactical, operational, and strategic-level threat intelligence
- Generate threat intelligence to detect, respond to, and defeat advanced persistent threats (APTs)
- Validate information received from other organizations to minimize resource expenditures on bad intelligence
- Leverage open-source intelligence to complement a security team of any size
- Create Indicators of Compromise (IOCs) in formats such as YARA, OpenIOC, and STIX.

The collection, classification, and exploitation of knowledge about adversaries – collectively known as cyber threat intelligence – gives network defenders information superiority that is used to reduce the adversary's likelihood of success with each subsequent intrusion attempt. Responders need accurate, timely, and detailed information to monitor new and evolving attacks, as well as methods to exploit this information to put in place an improved defensive posture.

Cyber threat intelligence thus represents a force multiplier for organizations looking to update their response and detection programs to deal with increasingly sophisticated advanced persistent threats. Malware is an adversary's tool but the real threat is the human one, and cyber threat intelligence focuses on countering those flexible and persistent human threats with empowered and trained human defenders.

During a targeted attack, an organization needs a top-notch and cutting-edge threat hunting or incident response team armed with the threat intelligence necessary to understand how adversaries operate and to counter the threat. **FOR578: Cyber Threat Intelligence** will train you and your team in the tactical, operational, and strategic-level cyber threat intelligence skills and tradecraft required to make security teams better, threat hunting more accurate, incident response more effective, and organizations more aware of the evolving threat landscape.

THERE IS NO TEACHER BUT THE ENEMY!

Who Should Attend

- Incident response team members
- Threat hunters
- Security Operations Center personnel and information security practitioners
- Experienced digital forensic analysts
- Federal agents and law enforcement officials
- SANS FOR408, FOR572, FOR508, or FOR610 graduates looking to take their skills to the next level

"Jake's use of real-life scenarios is very useful, it keeps everything relevant and interesting."
-Hayley Roberts, MOD

Jake Williams *SANS Certified Instructor*

Jake Williams is a Principal Consultant at Rendition Infosec. He has more than a decade of experience in secure network design, penetration testing, incident response, forensics, and malware reverse engineering. Before founding Rendition Infosec, Jake worked with various cleared government agencies in information security roles. He is well versed in cloud forensics and previously developed a cloud forensics course for a U.S. government client. Jake regularly responds to cyber intrusions performed by state-sponsored actors in financial, defense, aerospace, and healthcare sectors using cutting-edge forensics and incident response techniques. @MalwareJake

Scott Roberts *SANS Instructor*

Scott Roberts is an incident responder, manager, and developer at GitHub, the world's code collaborative development platform. Scott has worked major investigations involving criminal fraud and abuse and nation-state espionage while with Symantec, Mandiant, and others. He is a sought-out speaker, having presented on threat intelligence and incident response for SANS, Silicon Valley, and various BSides. He is an author of O'Reilly's upcoming *Intelligence Driven Incident Response*. Scott is also a member of the SANS CTI Summit and NYU Poly CSAW advisory boards. @sroberts

MGT514:

IT Security Strategic Planning, Policy, and Leadership

SANS

Five-Day Program
Mon, Jan 9- Fri, Jan 13
9:00am - 5:00pm
30 CPEs
Laptop NOT Needed
Instructor: G. Mark Hardy

SANS Technology Institute
www.sans.edu

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

"G. Mark is excellent, and the course is a great foundation for all of those involved in business info security."
-Manuel M., U.S. Army

"Mark Hardy has excellent teaching skills and keeps all material interesting using real-life examples. His talk on crypto was awesome!"
-Brett Tode, Zoetis

As security professionals we have seen the landscape change. Cybersecurity is now more vital and relevant to the growth of your organization than ever before. As a result, information security teams have more visibility, more budget, and more opportunity. However, with this increased responsibility comes more scrutiny.

This course teaches security professionals how to do three things:

Who Should Attend

- CISOs
- Information security officers
- Security directors
- Security managers
- Aspiring security leaders
- Other security personnel who have team-lead or management responsibilities

Develop Strategic Plans

Strategic planning is hard for people in IT and IT security because we spend so much time responding and reacting. We almost never get to practice until we get promoted to a senior position and then we are not equipped with the skills we need to run with the pack. Learn how to develop strategic plans that resonate with other IT and business leaders.

Create Effective Information Security Policy

Policy is a manager's opportunity to express expectations for the workforce, set the boundaries of acceptable behavior, and empower people to do what they ought to be doing. It is easy to get wrong. Have you ever seen a policy and your response was, "No way, I am not going to do that?" Policy must be aligned with an organization's culture. We will break down the steps to policy development so that you have the ability to develop and assess policy to successfully guide your organization.

Develop Management and Leadership Skills

Leadership is a capability that must be learned, exercised and developed to better ensure organizational success. Strong leadership is brought about primarily through selfless devotion to the organization and staff, tireless effort in setting the example, and the vision to see and effectively use available resources toward the end goal. Effective leadership entails persuading team members to accomplish their objectives while removing obstacles and maintaining the well-being of the team in support of the organization's mission. Learn to utilize management tools and frameworks to better lead, inspire, and motivate your teams.

G. Mark Hardy *SANS Certified Instructor*

G. Mark Hardy is founder and president of National Security Corporation. He has been providing cybersecurity expertise to government, military, and commercial clients for over 30 years, and is an internationally recognized expert who has spoken at over 250 events world-wide. He serves on the Advisory Board of CyberWATCH, an Information Assurance/Information Security Advanced Technology Education Center of the National Science Foundation. A retired U.S. Navy Captain, he was privileged to serve in command nine times, including responsibility for leadership training for 70,000 sailors. He also served as wartime Director, Joint Operations Center for U.S. Pacific Command, and Assistant Director of Technology and Information Management for Naval Logistics in the Pentagon, with responsibility for InfoSec, public key infrastructure, and Internet security. Captain Hardy was awarded the Defense Superior Service Medal, the Legion of Merit, five Meritorious Service Medals, and 24 other medals and decorations. A graduate of Northwestern University, he has bachelor's degrees in computer science and mathematics, and master's degrees in business administration and strategic studies, along with the GSLC, CISSP, CISM, and CISA certifications. @g_mark

ICS410:
ICS/SCADA Security Essentials

SANS

Five-Day Program
Mon, Jan 9- Fri, Jan 13
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: Paul A. Henry

www.giac.org/gicsp

SANS Technology Institute
www.sans.edu

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

Who Should Attend

The course is designed for the range of individuals who work in, interact with, or can affect industrial control system environments, including asset owners, vendors, integrators, and other third parties. These personnel primarily come from four domains:

- IT (includes operational technology support)
- IT security (includes operational technology security)
- Engineering
- Corporate, industry, and professional standards

SANS has joined forces with industry leaders to equip security professionals and control system engineers with the cybersecurity skills they need to defend national critical infrastructure. **ICS410: ICS/SCADA Security Essentials** provides a foundational set of standardized skills and knowledge for industrial cybersecurity professionals. The course is designed to ensure that the workforce involved in supporting and defending industrial control systems is trained to keep the operational environment safe, secure, and resilient against current and emerging cyber threats.

The course will provide you with:

- An understanding of industrial control system components, purposes, deployments, significant drivers, and constraints
- Hands-on lab learning experiences to control system attack surfaces, methods, and tools
- Control system approaches to system and network defense architectures and techniques
- Incident-response skills in a control system environment
- Governance models and resources for industrial cybersecurity professionals

When examining the greatest risks and needs in critical infrastructure sectors, the course authors looked carefully at the core security principles necessary for the range of tasks involved in supporting control systems on a daily basis. While other courses are available for higher-level security practitioners who need to develop specific skills such as industrial control system penetration testing, vulnerability analysis, malware analysis, forensics, secure coding, and red team training, most of these courses do not focus on the people who operate, manage, design, implement, monitor, and integrate critical infrastructure production control systems.

"Paul Henry is an excellent instructor who presents large volumes of information effectively. He augments course content with valuable experience from his application of the tools and techniques." -Rowley Molina, Altria

With the dynamic nature of industrial control systems, many engineers do not fully understand the features and risks of many devices. In addition, IT support personnel who provide the communications paths and network defenses do not always grasp the systems' operational drivers and constraints. This course is designed to help traditional IT personnel fully understand the design principles underlying control systems and how to support those systems in a manner that ensures availability and integrity. In parallel, the course addresses the need for control system engineers and operators to better understand the important role they play in cybersecurity.

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

ICS515:
ICS Active Defense and Incident Response

SANS

Five-Day Program
Mon, Jan 9- Fri, Jan 13
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: Robert M. Lee

BUNDLE ONDEMAND
WITH THIS COURSE
www.sans.org/ondemand

"This course provides contemporary ICS security perspective on active defense and response, and a high value student interaction and best practice sharing. This was an enriching learning experience."
-FRED H., U.S. NAVY

"Robert did a great job, very personable, and easy to talk with in class and after class. The labs were awesome, and I learned more by encountering the problem and working through it."
-ROB CANTU, DOE

ICS515: ICS Active Defense and Incident Response will help you deconstruct cyber attacks on industrial control systems (ICS), leverage an active defense to identify and counter threats in your ICS, and use incident response procedures to maintain the safety and reliability of operations. This course will empower students to understand their networked ICS environment, monitor it for threats, perform incident response against identified threats, and learn from interactions with the adversary to enhance network security. This process of monitoring, responding to, and learning from threats internal to the network is known as active defense. An active defense is the approach needed to counter advanced adversaries targeting ICS, as has been seen with malware such as Stuxnet, Havex, and BlackEnergy2. Students can expect to come out of this course with the ability to deconstruct targeted ICS attacks and fight these adversaries and others. The course uses a hands-on approach and real-world malware to break down cyber attacks on ICS from start to finish. Students will gain a practical and technical understanding of leveraging active defense concepts such as using threat intelligence, performing network security monitoring, and utilizing malware analysis and incident response to ensure the safety and reliability of operations. The strategy and technical skills presented in this course serve as a basis for ICS organizations looking to show that defense is do-able.

Who Should Attend

- ICS incident response team leads and members
- ICS and operations technology security personnel
- IT security professionals
- Security Operations Center (SOC) team leads and analysts
- ICS red team and penetration testers
- Active defenders

You Will Be Able To

- Examine ICS networks and identify the assets and their data flows in order to understand the network baseline information needed to identify advanced threats
- Use active defense concepts such as threat intelligence analysis, network security monitoring, malware analysis, and incident response to safeguard the ICS
- Build your own Programmable Logic Controller using a CYBATIworks Kit and keep it after the class ends
- Gain hands-on experience with samples of Havex, BlackEnergy2, and Stuxnet through engaging labs while de-constructing these threats and others
- Leverage technical tools such as Shodan, Security Onion, TCPDump, NetworkMiner, Foremost, Wireshark, Snort, Bro, SGUIL, ELSA, Volatility, Redline, FTK Imager, PDF analyzers, malware sandboxes, and more
- Create indicators of compromise (IOCs) in OpenIOC and YARA while understanding sharing standards such as STIX and TAXII
- Take advantage of models such as the Sliding Scale of Cybersecurity, the Active Cyber Defense Cycle, and the ICS Cyber Kill Chain to extract information from threats and use it to encourage the long-term success of ICS network security

Robert M. Lee *SANS Certified Instructor*

Robert M. Lee is the CEO and founder of the critical infrastructure cybersecurity company Dragos Security LLC, where he has a passion for control system traffic analysis, incident response, and threat intelligence research. He is the course author of SANS ICS515: Active Defense and Incident Response and the co-author of SANS FOR578: Cyber Threat Intelligence. Robert is also a non-resident National Cyber Security Fellow at New America focusing on policy issues relating to the cybersecurity of critical infrastructure and a PhD candidate at Kings College London. For his research and focus areas, he was named one of Passcode's Influencers and awarded EnergySec's 2015 Cyber Security Professional of the Year. Robert obtained his start in cybersecurity in the U.S. Air Force, where he served as a Cyber Warfare Operations Officer. He has performed defense, intelligence, and attack missions in various government organizations, including the establishment of a first-of-its-kind ICS/SCADA cyber threat intelligence and intrusion analysis mission. Robert routinely writes articles in publications such as *Control Engineering* and the *Christian Science Monitor's Passcode* and speaks at conferences around the world. He is also the author of *SCADA and Me* and the weekly web-comic (www.LittleBobbyComic.com) @RobertMLee

SANS@NIGHT EVENING TALKS

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:

The Current Reality: Defending a Compromised Network

Dr. Eric Cole

Designing and securing a network is very complex. With detailed requirements to support all of the latest devices, mobile computing, cloud services and the portability requirements of data, current networks are very porous, very difficult to secure and very compromised. When people hear about networks being compromised, they should not be surprised. Networks directly connected to the Internet are compromised and should be the new baseline for designing and building out security. The question that has to be answered is how to implement security based on the assumption that security is more than just setting up and protecting perimeters. In this talk, Dr. Cole will share real-life examples of security solutions that work to protect current environments that might already be compromised. Attendees will learn how to drive this new thought process into decision-makers and solutions covering data protection, network design and network monitoring. The focus of security is not on preventing a compromise, but on controlling the amount of damage caused by a compromise, which is done by focusing in on dwell time and lateral movement.

Simplifying Risk Management: A Practical Approach to Security Intelligence

James Tarala

Simply put, people make risk management too difficult. Yes, there are competing security control frameworks and more threats discovered every day, but that does not mean that it has to be difficult to defend an enterprise. Blueprints are freely available to organizations that want to catalog threats, define security controls, and then present security capabilities to executive leadership. In this presentation, James Tarala will demonstrate the risk management models that are freely available to organizations and explain practical tips for implementing a thorough security architecture. He will also show how these models can be used to automate security intelligence to show executive leadership precisely what risk their organization is accepting. No matter what phase of maturity your organization is in with regard to security intelligence, you will leave this presentation with a specific framework and action items to put security intelligence in the hands of business leaders who can act on the threat.

Actionable Detects: Blue Team Cyber Defense Tactics

Seth Misenar

Organizations relying on third parties to detect breaches can go almost a full year before finding out they have been compromised. Detect the breach yourself, and on average you will find it within about a month of the initial occurrence. Considering detection and defense against modern adversaries too costly to perform yourself can be a very expensive miscalculation considering the substantially increased price of response and recovery with breach duration. Seth Misenar's ever evolving, Actionable Detects, provides you thoughts, tactics, techniques, and procedures to once again take pride in your Blue Team Cyber capabilities. Not applying these lessons learned could prove costly in the face of adapting threat actors. Dig in and learn to hold your head high when talking about your defensive cyber operations capabilities.

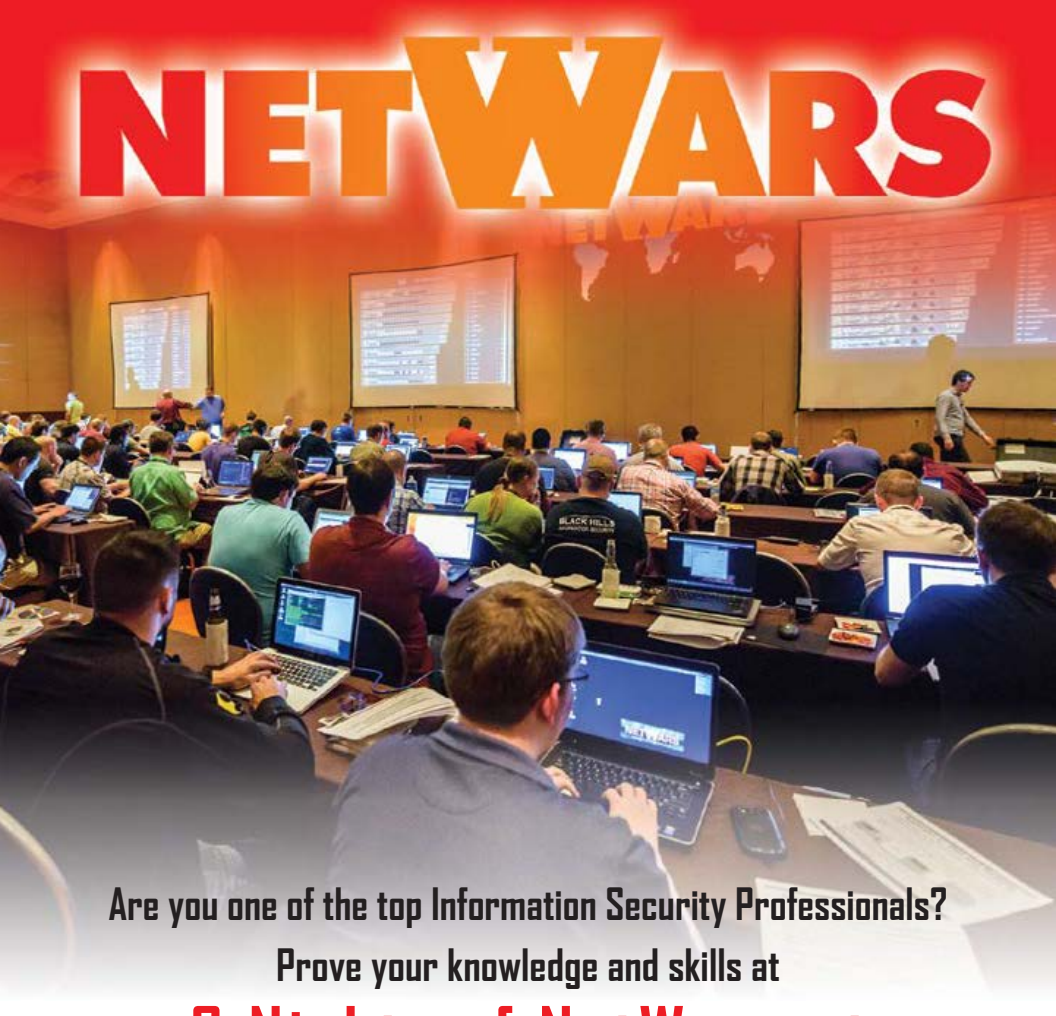
Infosec Potpourri — *Jake Williams*

At the time this brochure went to print, Jake, like everyone in the industry, lacked a crystal ball to know what would be hot, hip, and happening in InfoSec. But odds are good that something completely awesome has happened in the last few weeks that we can get together and talk about in depth. And if nothing interesting is happening in the field, Jake and his company are constantly doing exciting research in DFIR and offensive methodologies that he would love to share with you. One thing is for sure, you won't be bored. So bring an adult beverage and come unwind after a long day of class and learn something hip and new.

HTTPDeux — *Adrien de Beaupre*

This talk will discuss the relatively newly approved and published HTTP/2 protocol. The agenda will include reasons why the new protocol was developed, how it is implemented, tools that can use it, and challenges it presents to penetration testers.

NETWARS



Are you one of the top Information Security Professionals?
Prove your knowledge and skills at

2 Nights of NetWars at SANS Security East 2017!

THU, JAN 12 – FRI, JAN 13 6:30-9:30 PM

Come and join us for this exciting event to test your skills in a challenging and fun learning environment. Registration for NetWars is **FREE OF CHARGE TO ALL STUDENTS AT SANS SECURITY EAST 2017**. External participants are welcome to join for an entry fee of $1,520.

SANS NetWars is a dynamic cyber range that allows participants to build, practice, and measure their skills in a real-world environment using defensive, analytic, and offensive tactics. We designed NetWars to appeal to a wide range of participant skill sets by using a system with different levels.

All players start at Level 1, which measures foundational cybersecurity skills. More skilled players can rise rapidly through the ranks to a level suitable for their skill set – top players can make it to Level 4, and only the best of the best can reach level 5.

www.sans.org/security-east-2017

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 Certification

- Distinguish yourself as an information security leader
- 30+ GIAC certifications to choose from
- 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.

Department of Defense Directive 8140

(DoDD 8570)

Department of Defense Directive 8570 has been replaced by the DoD CIO and is now DoDD 8140. DoDD 8570 is now part of a larger initiative that falls under the guidelines of DoDD 8140. DoDD 8140 provides guidance and procedures for the training, certification, and management of all government employees who conduct Information Assurance functions in assigned duty positions. These individuals are required to carry an approved certification for their particular job classification. GIAC certifications are among those required for Technical, Management, CND, and IASAE classifications.

Compliance/ Recertification:

To stay compliant with DoDD 8140 requirements, you must maintain your certifications. GIAC certifications are renewable every four years. Go to www.giac.org to learn more about certification renewal.

DoD Baseline IA Certifications

IAT Level I	IAT Level II	IAT Level III
A+CE Network+CE SSCP	**GSEC** Security+CE SSCP	**GCED** **GCIH** **CISSP** (or Associate) CISA, CASP

IAM Level I	IAM Level II	IAM Level III
GSLC CAP Security+CE	**GSLC** **CISSP** (or Associate) CAP, CASP CISM	**GSLC** **CISSP** (or Associate) CISM

Computer Network Defense (CND) Certifications

CND Analyst	CND Infrastructure Support	CND Incident Responder	CND Auditor	CND Service Provider Manager
GCIA **GCIH** CEH	SSCP CEH	**GCIH** **GCFA** CSIH, CEH	**GSNA** CISA CEH	CISSP - ISSMP CISM

Information Assurance System Architecture & Engineering (IASAE) Certifications

IASAE I	IASAE II	IASAE III
CISSP (or Associate) CASP, CSSCP	**CISSP** (or Associate) CASP, CSSLP	CISSP - ISSEP CISSP - ISSAP

Computer Environment (CE) Certifications

GCWN	**GCUX**

SANS Training Courses for DoDD-Approved Certifications

SANS TRAINING COURSE		DoDD APPROVED CERT
SEC401	Security Essentials Bootcamp Style	GSEC
SEC501	Advanced Security Essentials – Enterprise Defender	GCED
SEC503	Intrusion Detection In-Depth	GCIA
SEC504	Hacker Tools, Techniques, Exploits, and Incident Handling	GCIH
SEC505	Securing Windows and PowerShell Automation	GCWN
SEC506	Securing Linux/Unix	GCUX
AUD507	Auditing & Monitoring Networks, Perimeters, and Systems	GSNA
FOR508	Advanced Incident Response and Threat Hunting	GCFA
MGT414	SANS Training Program for CISSP® Certification	CISSP
MGT512	SANS Security Leadership Essentials for Managers with Knowledge Compression™	GSLC

SANS TRAINING FORMATS

LIVE CLASSROOM TRAINING

Multi-Course Training Events www.sans.org/security-training/by-location/all
Live Instruction from SANS' Top Faculty, Vendor Showcase, Bonus Evening Sessions, and Networking with Your Peers

Community SANS www.sans.org/community
Live Training in Your Local Region with Smaller Class Sizes

Private Training www.sans.org/private-training
Live Onsite Training at Your Office Location. Both In-person and Online Options Available

Mentor www.sans.org/mentor
Live Multi-Week Training with a Mentor

Summit www.sans.org/summit
Live IT Security Summits and Training

ONLINE TRAINING

OnDemand www.sans.org/ondemand
E-learning Available Anytime, Anywhere, at Your Own Pace

vLive www.sans.org/vlive
Online Evening Courses with SANS' Top Instructors

Simulcast www.sans.org/simulcast
Attend a SANS Training Event without Leaving Home

OnDemand Bundles www.sans.org/ondemand/bundles
Extend Your Training with an OnDemand Bundle Including Four Months of E-learning

FUTURE SANS TRAINING EVENTS

NORTHERN VIRGINIA
Tysons Corner 2016
Tysons Corner, VA | Oct 22-29

San Diego 2016
San Diego, CA | Oct 23-28

Pen Test HackFest
SUMMIT & TRAINING 2016
Crystal City, VA | Nov 2-9

Miami 2016
Miami, FL | Nov 7-12

Healthcare Cybersecurity
SUMMIT & TRAINING 2016
Houston, TX | Nov 14-21

San Francisco 2016
San Francisco, CA | Nov 27 - Dec 2

Cyber Defense Initiative 2016
Washington, DC | Dec 10-17

Las Vegas 2017
Las Vegas, NV | Jan 23-30

Cyber Threat Intelligence
SUMMIT & TRAINING 2017
Arlington, VA | Jan 25 - Feb 1

SOUTHERN CALIFORNIA
Anaheim 2017
Anaheim, CA | Feb 6-11

Scottsdale 2017
Scottsdale, AZ | Feb 20-25

Dallas 2017
Dallas, TX | Feb 27 - Mar 4

San Jose 2017
San Jose, CA | Mar 6-11

NORTHERN VIRGINIA
Tysons Corner Spring 2017
Tysons Corner, VA | Mar 20-25

Information on all events can be found at
www.sans.org/security-training/by-location/all

SANS SECURITY EAST 2017

Hotel Information

Training Campus

Hilton New Orleans Riverside

Two Poydras Street
New Orleans, LA 70130
504-561-0500
www.sans.org/event/security-east-2017/location

Stay in the center of it all at Hilton New Orleans Riverside and enjoy a prime downtown location at the base of Canal and Poydras Streets. Our riverfront hotel is ideally situated next to Harrah's Casino, steps from famous New Orleans Streetcar lines, and a short four-block walk away from the French Quarter, as well as many other iconic landmarks. This downtown New Orleans hotel is also adjacent to the Cruise Terminal, for cruise enthusiasts.

Special Hotel Rates Available

A special discounted rate of $204.00 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 Dec 16, 2016.

Top 5 reasons to stay at the Hilton New Orleans Riverside

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 New Orleans Riverside, 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 New Orleans Riverside that you won't want to miss!
5. Everything is in one convenient location!

SANS SECURITY EAST 2017

Registration Information

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

Register online at www.sans.org/security-east-2017

Select your course or courses 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.

Use code **EarlyBird17** when registering early

Pay Early and Save

	DATE	DISCOUNT	DATE	DISCOUNT
Pay & enter code before	**11-16-16**	**$400.00**	**12-7-16**	**$200.00**

Some restrictions apply.

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

You may substitute another person in your place at any time, at no charge, by e-mail: registration@sans.org or fax: 301-951-0140. Cancellation requests without substitution must be submitted in writing, by mail, or fax, and postmarked by December 21, 2016 – processing fees may apply.