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

SANS San Francisco SUMMER 2017

June 5-10

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

INFORMATION SECURITY TRAINING

TAUGHT BY REAL-WORLD PRACTITIONERS

Six courses in:

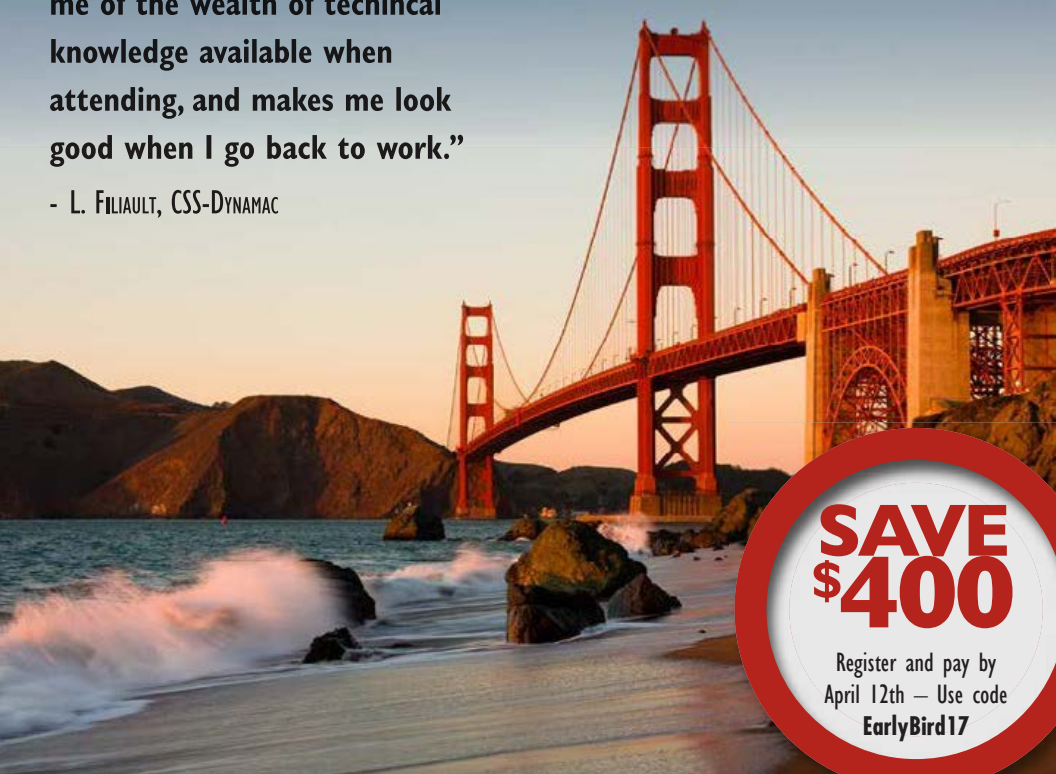
CYBER DEFENSE
INCIDENT HANDLING
DIGITAL FORENSICS
CYBER THREAT INTELLIGENCE
DETECTION & MONITORING
SECURITY LEADERSHIP

GIAC CERTIFICATIONS

GIAC-Approved Training

"I love coming to SANS, it reminds me of the wealth of techincal knowledge available when attending, and makes me look good when I go back to work."

- L. Filiault, CSS-Dynamac



SAVE $400

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

www.sans.org/san-francisco

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 Summer 2017 lineup of instructors includes:

Matt Edmondson
Instructor
@matt0177

Frank Kim
Certified Instructor
@fykim

Keith Palmgren
Senior Instructor
@kpalmgren

Dave Shackleford
Senior Instructor
@phenrycissp

Alissa Torres
Certified Instructor
@sibertor

Jake Williams
Certified Instructor
@MalwareJake

Evening Bonus Sessions

Take advantage of these extra evening presentations and add more value to your training. Learn more on page 8.

KEYNOTE:

"Stop Hitting Yourself" – Common Mistakes in Security Operations
Jake Williams

Python for OSINT Domination
Matt Edmondson

Prioritizing Your Security Program
Keith Palmgren

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Courses at a Glance

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 justify 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? Place the particular course you wish to take into the context on the SANS career roadmap. 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, and not a once-and-done item.
- Take a GIAC Certification exam to prove the training worked. Employers value the validation of learning that passing a GIAC exam offers. Exams are psychometrically designed to establish competency for related job tasks.
- Consider offering trade-offs for the investment. Many professionals build annual training expense into their employment agreements even before joining a company. Some offer to stay for a year after they complete the training.

SEC301:

Intro to Information Security

SANS

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

www.giac.org/gisf

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www.sans.org/ondemand

"Excellent course for someone who is looking to become a security engineer or to improve existing IT security practices."
-Ansar Khalil, HomeStreet Bank

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

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: Intro 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 an educational genius to have me grasping HEX and BIN in twenty minutes!"
-Lisa Bruere, LMI Aerospace Inc.

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, June 5 - Sat, June 10
9:00am - 7:00pm (Days 1-5)
9:00am - 5:00pm (Day 6)
46 CPEs
Laptop Required
Instructor: Dave Shackleford

This course will teach you the most effective steps to prevent attacks and detect adversaries with actionable techniques that you can directly apply when you get back to work. You'll 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*!

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

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.

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www.sans.org/8140

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"Everyone in cyber should attend this course because it covers many aspects of security and emerging trends."
-Pamela Livingston-Spruill, DOE/NNSA

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 coauthored 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

SEC504:

Hacker Tools, Techniques, Exploits, and Incident Handling

SANS

Six-Day Program
Mon, June 5 - Sat, June 10
9:00am - 7:15pm (Day 1)
9:00am - 5:00pm (Days 2-6)
37 CPEs
Laptop Required
Instructor: Matt Edmondson

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

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.**

"The instructor's depth of knowledge, his attitude, and his communications skills are phenomenal." -Greg Witt, ICBC

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 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.**

"This is the real deal. This is real-world stuff that we can implement in our environments tomorrow." -Garrett Bemis, Pacific Northwest National Laboratory

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Matt Edmondson *SANS Instructor*

Matt performs technical duties for the U.S. government and is a Principal at Argelius Labs, where he performs security assessments and consulting work. Matt's extensive experience with digital forensics includes conducting numerous examinations and testifying as an expert witness on multiple occasions. A recognized expert in his field with a knack for communicating complicated technical issues to non-technical personnel, Matt routinely provides cybersecurity instruction to individuals from the Department of Defense, Department of Justice, Department of Homeland Security, Department of Interior, as well as other agencies, and has spoken frequently at information security conferences and meetings. Matt is a member of the SANS Advisory Board and holds 11 GIAC certifications, including the GREM, GCFA, GPEN, GCIH, GWAPT, GMOB and GCIA. In addition, Matt holds the Offensive Security Certified Professional (OSCP) certification. @matt0177

FOR408:
Windows Forensic Analysis

SANS

Six-Day Program
Mon, June 5 - Sat, June 10
9:00am - 5:00pm
36 CPEs
Laptop Required
Instructor: Alissa Torres

Master Windows Forensics – You can't protect what you don't know about.

Every organization must prepare for cyber crime occurring on its computer systems and within its networks. Demand has never been greater for analysts who can investigate crimes like fraud, insider threats, industrial espionage, employee misuse, and computer intrusions. Government agencies increasingly require trained media exploitation specialists to recover key intelligence from Windows systems. To help solve these cases, SANS is training a new cadre of the world's best digital forensic professionals, incident responders, and media exploitation masters capable of piecing together what happened on computer systems second by second.

Who Should Attend

- Information security professionals
- Incident response team members
- Law enforcement officers, federal agents, and detectives
- Media exploitation analysts
- Anyone interested in a deep understanding of Windows forensics

www.giac.org/gcfe

"The Windows registry forensic section blew my mind! I didn't think it stored that much information." -Tung Nguyen, Denver Water

FOR408: Windows Forensic Analysis focuses on building in-depth digital forensics knowledge of the Microsoft Windows operating systems. You can't protect what you don't know about, and understanding forensic capabilities and artifacts is a core component of information security. Learn to recover, analyze, and authenticate forensic data on Windows systems. Understand how to track detailed user activity on your network and how to organize findings for use in incident response, internal investigations, and civil/criminal litigation. Use your new skills for validating security tools, enhancing vulnerability assessments, identifying insider threats, tracking hackers, and improving security policies. Whether you know it or not, Windows is silently recording an unimaginable amount of data about you and your users. FOR408 teaches you how to mine this mountain of data.

www.sans.edu

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with this course
www.sans.org/ondemand

Proper analysis requires real data for students to examine. The completely updated FOR408 course trains digital forensic analysts through a series of new hands-on laboratory exercises that incorporate evidence found on the latest Microsoft technologies (Windows 7/8/10, Office and Office365, cloud storage, Sharepoint, Exchange, Outlook). Students leave the course armed with the latest tools and techniques to investigate even the most complicated systems they might encounter. Nothing is left out – attendees learn to analyze everything from legacy Windows XP systems to just-discovered Windows 10 artifacts.

"The methods taught and the tools introduced will be very beneficial to me as an analyst performing examinations."
-Joseph Selph, IBM

FIGHT CRIME. UNRAVEL INCIDENTS...ONE BYTE AT A TIME

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, June 5 - Fri, June 9
9:00am - 5:00pm
30 CPEs
Laptop Required
Instructor: Jake Williams

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.

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

▶II **BUNDLE ONDEMAND** WITH THIS COURSE
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"Outstanding course material and instructor presentation! It truly drills into the analytic process, while remaining technical. I highly recommend this course to anyone performing any level of intelligence support to defensive cyber operations."
-Thomas L., U.S. Air Force

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!

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. He often develops custom tools to deal with specific incidents and malware reversing challenges. Additionally, Jake performs exploit development and has privately disclosed a multitude of zero day exploits to vendors and clients. He found vulnerabilities in one of the state counterparts to healthcare.gov and recently exploited antivirus software to perform privilege escalation. Jake developed Dropsmack, a pentesting tool (okay, malware) that performs command and control and data exfiltration over cloud file sharing services. Jake also developed an anti-forensics tool for memory forensics, Attention Deficit Disorder, that demonstrated weaknesses in memory forensics techniques. @MalwareJake

MGT514:

IT Security Strategic Planning, Policy, and Leadership

SANS

Five-Day Program
Mon, June 5 - Fri, June 9
9:00am - 5:00pm
30 CPEs
Laptop NOT Needed
Instructor: Frank Kim

GIAC

CERTIFICATION COMING SOON!

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"This course is the Rosetta Stone between an MBA and a career in cyber."
-LIVINGSTON, DELOITTE

"I moved into management a few years ago and am currently working on a new security strategy/ roadmap and this class just condensed the past two months of my life into a one week course and I still learned a lot!"
-TRAVIS EVANS, SIRIUSXM

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.

Frank Kim *SANS Certified Instructor*

As CISO at the SANS Institute, Frank leads the security risk function for the most trusted source of computer security training, certification, and research in the world. He also helps shape, develop, and support the next generation of security leaders by teaching, developing courseware, and leading the management and software security curricula. Prior to the SANS Institute, Frank was Executive Director of Cyber Security at Kaiser Permanente with responsibility for delivering innovative security solutions to meet the unique needs of the nation's largest not-for-profit health plan and integrated health care provider with annual revenue of $55 billion, 9.5 million members, and 175,000 employees. In recognition of his work, Frank was a two-time recipient of the CIO Achievement Award for business-enabling thought leadership. Frank holds degrees from the University of California at Berkeley and is the author of popular SANS courseware on strategic planning, leadership, and application security. @fykim

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:

"Stop Hitting Yourself" – Common Mistakes in Security Operations

Jake Williams

Ever work in a security operation where it felt like you were constantly shooting yourself in the foot? I have, and I can't help but think of siblings torturing one another while saying "stop hitting yourself." But that's what we deal with regularly in Infosec. Whether we realize it or not, we utilize intelligence in security operations every day – whether in incident response, intrusion detection, or hunt team operations. However, many in security are not formally trained in intelligence operations and don't properly understand gain/loss calculations. This lack of understanding leads to mistakes in how intelligence is used, often exposing our sensitive collection to the adversary and adversely impacting security operations. In this session, you will learn about how to maximize the value of your intelligence using real world case studies. Armed with the knowledge of how to better use intelligence for security operations, you'll take your security operations to a whole new level.

Python for OSINT Domination

Matt Edmondson

In just about every engagement, the first step is reconnaissance and information gathering. There can be an overwhelming amount of information out there and anything you can do to automate the process of acquiring and analyzing it will make your life a lot easier. This presentation will start with simple data mining techniques where APIs and basic scraping can be utilized, before addressing possible challenges to an automated approach, such as sites that require user interaction to login, click buttons, scroll down, etc. Working proof of concept code will be provided for all of the topics discussed.

Prioritizing Your Security Program

Keith Palmgren

Building a cybersecurity program is easy. Building a cybersecurity program that is effective is seriously hard! When faced with a seemingly insurmountable task, prioritization is vital. Investing time and money in the right place at the right time is the difference between success and being the next cyberbreach headline. Whether you are new to cybersecurity or an old hand, you may feel lost in the storm. If so, this talk is for you. Cybersecurity's five historic and current pitfalls that prevent organizations from building an effective IT Security platform will be discussed: poor passwords, vulnerabilities, malware/crimeware, insider threat, and mismanagement. To build that effective cybersecurity platform in today's ever-changing information technology environment, organizations must prioritize and focus on five critical security principles that address those pitfalls and look at those principles in new and different ways. The Principle of Least Privilege; Authentication, Authorization, & Accountability (AAA); Confidentiality, Integrity, and Availability (CIA); Policy, Procedure, and Training (PPT); Hardening, Patching, and Monitoring (HPM); and Protect, Detect, and Respond (PDR). Every organization needs a cybersecurity strategy. An effective strategy requires that you understand the problems as well as the solutions to those problems. Only then can you prioritize your limited cybersecurity resources. Managers and technicians alike will gain valuable insight in this non-technical talk.

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

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-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 SECURING THE HUMAN

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Computer-based Training for Your Employees

End User
CIP v5
ICS Engineers
Developers
Healthcare

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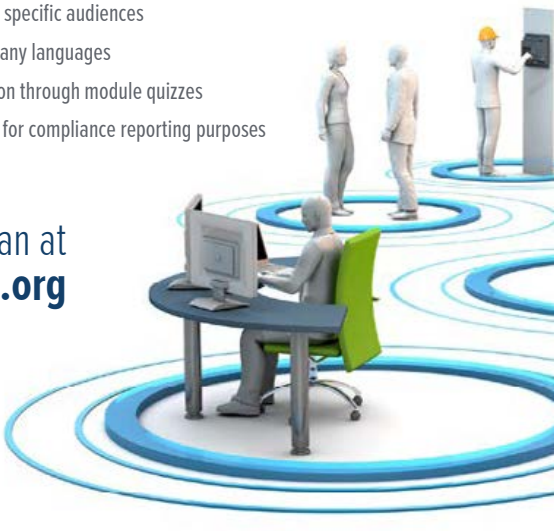
- Tailor modules to address specific audiences
- Courses translated into many languages
- Test learner comprehension through module quizzes
- Track training completion for compliance reporting purposes



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SANS Technology Institute

The SANS Technology Institute transforms the world's best cybersecurity training and certifications into a comprehensive and rigorous graduate education experience.

Master's Degree Programs:

- M.S. in Information Security Engineering
- M.S. in Information Security Management

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- Cybersecurity Engineering (Core)
- Cyber Defense Operations
- Penetration Testing and Ethical Hacking
- Incident Response

SANS Technology Institute, an independent subsidiary of SANS, is accredited by The Middle States Commission on Higher Education.
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an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

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GIAC CERTIFICATIONS

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More information about education benefits offered by VA is available at the official U.S. government website at www.benefits.va.gov/gibill.

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 deliver SANS' top instructors teaching multiple courses at a single time and location, allowing

- Focused, immersive learning without the distractions of your office environment
- Direct access to SANS Certified Instructors
- Interactions and learning from other professionals
- @Night events, NetWars, Vendor presentations, industry receptions, and many other benefits

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 97 for upcoming Training Events in North America.

Summits

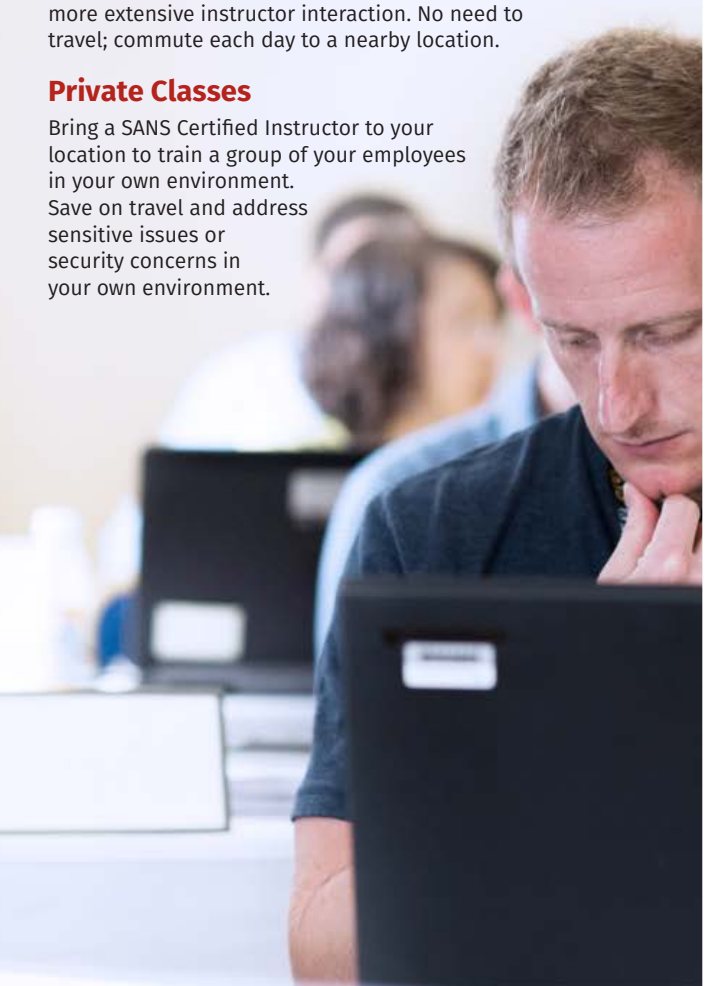
SANS Summits focus one or two days on a single topic of particular interest to the community. Speakers and talks are curated to ensure the greatest applicability to participants.

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 each year and frequently achieve certification.

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.

"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

Tysons Corner Spring	McLean, VA	March 20-25
Pen Test Austin	Austin, TX	March 27 - April 1

Baltimore Spring	Baltimore, MD	April 24-29

Northern Virginia – Reston	Reston, VA	May 21-26
Atlanta	Atlanta, GA	May 30 - June 4
Houston	Houston, TX	June 5-10
San Francisco Summer	San Francisco, CA	June 5-10
Rocky Mountain	Denver, CO	June 12-17
Charlotte	Charlotte, NC	June 12-17
Minneapolis	Minneapolis, MN	June 19-24
Columbia	Columbia, MD	June 26 - July 1
Los Angeles – Long Beach	Long Beach, CA	July 10-15

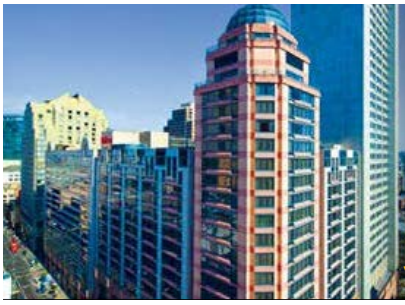
San Antonio	San Antonio, TX	Aug 6-11
Boston	Boston, MA	Aug 7-12
New York City	New York, NY	Aug 14-19
Salt Lake City	Salt Lake City, UT	Aug 14-19
Chicago	Chicago, IL	Aug 21-26
Virginia Beach	Virginia Beach, VA	Aug 21 - Sep 1
Tampa - Clearwater	Clearwater, FL	Sep 5-10
San Francisco Fall	San Francisco,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

Future Summit Events

ICS Security	Orlando, FL	March 19-27
Threat Hunting and IR	New Orleans, LA	April 18-25
Automotive Cybersecurity	Detroit, MI	May 1-8
Security Operations Center	Washington, DC	June 5-12
Digital Forensics	Austin, TX	June 22-29
ICS & Energy	Houston, TX	July 10-14
Security Awareness	Nashville, TN	July 31 - Aug 9

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.



SANS SAN FRANCISCO SUMMER 2017

Hotel Information

Training Campus

Hilton San Francisco Union Square

333 O'Farrell Street
San Francisco, CA 94102
www.sans.org/event/san-francisco-summer-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.
Should the prevailing government per diem rate fall below the SANS group rate, government per diem rooms will be made 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 May 12, 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!

SANS SAN FRANCISCO SUMMER 2017

Registration Information

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

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

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.

Use code **EarlyBird17** when registering early

Pay Early and Save*

	DATE	DISCOUNT	DATE	DISCOUNT
Pay & enter code before	**4-12-17**	**$400.00**	**5-3-17**	**$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

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 May 17, 2017 – processing fees may 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