



Air Combat Command's
Cyberspace Dominance and Information Directorate

Cyber Training Reference Guide

Developed by ACC/A6XX

Table of Contents

Getting Started	3
Goal:	3
Sections:	3
Desire:	3
Responsibility:	3
SECTION 1	4
DEPARTMENT of DEFENSE Training	4
AF eLearning:	4
FedVTE:	4
The Cyber Operations Fundamentals Course (COFC):	4
Keesler AFB Q-Flight Resources:	5
DoD Cyber Exchange:	5
DoD MWR Library:	5
DC3 Cyber Training Academy:	5
Defense Acquisition University (DAU):	6
MDT Training Library	6
SECTION 2	7
Commercial Resources	7
CYBER DEFENSE EXERCISE MITRE ATT&CK:	7
CyberForce:	7
Commercial Cloud Services (C2S) Online training modules	7
Professor Messer	7
Linux/Bash Challenges:	7
PowerShell Challenges:	8
Coding Challenges:	8
Crypto Exercises:	8
Hacking Challenges:	8
Reverse Engineering malware	8
Elastic Stack basics:	8
BrightTALK:	8
Section 3	9
Broad Educational Resources	9
Coursera and EdX:	9
Cybrary:	9
FreeCodeCamp:	9
CLEPS/DANTES	9
AFIT Distance Learning Programs	9
Defense Civilian Intelligence Personnel System:	9
Department of Labor:	10
Defense Intelligence Agency	10
DoD Intelligence Training & Education Board:	10
ERIC - Institute of Education Sciences Education Resources Information Center	10
The Griffin	10
Human Resources University:	10
Joint Knowledge Online:	10
Joint Training Deputy Directorate Program Management	10
Lab Life: Via the AF Portal:	10
National Defense University	11
National Intelligence University:	11
Naval Education and Training Command:	11
NSSI Space Fundamentals Distance Learning Program:	11
SkillPath:	11
Training Opportunities for Federal Employees:	11
United Services Military Apprenticeship Program	11

Getting Started

Goal:

This document is being built in response to the COVID-19 virus to allow Total Force Airmen an opportunity to continue to train and grow personally and professionally during these unprecedented times. We hope it serves as a living document of resources that can grow and develop as members explore what is contained within. This document is not a limitation list for remote development, it is only a starting place. As you uncover resources and collaborate, pool those opportunities together for your wing!

This compilation of resources has been gathered from members around the MAJCOM, peer-networks around the Air Force & DOD, and by way of lessons learned from professionals who have discovered resources that exist in the open source environment. Leverage the sources contained within as we work to remain the flexible and agile force that we are!

Sections:

At this time, this document is broken down into 3 main sections. This document is expected to develop overtime through an iterative approach.

Section 1:

This section provides Department of Defense (DoD) hosted training resources

Section 2:

This section is catered to commercial training resources.

Section 3:

This section provides additional Broad Educational Resources

Desire:

We hope that these resources serve to enrich your time while we all adjust to this pandemic and continues to serve Airmen in the future. With that in mind:

- Provide us with feedback or resources you think add value to ACC/A6 EFMT <accscefmt@us.af.mil>
- Do not limit yourself to just what is contained in the 4 corners of this document; explore!

Responsibility:

Some resources are CAC-enabled, and some are front-facing, open internet accessible. Please be cognizant of your online footprint, and always practice safe cybersecurity hygiene.

SECTION 1
DEPARTMENT of DEFENSE Training

Both sites provide multiple training CBTs across a plethora of subjects that pertain to honing a Cyber Airmen's technical competence. These trainings are self-paced and allow for flexibility in a members schedule to successfully complete. Additionally, when completed, Airmen can earn Continuing Education Units (CEUs) towards their 8570 certification renewals.

AF eLearning:

<https://usafprod.skillport.com/skillportfe/custom/login/usaf/seamlesslogin.action>) which provides information technology resources to enhance personal and professional knowledge and improve network security. Also, numerous assets to support supervisory, management, leadership, along with personal growth training and education. This is the go-to site for Cyber Airman looking to access free resources that expand their skillsets and gives them access to relevant tools, resources, references and more that will allow them to prepare themselves to master their craft and adapt themselves to whatever technical challenges they may face.

FedVTE: (<https://fedvte.usalearning.gov/>) an online and on-demand cybersecurity training system. With courses ranging from beginner to advanced levels, strengthen or build your expertise and cybersecurity skillsets

Listing of approved content for 8570 Credit

<https://www.comptia.org/docs/default-source/continuing-ed/ce-training-skillsoft.pdf>
<https://certification.comptia.org/docs/default-source/downloadablefiles/fedvtetraining-v5.pdf>

The Cyber Operations Fundamentals Course (COFC): (<https://learn.229cos.org/login/index.php>) Also known as Cyber 100, is designed to give students from multiple AFSCs a foundational knowledge of Network Warfare Operations. The material in COFC covers fundamental knowledge of the technology that comprises the cyber domain, methods for conducting Network Warfare Operations (NW Ops), and the Joint and USAF organizations tasked with Network Ops missions. The course is approximately 40 hours based on individual experience and knowledge. The course is Self-paced and you are allotted 40 calendar days to complete the course. After completion, this course will count towards 40 hours of a member's 8570 Continuing Education Units.

Keesler AFB Q-Flight Resources: (<https://cs2.eis.af.mil/sites/10445/default.aspx>)

The Q-Flight SharePoint Site: has all the 3D CFETP's listed that expands into other skillsets that are not required for 3D jobs (optional tasks), but members can focus on tasks they'd like to pursue or the unit will benefit from. Members should then keep copies of the completion certificates so that CFETP tasks can be added to a member's electronic training record and signed off by their trainer/supervisor if the training satisfies the tasks.

DoD Cyber Exchange: (Public site - <https://public.cyber.mil/> or CAC enabled site - <https://cyber.mil>) Provides one-stop access to Cyber information, policy, guidance and training for cyber professionals throughout the DoD. Formerly the Information Assurance Support Environment (IASE), some portions of the site are also available to the remainder of the Federal Government and the general public. These resources are provided to enable the user to comply with rules, regulations, best practices and federal laws. DISA is mandated to support and sustain the DoD Cyber Exchange as directed by DoDI 8500.01 and DODD 8140.01

DoD MWR Library: (<https://www.safaribooksonline.com/self-registration/dod-mwr-libraries-air-force/>) Do you want free access to training material for preparing for testing for CCNA/CISSP/AWS/MCSA/PMP/COMPTIA or multiple other certification tracks? Check out the DoDs MWR libraries. Member can create an account that gives them access to thousands of free resources that traditionally would cost hundreds of dollars to access otherwise. Some of these resources include access to commercial websites and test simulators that can help Cyber Airman prepare to earn Industry standard certifications.

DC3 Cyber Training Academy: (<https://www.dcita.edu/>)

Students can attend in-residence courses at the new DC3 Cyber Training Academy. Online training is delivered on the Academy portal, where students can access an array of educational resources, tools and technologies. From computer hardware fundamentals to advanced forensic concepts, the DC3 Cyber Training Academy provides students with the skills needed to meet mission goals in the cyber environment. The training prepares DOD personnel in cyber-force specialty areas with the knowledge and expertise to utilize various tools and techniques to investigate, audit, defend, monitor, detect, analyze, and mitigate threats to DOD networks and information technology systems.

Defense Acquisition University (DAU): (<https://www.dau.edu/>) Is a corporate university of the United States Department of Defense offering "acquisition, technology, and logistics" (AT&L) training to military and Federal civilian staff and Federal contractors DAU is headquartered in Fort Belvoir, Virginia, and is accredited by the American Council on Education (ACE), International Association for Continuing Education and Training (IACET) and the Council on Occupational Education (COE). The [Defense Acquisition Workforce Improvement Act](#) (DAWIA) requires Defense Acquisition Workforce members to be certified for the positions they hold. DAU offers training courses for all Defense Acquisition Workforce members in 14 career fields and at three certification levels. DAU Hosts online training that allows members to train on skillsets pertaining to the acquisition and procurement process. Members can obtain a better understanding of the contracting process as well as fund coding and annual budgets. This information is critical for members who begin to rise in the ranks to understand the "Colors of money" and the budgeting cycle that the DoD uses to deliver funding from the highest levels down to the MAJCOMs and then to the units.

MDT Training Library: ([ACC MDT training Library](#)) is a collection of training PDFs provided by the ACC Mission Defense Team

SECTION 2

Commercial Resources

Cyber Defense Exercise MITRE ATT&CK: (<https://attack.mitre.org/resources/training/cti/>) is a globally-accessible knowledge base of adversary tactics and techniques based on real-world observations of cyberattacks. They're displayed in matrices that are arranged by attack stages, from initial system access to data theft or machine control. The training contains five modules that consist of videos and exercises that are linked below. This training was designed to be completed in approximately 4 hours, and may be completed solo or as a team. We recommend you view the video for each module, and when prompted, pause the video to access the exercise documents linked below and complete the exercises, then proceed with viewing the video to go over the exercise.

CyberForce: (<https://portal.cyberforce.site/home>) is a marketplace for cyber training, exercise, and collaboration. It contains multiple courses, labs exercises, quizzes, simulations videos, games and challenges that revolve around a multitude of Cyberspace focused skillsets. Too many different aspects to this site to even mention, your best bet is to log in and check it out...who knows what you'll learn to do.

Commercial Cloud Services (C2S) Online training modules: Enterprise IT as a Service (EITaaS) is coming. Amazon's Commercial Cloud Services (C2S) and Microsoft's AZURE are some of the leading providers of cloud technologies and solutions. Currently multiple government organizations are leveraging this technology to simplify workflows, leverage Artificial Intelligence (AI), and eliminate re-occurring hardware and software refresh costs. The free training at the link will allow Cyber Airmen interested in learning about these exciting new technologies to start introducing themselves to the skillsets and services offered through the cloud.

https://www.aws.training/LearningLibrary?&search=&tab=digital_courses
<https://docs.microsoft.com/en-us/learn/browse/?products=azure>

Professor Messer: (<https://www.professormesser.com/>) provides free resources such as videos, course notes and study recommendations for A+/Net+/Sec+ certifications.

Linux/Bash Challenges: (<http://overthewire.org/wargames>) "Do you want to play a game? "The war-games offered by the OverTheWire community can help you to learn and practice security concepts in the form of fun-filled games. These exercises will allow members to start at a

beginner level and move up to more complicated challenges that will hone their knowledge utilizing the LINUX command line interface.

PowerShell Challenges: (<https://underthewire.tech/>) The war-games offered by the underTheWire community can help you to learn and practice security concepts in the form of fun-filled games. These exercises will allow members to start at a beginner level and move up to more complicated challenges that will hone their knowledge utilizing the Windows Powershell command line interface.

Coding Challenges: (<http://codingame.com/>) and (<http://projecteuler.net/>) Learn new concepts by solving fun challenges in 25+ languages addressing all the hot programming topics, In a matter of hours, discover new languages, algorithms or tricks in courses crafted by top developers.

Crypto Exercises: (<https://cryptopals.com/>) a collection of 48 exercises that demonstrate attacks on real-world crypto. This is a different way to learn about crypto than taking a class or reading a book. We give you problems to solve. They're derived from weaknesses in real-world systems and modern cryptographic constructions. We give you enough info to learn about the underlying crypto concepts yourself. When you're finished, you'll not only have learned a good deal about how cryptosystems are built, but you'll also understand how they're attacked.

Hacking Challenges: (<http://root-me.org/>) and (<http://hackthebox.eu/>) Blackhat training exercises (Can't be accessed from DoD networks)

Reverse Engineering malware: (<https://malwareunicorn.org/#/workshops>) This workshop provides the fundamentals of reversing engineering Windows malware using a hands-on experience with RE tools and techniques.

Elastic Stack basics: (<https://training.elastic.co/learn-from-home?elektra=home&storm=sub2>) Elastic stack training that serves up bite sized training exercises that go over a wide range of Elastic Stacks capabilities.

BrightTALK: (<https://www.brighttalk.com/>) Discover and learn with the worlds brightest professionals. Free and unlimited access to 100,000 talks from industry experts.

Section 3

Broad Educational Resources

Coursera and EdX: have a ton of technical courses, management courses. Anything you can get at a university you can get here for free.

[Coursera \(https://www.coursera.org/\)](https://www.coursera.org/)

[EdX \(https://www.edx.org/\)](https://www.edx.org/)

Cybrary: (<https://www.cybrary.it/>) offers both paid and unpaid resources in abundance that apply to many professions within the Wing. The totality of courses is too numerous to count

FreeCodeCamp: (www.freecodecamp.org) Consists of an interactive learning web platform, an online community forum, chat rooms, online publications and local organizations intended to make learning web development accessible to anyone. Beginning with tutorials that introduce students to HTML, CSS and JavaScript, student's progress to project assignments that they must complete either alone or in pairs. Upon completion of all project tasks, students are partnered with other nonprofits to build web applications, giving the students practical development experience.

CLEPS/DANTES: For service members pursuing higher education both CLEP and DANTES allow for them to expedite their degree plans. The links below lead to test prep materials for both CLEPS and DANTES. After registering, Members are able to apply for vouchers with no out of pocket costs, and once ready to test schedule to test at their local bases education center or off base testing centers.

<https://clep.collegeboard.org/>

https://getcollegecredit.com/dsst_practice_exam

AFIT Distance Learning Programs: (<https://www.afit.edu/DL/>) Air Force Institute of Technology's Distance Learning opportunities with several graduate certificate programs, as well as five master's degree programs, are offered via DL.

Defense Civilian Intelligence Personnel System: (<https://dcips.defense.gov/>) Training for professionalizing the defense intelligence and security workforce

Department of Labor: (<https://www.dol.gov/general/topic/training>) Department of Labor's portal to training for many segments of the working public

Defense Intelligence Agency: (<https://www.dia.mil/Training/National-Intelligence-University-NIU/>) The National Intelligence University is a federal degree-granting institution with a far-reaching mission to educate and prepare intelligence officers to meet current and future challenges to the United States' national security

DoD Intelligence Training & Education Board: (<https://intelshare.intelink.gov/sites/iteb>) The DoD Intelligence Training & Education Board (DITEB) is the community of practice for the Intelligence Community training and education enterprise.

ERIC - Institute of Education Sciences Education Resources Information Center: (<https://eric.ed.gov>) ERIC indexes a wide variety of free peer-reviewed, full-text materials. Many of these resources can help support the work of education policymakers.

The Griffin: (<https://367trss.hill.af.mil/Home/Index>) The Griffin provides training for Aircraft and Missile Maintenance.

Human Resources University: (<https://chcoc.gov/content/human-resources-university>) Training for human capital management strategies that attract, develop and retain a high performing, engaged and diverse federal workforce.

Joint Knowledge Online: (<https://jko.jten.mil/>) Defense Health Agency/Defense Manpower Data Center Enterprise Training

Joint Training Deputy Directorate Program Management: (<https://www.ics.mil/Doctrine/Joint-Training/>) Information on the Joint Training Deputy Directorate Program Management Activities

Lab Life: Via the AF Portal: ([Lab Life](#)) Podcasts on various scientific topics.

National Defense University: (<https://www.ndu.edu/>) NDU educates joint Warfighters in critical thinking and the creative application of military power to inform national strategy and globally integrated operations, under conditions of disruptive change, in order to conduct war.

National Intelligence University: (<http://ni-u.edu/wp/>) The National Intelligence University is the Intelligence Community's sole accredited, federal degree-granting institution.

Naval Education and Training Command: (<https://www.public.navy.mil/netc/Default.aspx>) Portal to the U.S. Navy's Education and Training Command and programs

NSSI Space Fundamentals Distance Learning Program: (<https://www2.peterson.af.mil/nssi/>) is a self-paced on-line familiarization course for all branches of service, government agencies, as well as certain foreign partners. It provides training for new space personnel and end-users with little or no exposure to space operations. The Course covers a wide range of topics from Space History to Future Systems. Space 100 is a compilation of fundamental space education courses taught at the unclassified level. There is an instructor-led distance learning courses. The course teaches a basic understanding of space systems and how they are used to support global joint military operations.

SkillPath: (<https://es.skillpath.com/govt.html>) Dedicated Federal Solutions team specializing in comprehensive learning and development solutions tailored to federal government personnel and aligned to the competencies established by the U.S. Office of Personnel Management (OPM).

Training Opportunities for Federal Employees:

(<https://www.gsa.gov/about-us/events-and-training/gsa-training-programs/training-opportunities-for-federal-employees>) GSA offers training to managers and employees of federal agencies working in a variety of areas. Available training includes Web-based, self-teaching tools, nationwide on-site events, and annual conferences.

United Services Military Apprenticeship Program:

(<https://usmap.netc.navy.mil/usmapss/static/index.htm>) USMAP is a formal military training program executed by the Naval Education and Training Professional Development Center that provides active-duty Full Time Support (FTS) Coast Guard, Marine Corps and Navy Service member the opportunity to improve their job skill and to complete their civilian apprenticeship.