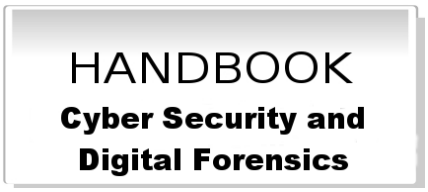
# Cyber Security and Digital Forensics



[1]



[2]



[3]

## Please note: guidance is being added over the next few days, but is in the handbook already.

**Support also available through** Cisco **[4]** Introduction to Cybersecurity **[5] and** Cybersecurity Essentials **[6].**

### Level 2

# Level 2, Unit 1 - Understanding Cyber Security and Online Threats (3 credits)

| 1. Understand the range and variety of cyber threats | 2. Analyse and detail the types of threat currently in operation | 3. Evaluate the impact of threats on various individuals and organisations |
|---|---|---|
| 1.1 I can explain the basic nature of a cyber threat [7] | 2.1 I can describe the motivations of people behind threats [8] | 3.1 I can describe the impact on the economy of cyber threats [9] |
| 1.2 I can list some of the more common threats [10] | 2.2 I can analyse the main threats in terms of the mechanisms they use [11] | 3.2 I can assess the level of threat to my home environment [12] |
| 1.3 I can explain the main features of threats to individuals [13] | 2.3 I can describe how the features of threats make them operate [14] | 3.3 I can determine the threat to a website in a safe and controlled environment [15] |
| 1.4 I can explain the main features of threats to companies [16] | 2.4 I can describe how attacks on companies are designed to work [17] | 3.4 I can determine the threat to a server in a safe and controlled envieonment [18] |
| 1.5 I can summarise the | 2.5 I can describe threats | 3.5 I can produce a |

(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){ (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o), m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m) })(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');

| | | |
|---|---|---|
| variety of threats for an audience [19] | in terms of their hierarchy of damage [20] | presentation or report on my findings [21] |

# Level 2, Unit 2 - Analysing and Evaluating Cyber Threats (3 credits)

| 1. Understand the parts of a system that are attacked | 2. Analyse and detail the parts of a system that are attacked | 3. Evaluate how and why systems are attacked |
|---|---|---|
| 1.1 I can understand the basics of the OSI model [23] | 2.1 I can analyse the commonplace threats associated with the upper layers of OSI model [24] | 3.1 I can evaluate how the different layers of the OSI model can be attacked [25] |
| 1.2 I can explain the main hardware features of an IT system [26] | 2.2 I can describe the hardware features that protect an IT system [27] | 3.2 I can evaluate how effective the hardware protection services are for an IT system [28] |
| 1.3 I can explain the main software features of an IT system [29] | 2.3 I can describe the software features that protect an IT system [30] | 3.3 I can evaluate how effective the software protection services are for an IT system [31] |
| 1.4 I can understand the different user services that run on systems, such as email [32] | 2.4 I can describe the key services offered by a server [33] | 3.4 I can assess the vulnerabilities of each service offered on a server [34] |
| 1.5 I can list the main ports used for different services [35] | 2.5 I can analyse the function of each port used on a server in relation to the key services [36] | 3.5 I can evaluate the vulnerabilities of each key service running on a server [37] |

# Level 2, Unit 3 - Applying and Deploying Security Tools and Best Practice (3 credits)

| 1. Understand the tools used for cyber security | 2. Plan, use and practice with common cyber forensic tools | 3. Evaluate the tools used and recommend best practices |
|---|---|---|

(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){ (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o), m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m) })(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');

| | | |
|---|---|---|
| 1.1 I can list the main tools used in cyber security [39] | 2.1 I can explain the main features of valid cyber security tools [40] | 3.1 I can evaluate commonly used cyber security tools for overall effectiveness [41] |
| 1.2 I can explain the tools used to protect personal identity [42] | 2.2 I can select and use tools to protect my personal identity [43] | 3.2 I can evaluate the tools selected for the protection of personal identity [44] |
| 1.3 I can list the range of tools used to protect data [45] | 2.3 I can set-up a range of tools to protect data for myself or others [46] | 3.3 I can assess and recommend different tools to protect personal or organisational data [47] |
| 1.4 I can describe the way devices are compromised [48] | 2.4 I can plan and execute a basic set of tasks to protect a device against attack [49] | 3.4 I can assess and recommend a range of tools to protect different devices [50] |
| 1.5 I can describe the need for policies and procedures in cyber security [51] | 2.5 I can plan and design some how to documents for protecting devices, data and personal identity [52] | 3.5 I can evaluate and recommend policies and procedures for efficient and effective cyber security [53] |
| 1.6 I can list a range of laws that apply to cyber crime [54] | 2.6 I can explain the purpose of laws that deal with cyber crime [55] | 3.6 I can assess the effectiveness of current laws on cyber crime [56] |

# Level 2, Unit 4 - Extended Project: Securing and Defending Online Systems (6 credits)

| 1. Research a working cyber security system | 2. Plan to build a cyber safe web site or server | 3. Develop a cyber safe web site or server | 4. Test the system against common threats | 5. Evaluate the effectiveness of the system |
|---|---|---|---|---|
| 1.1 I can investigate a working system to determine the main components [58] | 2.1 I can make a working skeletal plan of a system [59] | 3.1 I can prepare a system in terms of specifications [60] | 4.1 I can develop a basic test regime [61] | 5.1 I can analyse the results in terms of the objectives [62] |
| 1.2 I can explain the main system components | 2.2 I can set clear objectives and outcomes to build a | 3.2 I can explain the specification in terms of | 4.2 I can explain the purpose of the main test | 5.2 I can evaluate some of the features of the system |

(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){ (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o), m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m) })(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');

| | | | | |
|---|---|---|---|---|
| [63] | system against [64] | performance needs [65] | procedures [66] | and their purpose [67] |
| 1.3 I can describe how the components fit together [68] | 2.3 I can list the main safety features that will need to be addressed for success [69] | 3.3 I can describe the way a web site functions [70] | 4.3 I can explain the expected results from tests [71] | 5.3 I can justify some design decisions in terms of objectives [72] |
| 1.4 I can make detailed notes of my findings [73] | 2.4 I can explain the main hardware requirements needed [74] | 3.4 I can describe the main pieces of software required [75] | 4.4 I can describe the test results and what they mean [76] | 5.4 I can analyse possible improvements to the system based on usage and end user feedback [77] |
| 1.5 I can present my notes to an audience for feedback [78] | 2.5 I can explain the main software aspects of the system [79] | 3.5 I can describe the configuration settings for a working system [80] | 4.5 I can adjust the system in light of test results [81] | 5.5 I can analyse the effectiveness of the system by viewing the different log files [82] |
| 1.6 I can list some key objectives of the system I will design [83] | 2.6 I can make a final plan for a system [84] | 3.6 I can recommend final adjustments before going live [85] | 4.6 I can document the test results for third party support people [86] | 5.6 I can recommend improvements to the system for future-proofing [87] |

**Source URL:** https://theingots.org/community/csdf

**Links**
[1] https://theingots.org/community/sites/default/files/uploads/user4107/TLM%20L2%20Cyber%20Handbook%201.3_1.pdf
[2] https://register.ofqual.gov.uk/Detail/Index/39715?category=qualifications&query=603%2F1452%2F7
[3] https://theingots.org/community/RQF_Levels
[4] https://www.netacad.com
[5] https://www.netacad.com/courses/intro-cybersecurity/
[6] https://www.netacad.com/courses/cybersecurity-ess/
[7] https://theingots.org/community/csdfl2u1x#1.1
[8] https://theingots.org/community/csdfl2u1x#2.1
[9] https://theingots.org/community/csdfl2u1x#3.1
[10] https://theingots.org/community/csdfl2u1x#1.2
[11] https://theingots.org/community/csdfl2u1x#2.2
[12] https://theingots.org/community/csdfl2u1x#3.2

(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){ (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o), m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m) })(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');

[13] https://theingots.org/community/csdfl2u1x#1.3
[14] https://theingots.org/community/csdfl2u1x#2.3
[15] https://theingots.org/community/csdfl2u1x#3.3
[16] https://theingots.org/community/csdfl2u1x#1.4
[17] https://theingots.org/community/csdfl2u1x#2.4
[18] https://theingots.org/community/csdfl2u1x#3.4
[19] https://theingots.org/community/csdfl2u1x#1.5
[20] https://theingots.org/community/csdfl2u1x#2.5
[21] https://theingots.org/community/csdfl2u1x#3.5
[22] https://theingots.org/community/csdfl2u1i
[23] https://theingots.org/community/csdfl2u2x#1.1
[24] https://theingots.org/community/csdfl2u2x#2.1
[25] https://theingots.org/community/csdfl2u2x#3.1
[26] https://theingots.org/community/csdfl2u2x#1.2
[27] https://theingots.org/community/csdfl2u2x#2.2
[28] https://theingots.org/community/csdfl2u2x#3.2
[29] https://theingots.org/community/csdfl2u2x#1.3
[30] https://theingots.org/community/csdfl2u2x#2.3
[31] https://theingots.org/community/csdfl2u2x#3.3
[32] https://theingots.org/community/csdfl2u2x#1.4
[33] https://theingots.org/community/csdfl2u2x#2.4
[34] https://theingots.org/community/csdfl2u2x#3.4
[35] https://theingots.org/community/csdfl2u2x#1.5
[36] https://theingots.org/community/csdfl2u2x#2.5
[37] https://theingots.org/community/csdfl2u2x#3.5
[38] https://theingots.org/community/csdfl2u2i
[39] https://theingots.org/community/csdfl2u3x#1.1
[40] https://theingots.org/community/csdfl2u3x#2.1
[41] https://theingots.org/community/csdfl2u3x#3.1
[42] https://theingots.org/community/csdfl2u3x#1.2
[43] https://theingots.org/community/csdfl2u3x#2.2
[44] https://theingots.org/community/csdfl2u3x#3.2
[45] https://theingots.org/community/csdfl2u3x#1.3
[46] https://theingots.org/community/csdfl2u3x#2.3
[47] https://theingots.org/community/csdfl2u3x#3.3
[48] https://theingots.org/community/csdfl2u3x#1.4
[49] https://theingots.org/community/csdfl2u3x#2.4
[50] https://theingots.org/community/csdfl2u3x#3.4
[51] https://theingots.org/community/csdfl2u3x#1.5
[52] https://theingots.org/community/csdfl2u3x#2.5
[53] https://theingots.org/community/csdfl2u3x#3.5
[54] https://theingots.org/community/csdfl2u3x#1.6
[55] https://theingots.org/community/csdfl2u3x#2.6
[56] https://theingots.org/community/csdfl2u3x#3.6
[57] https://theingots.org/community/csdfl2u3i
[58] https://theingots.org/community/csdfl2u4x#1.1
[59] https://theingots.org/community/csdfl2u4x#2.1
[60] https://theingots.org/community/csdfl2u4x#3.1
[61] https://theingots.org/community/csdfl2u4x#4.1
[62] https://theingots.org/community/csdfl2u4x#5.1
[63] https://theingots.org/community/csdfl2u4x#1.2
[64] https://theingots.org/community/csdfl2u4x#2.2
[65] https://theingots.org/community/csdfl2u4x#3.2
[66] https://theingots.org/community/csdfl2u4x#4.2
[67] https://theingots.org/community/csdfl2u4x#5.2
[68] https://theingots.org/community/csdfl2u4x#1.3
[69] https://theingots.org/community/csdfl2u4x#2.3
[70] https://theingots.org/community/csdfl2u4x#3.3
[71] https://theingots.org/community/csdfl2u4x#4.3

(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){ (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o), m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m) })(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');

[72] https://theingots.org/community/csdfl2u4x#5.3
[73] https://theingots.org/community/csdfl2u4x#1.4
[74] https://theingots.org/community/csdfl2u4x#2.4
[75] https://theingots.org/community/csdfl2u4x#3.4
[76] https://theingots.org/community/csdfl2u4x#4.4
[77] https://theingots.org/community/csdfl2u4x#5.4
[78] https://theingots.org/community/csdfl2u4x#1.5
[79] https://theingots.org/community/csdfl2u4x#2.5
[80] https://theingots.org/community/csdfl2u4x#3.5
[81] https://theingots.org/community/csdfl2u4x#4.5
[82] https://theingots.org/community/csdfl2u4x#5.5
[83] https://theingots.org/community/csdfl2u4x#1.6
[84] https://theingots.org/community/csdfl2u4x#2.6
[85] https://theingots.org/community/csdfl2u4x#3.6
[86] https://theingots.org/community/csdfl2u4x#4.6
[87] https://theingots.org/community/csdfl2u4x#5.6
[88] https://theingots.org/community/csdfl2u4i

(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){ (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o), m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m) })(window,document,'script','//www.google-analytics.com/analytics.js','ga'); ga('create', 'UA-46896377-2', 'auto'); ga('send', 'pageview');