Contents

Introduction ............................................................................................................ 1
Mapping framework .......................................................................................... 2
Mappings of University and Professional Training Programmes .......... 3
CISSP - Certified Information Systems Security Professional - (ISC)² ...... 4
SSCP - Systems Security Certified Practitioner - (ISC)² ...................... 5
CISM - Certified Information Security Manager - ISACA ................... 6
CRISC - Certified in Risk and Information Systems Control - ISACA ...... 7
Edinburgh Napier University ........................................................................... 8
Robert Gordon University, Aberdeen .......................................................... 9
University of Plymouth ............................................................................... 10
Coventry University ...................................................................................... 11
Resources .................................................................................................... 12
Introduction

This booklet includes mappings of a number of education and training programmes: postgraduate degrees at higher education institutions certified by the National Cyber Security Centre (NCSC), and professional certification programmes. The spider charts and bar charts indicate the breadth and depth of coverage of various CyBOK Knowledge Areas (KAs) in CyBOK 1.0 (with the addition of a 20th KA on Formal Methods for Security).

The purpose of the booklet is to show how different programmes contrast. The mappings enable:

- **Employers** to identify if the students from a programme or certification will be well-placed to meet the knowledge requirements of a particular role; and
- **Learners** to identify which programme or certification may best suit their learning and career needs.

The mappings for university programmes are provided by the relevant certified degrees which were reviewed by an NCSC convened certification panel. The mappings of professional certifications were conducted by the CyBOK team and full datasets are available on the CyBOK website for review and further analysis.
The mapping framework requires a list of concepts – typically in the form of key words or phrases (KWoPs) that represent the concepts covered in the programme material – that are to be mapped on to CyBOK.

A user starts by looking up a KWoP using the CyBOK Mapping Reference and any other additional look up material that may have been developed in order to identify the relevant KA (or Introduction to CyBOK) where the content may reside. The Knowledge Tree is then studied to identify the relevant concept within CyBOK. N.B. the purpose here is not to do an exact string matching but to identify the topic or sub-topic within a knowledge tree to which a KWoP maps. If a suitable node cannot be found within the Knowledge Tree, then the full text of the CyBOK Introduction or KA is studied to identify the mapping.

If the CyBOK mapping reference cannot identify a suitable Knowledge Tree, then the tabular representation is used to identify the most suitable KA or KAs and the relevant Knowledge Trees and KA content are studied to identify the mapping.

**Figure 1:** The General Mapping Framework
The mappings enable one to establish how cyber security coverage in professional certification programmes and NCSC certified degrees maps to CyBOK.

The spider charts show a bird’s-eye view of coverage across broad CyBOK categories, and the bar charts show a deeper view on a per-KA basis.

Mapping can also be undertaken on a finer-grained level, for example on particular knowledge domains covered by certifications. An exemplar mapping of CISSP and its method can be found here.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CyBOK Introduction</td>
<td>17</td>
</tr>
<tr>
<td>Formal Methods for Security</td>
<td>12</td>
</tr>
<tr>
<td>Risk Management &amp; Governance</td>
<td>11</td>
</tr>
<tr>
<td>Law &amp; Regulation</td>
<td>4</td>
</tr>
<tr>
<td>Human Factors</td>
<td>4</td>
</tr>
<tr>
<td>Privacy &amp; Online Rights</td>
<td>4</td>
</tr>
<tr>
<td>Malware &amp; Attack Technologies</td>
<td>2</td>
</tr>
<tr>
<td>Adversarial Behaviours</td>
<td>1</td>
</tr>
<tr>
<td>Security Operations &amp; Incident Management</td>
<td>11</td>
</tr>
<tr>
<td>Forensics</td>
<td>1</td>
</tr>
<tr>
<td>Cryptography</td>
<td>4</td>
</tr>
<tr>
<td>Operating Systems &amp; Virtualisation Security</td>
<td>4</td>
</tr>
<tr>
<td>Distributed Systems Security</td>
<td>2</td>
</tr>
<tr>
<td>Authentication, Authorisation &amp; Accountability</td>
<td>8</td>
</tr>
<tr>
<td>Software Security</td>
<td>3</td>
</tr>
<tr>
<td>Web &amp; Mobile Security</td>
<td>4</td>
</tr>
<tr>
<td>Secure Software Lifecycle</td>
<td>13</td>
</tr>
<tr>
<td>Network Security</td>
<td>8</td>
</tr>
<tr>
<td>Hardware Security</td>
<td>1</td>
</tr>
<tr>
<td>Cyber-Physical Systems Security</td>
<td>1</td>
</tr>
<tr>
<td>Physical Layer &amp; Telecommunications Security</td>
<td>0</td>
</tr>
</tbody>
</table>

The Cyber Security Body Of Knowledge

cybok.org
The Cyber Security Body Of Knowledge

cybok.org

6
The Cyber Security Body Of Knowledge

cybok.org
CyBOK Introduction
Formal Methods for Security
Risk Management & Governance
Law & Regulation
Human Factors
Privacy & Online Rights
Malware & Attack Technologies
Adversarial Behaviours
Security Operations & Incident Management
Forensics
Cryptography
Operating Systems & Virtualisation Security
Distributed Systems Security
Authentication, Authorisation & Accountability
Software Security
Web & Mobile Security
Secure Software Lifecycle
Network Security
Hardware Security
Cyber-Physical Systems Security
Physical Layer & Telecommunications Security

Edinburgh Napier University
MSc Advanced Security and Digital Forensics

CyBOK
The Cyber Security Body Of Knowledge
cybok.org

The Cyber Security Body Of Knowledge
cybok.org

NCSC certified degrees
Coventry University
MSc Cyber Security

The Cyber Security Body Of Knowledge
cybok.org
The core mapping resources used are available on the CyBOK website:

- **CyBOK Version 1.0.** An introductory webinar is also available, providing an overview of CyBOK, its background and the various use cases it enables. [Click here](#)
- **CyBOK Mapping Reference (version 1.1 or 1.2 as appropriate)** – which provides a quick lookup mechanism for identifying the Knowledge Areas (KAs) where common cyber security concepts may appear within CyBOK. [Click here for version 1.1](#) [Click here for version 1.2](#)
- **CyBOK Knowledge Trees** – which provide a hierarchical representation of the concepts covered for each of the KAs within CyBOK. [Click here](#)
- **Tabular representation of CyBOK’s broad categories, knowledge areas and their description** – providing a summary overview of the core elements covered within the detailed text of each KA. [Click here](#)

CyBOK has been developed through input and efforts from the cyber security community within the UK and internationally. The team welcomes further comments and feedback on updates to CyBOK as this is a resource developed for the community, by the community. **Contact us at:** [contact@cybok.org](mailto:contact@cybok.org)

**Please note:** some of the percentages may have been rounded up or down which means the sum may not equal 100%.
CyBOK
The Cyber Security Body of Knowledge

University of Bristol
Bristol Cyber Security Group