

## BTEC Assignment Brief

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| <b>Qualification</b>                  | Pearson BTEC Level 3 Extended Certificate in Computing   |
| <b>Unit number and title</b>          | <b>Unit 7: IT Systems Security and Encryption</b>  |
| <b>Learning aim(s)</b> (For NQF only) | <p><b>A:</b> Understand current IT security threats, information security and the legal requirements affecting the security of IT systems</p> <p><b>B:</b> Investigate cryptographic techniques and processes used to protect data</p> |
| <b>Assignment title</b>               | <b>IT security threats and cryptography</b>  |
| <b>Assessor</b>                       | C Johnston   |
| <b>Issue date</b>                     | 28-03-2018   |
| <b>Hand in deadline</b>               | 17-04-2018   |

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| <b>Vocational Scenario or Context</b> | <p>You work for a start-up company who are developing internet based financial transfer software which allows people to transfer money quickly and cheaply to friends and family both at home and abroad.</p> <p>The director of the company is well aware that such a system would be the target for cyber criminals and has read in news reports that the Office for National Statistics reported that there were 2.5 million cyber crime offences in 2015. She is also aware that you recently completed a BTEC course which included a unit in IT security so she has asked you to investigate and report on current security threats to their web site and software. He has also asked you to investigate encryption methods and how these could be used to keep their web site and software secure.</p> |
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| <b>Task 1</b> | <p>Write a report in which you:</p> <ul style="list-style-type: none"> <li>• explain the current IT security threats to which organisations are exposed</li> <li>• explain the principles of information security that organisations must be aware of and the reasons why legal requirements must be adhered to when considering IT security</li> <li>• assess the impact that IT security threats could have on an organisations' IT systems and their business</li> <li>• evaluate the effectiveness of the techniques used by</li> </ul> |
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|   | <p>organisations to protect their computer systems from security threats. Your evaluation should take into account the principles of information security and the relevant legal requirements.</p> <ul style="list-style-type: none"> <li>• explain the principles behind cryptography</li> <li>• explain the ways in which cryptography can be used to secure and protect the financial data that the company will need to store and transfer over the internet</li> <li>• analyse the impact that cryptography will have on the security and protection of data that the company needs to store and transfer.</li> </ul>  |
| <b>Checklist of evidence required</b>                             | A report, either written or electronic, such as a blog  |
| <b>Criteria covered by this task:</b>                             |   |
| Unit/Criteria reference   | To achieve the criteria you must show that you are able to:   |
| 7/AB.D1   | Evaluate the effectiveness of the techniques used to protect organisations from security threats whilst taking account of the principles of information security and legal requirements.  |
| 7/A.M1  | Assess the impact that IT security threats can have on organisations' IT systems and business whilst taking account of the principles of information security and legal requirements.   |
| 7/B.M2  | Analyse how the principles and uses of cryptography impact on the security and protection of data.  |
| 7/A.P1  | Explain the different security threats that can affect the IT systems of organisations.   |
| 7/A.P2  | Explain the principles of information security when protecting the IT systems of organisations.   |
| 7/A.P3  | Explain why organisations must adhere to legal requirements when considering IT system security.  |
| 7/B.P4  | Explain the principles and uses of cryptography to secure and protect data.   |
| <b>Sources of information to support you with this Assignment</b> | <ul style="list-style-type: none"> <li>• BBC News Technology section – technology news, including cases of significant cyber-attacks: <a href="http://www.bbc.co.uk/news/technology">www.bbc.co.uk/news/technology</a></li> <li>• McAfee's security advice centre – provides useful and up-to-date information on security, virus attacks and viruses, written in a reasonably accessible manner: <a href="http://home.mcafee.com/advicecenter/">home.mcafee.com/advicecenter/</a></li> <li>• Microsoft's security advice centre – features a regularly updated blog and FAQ on security issues: <a href="http://www.microsoft.com/security/">www.microsoft.com/security/</a></li> <li>• Norton's security centre – provides articles on security, spam email,</li> </ul> |

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|   | software piracy, etc.: <a href="http://uk.norton.com/security-center/">uk.norton.com/security-center/</a> |
| <b>Other assessment materials attached to this Assignment Brief</b> | <i>eg, work sheets, risk assessments, case study</i>  |