

Student Assignment Brief

**This document is intended for Coventry University Group students for their own use in completing their assessed work for this module. It must not be passed to third parties or posted on any website. If you require this document in an alternative format, please contact your Module Leader.**

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The work you submit for this assignment must be your own independent work, or in the case of a group assignment your own groups’ work. More information is available in the ‘[Assignment Task](#_Assignment_Task)’ section of this assignment brief.

# Assignment Information

**Module Name:** Information Security

**Module Code:** 402IT

**Assignment Title:** Coursework 1

**Assignment Due:** 28thMarch202518:00

**Assignment Credits:**  10 Credits

**Assignment Type:** Portfolio

**Percentage Grade** (Applied Core Assessment). You will be provided with an overall grade between 0% and 100%. You have one opportunity to pass the assignment at or above 40%. Resit attempts will be capped at 40%

# Assignment Task

**Introduction**

In this assignment, you are required to demonstrate your understanding of information security principles and practices as information security plays a critical role in safeguarding information from unauthorized access, ensuring its confidentiality and integrity, and maintaining its availability. You will be exploring various aspects of information security, including information security risk assessment, information security governance, access control, incident response and penetration testing to expose vulnerabilities.

**Task 1: Information Security Risk Assessment (40 Marks)**

You are required to perform a risk assessment on an organisation presented in a case study provided by your Tutor, following best practices and standards for information security risk assessment. You are to produce a technical report on the findings of your investigation to identify the vulnerabilities and potential security risks of the IT systems and identify potential threats, their impacts and the likelihood of exploitation.

You are required to demonstrate your practical understanding of cyber security attacks and potential adversaries through undertaking an investigation to identify vulnerabilities and potential security threats to host computer systems and supporting networks within the organization, following industry best practices and standards.

Also, identify different technologies that would constitute security mechanisms at various levels in a digitally networked environment.

Your tasks during this assessment are to identify, determine and summarize host computer and network infrastructure (hardware, software assets) and data assets (Information assets) used within the organization and create an Asset Register for these assets prior to conducting a Risk Assessment. Use an industry standard approach to identify potential threats to these mission critical assets of the organisation. These documents should be added appropriately as appendices to your main report.

**Task 2: Perform Penetration Testing to Expose Vulnerabilities Report (40 Marks)**

As part of the investigation, you are required to conduct systems penetration testing using virtual applications to emulate some of the systems identified within the organisation in the case study. You will produce a professional penetration test report using an industry standard penetration testing methodology and report format.

This report of test results will be added as an appendix to your summary report as evidence of your work.

The penetration tests will be conducted against a range of the technologies identified within the organisation presented in the case study to demonstrate system and application vulnerabilities and you should present the findings as examples of why it will be necessary for the Chief Information Security Officer to act expeditiously to secure systems with high levels of risk established in your report. This action must be taken swiftly to protect the organisation from potential cyber-attacks against their systems.

**\*NB. Under no circumstances should penetration testing be conducted against any real-world organisation during your work. This activity is illegal and will lead to disciplinary action and potentially lead to prosecution.**

**Task 3: Develop** **Security Policies (20 Marks)**

Develop a set of security policies for the organisation mentioned in the case study to address the following areas and explain the impact of such policies in maintaining the confidentiality, integrity and availability of information in relevant applications.

a) Access Control. [10 Marks]

b) Acceptable Use of IT Resources. [10 Marks]

**Submission requirements:**

**What do I need to submit?**

Your deliverable for this assignment is:

**A risk assessment and penetration test report**

A 1000-word technical report on the findings of an investigation to identify the vulnerabilities and potential security issues of IT systems in your case study, a penetration test report and policies. You are required to include appendices.

1. Submit your reports as a single Word document, formatted according to the university's guidelines for written assignments e.g. font type (Calibri or Arial), font size (12), referencing style (APA7).
2. Use the official university cover sheet title page for your campus with your name, the module code, etc.

The file should be named with your student number and the module code

(e.g. 1234567\_402IT\_CW1.docx). Be sure to keep backup copies of your submission.

**Guidance:**

Your submission document should clearly separate each task in the assignment.

**Task 1: Information Security Risk Assessment Report – 40%**

1. **Introduction:** Describe the importance of information security and risk assessment and introduce the best practices and industry standards for information security risk assessment. (5%)
2. **Risk Identification:** Identify the different assets and the vulnerabilities associated with them and prepare an asset register. (15%)
3. **Risk Analysis and Evaluation:** Present an analysis of the identified risks to selected assets and evaluate them using chosen industry standard approaches and provide relevant information available in the public domain to support your evaluation. (20%)

**Task 2: Perform Penetration Testing and Report – 40%**

1. **Penetration Testing:** Provide the evidence of conducting your penetration testing to expose selected vulnerabilities identified in the risk assessment process. (20%)
2. **Reporting:** Produce a penetration test report formatted using an industry standard. (20%)

**Task 3: Security Policies – 20%**

1. Develop and provide security policies for the organisation. (20%)

# Marking and Feedback

**How will my assignment be marked?**

Your assignment will be marked by the module team.

**How will I receive my grades and feedback?**

Provisional marks will be released once internally moderated.

Feedback will be provided by the module team alongside grades release.

After marking is completed, you can access your marked work and feedback by clicking on the submission link. Feedback will be provided in the Turnitin viewer and mark distributions will show you where marks were awarded or deducted. If you are unsure how to access your feedback, please ask your tutor for clarification.

Your provisional marks and feedback should be available within 2 weeks (10 working days).

**What will I be marked against?**

Details of the marking criteria for this task can be found at the bottom of this assignment brief.

# Assessed Module Learning Outcomes

The Learning Outcomes for this module align to the [marking criteria](#Marking_Rubric) which can be found at the end of this brief. Ensure you understand the learning outcomes and marking criteria to ensure successful achievement of the assessment task. The following module learning outcomes are assessed in this task:

1. Describe the fundamental concepts associated with the digital security landscape including risks, threats, attacks, adversaries and security requirements, and in relation to the confidentiality-integrity-availability (CIA) triangle.
2. Discuss the different technologies that constitute the security mechanisms at various levels in a digitally networked environment.
3. Perform penetration tests to expose the vulnerabilities of a system.

# Assignment Support and Academic Integrity

If you have any questions about this assignment please see the [Student Guidance on Coursework](https://share.coventry.ac.uk/students/Registry/Pages/Coursework.aspx) for more information.

### Spelling, Punctuation, and Grammar:

You are expected to use effective, accurate, and appropriate language within this assessment task.

### Academic Integrity:

The work you submit must be your own, or in the case of groupwork, that of your group. All sources of information need to be acknowledged and attributed; therefore, you must provide references for all sources of information and acknowledge any tools used in the production of your work, including Artificial Intelligence (AI).

We use detection software and make routine checks for evidence of academic misconduct.

Definitions of academic misconduct, including plagiarism, self-plagiarism, and collusion can be found [on the Student Portal](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fshare.coventry.ac.uk%2Fstudents%2FRegistry%2FPages%2FEssential-definitions.aspx&data=05|01|ab5576%40coventry.ac.uk|96dc42ffe3484dd999e808db0e964c5d|4b18ab9a37654abeac7c0e0d398afd4f|0|0|638119810903032146|Unknown|TWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D|3000|||&sdata=%2FggkmIN9ZackqogiKZxEXKYD3QaXAk0jCME%2F1ne82YU%3D&reserved=0). All cases of suspected academic misconduct are referred for investigation, the outcomes of which can have profound consequences to your studies. For more information on academic integrity please visit the [Academic and Research Integrity](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fshare.coventry.ac.uk%2Fstudents%2FRegistry%2FPages%2FAcademic-and-Research-Integrity.aspx&data=05|01|ab5576%40coventry.ac.uk|96dc42ffe3484dd999e808db0e964c5d|4b18ab9a37654abeac7c0e0d398afd4f|0|0|638119810903032146|Unknown|TWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D|3000|||&sdata=%2BPYuaO%2FDqY2x3ajLRlKjxHoEvTPzEqm%2B8wuQ%2FMvxlZk%3D&reserved=0) section of the Student Portal.

### Support for Students with Disabilities or Additional Needs:

If you have a disability, long-term health condition, specific learning difference, mental health diagnosis or symptoms and have discussed your support needs with health and wellbeing you may be able to access support that will help with your studies.

If you feel you may benefit from additional support, but have not disclosed a disability to the University, or have disclosed but are yet to discuss your support needs it is important to let us know so we can provide the right support for your circumstances. Visit [the Student Portal](https://livecoventryac.sharepoint.com/sites/students-healthandwellbeing/SitePages/Disabilities.aspx) to find out more.

### Unable to Submit on Time?

The University wants you to do your best. However, we know that sometimes events happen which mean that you cannot submit your assessment by the deadline or sit a scheduled exam. If you think this might be the case, guidance on understanding what counts as an extenuating circumstance, and how to apply is [available on the Student Portal.](https://livecoventryac.sharepoint.com/sites/students-registry-extensions-deferrals/SitePages/CU-Extensions-and-Deferrals-Guidance.aspx)

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# Administration of Assessment

**Module Tutor Name:**  As per Campus Tutor

**Module Tutor Email:**  As per Campus Tutor

**Assignment Category:** Written

**Attempt Type:** Standard

**Component Code:** CW1

## Assessment Marking Criteria

**Coventry University Generic Assessment Criteria: Undergraduate**

|  |  |  |
| --- | --- | --- |
| **Mark band** | **Outcome** | **Guidelines** |
| 80-100%  1st | Meets learning outcomes | 1st - Exceptional work with very high degree of understanding, creativity, and critical/analytic skills. Evidence of exceptional research well beyond minimum recommended using a range of methodologies. Exceptional understanding of knowledge and subject-specific theories. Demonstrates creative flair, a high degree of originality and autonomy.  Exceptional ability to apply learning resources. Demonstrates well-developed problem-solving skills. Work completed with very high degree of accuracy and proficiency and autonomy. Exceptional communication and expression, significant evidence of professional skill set. Student evidences deployment of a full range of exceptional technical, including proficiency in the English Language, and/or artistic skills. |
| 70-79%  1st | 1st - Excellent work with clear evidence of understanding, creativity and critical/analytical skills. Thorough research well beyond the minimum recommended using methodologies beyond the usual range. Excellent understanding of knowledge and subject-specific theories with evidence of considerable originality and autonomy.  Excellent ability to apply learning resources. Demonstrates consistent, coherent substantiated argument and interpretation. Demonstrates considerable creativity and clear problem-solving skills. Assessment completed with accuracy, proficiency, and considerable autonomy. Excellent communication and expression, some evidence of professional skill set. Student evidences deployment of a highly developed range of technical, including proficiency in the English Language, and/or artistic skills. |
| 60-69%  2:1 | 2:1 - Very good work demonstrating strong understanding of theories, concepts and issues with clear critical analysis. Thorough research, using established methodologies accurately, beyond the recommended minimum with little, if any, irrelevant material present. Very good understanding, evidencing breadth and depth, of knowledge and subject-specific theories with some originality and autonomy.  Very good ability to apply learning resources. Demonstrates coherent substantiated argument and interpretation. Demonstrates some originality, creativity and problem-solving skills. Work completed with accuracy, proficiency, and autonomy. Very good communication and expression with evidence of professional skill set. Student has a thorough command of a good range of technical, including proficiency in the English Language, and/or artistic skills. |
| 50-59%  2:2 | 2:2 - Good understanding of relevant theories, concepts and issues with some critical analysis. Research undertaken accurately using established methodologies, enquiry beyond that recommended may be present. Some errors may be present and some inclusion of irrelevant material. Good understanding, with evidence of breadth and depth, of knowledge and subject-specific theories with indications of originality and autonomy.  Good ability to apply learning resources. Demonstrates logical argument and interpretation with supporting evidence. Demonstrates some originality, creativity and problem-solving skills but with inconsistencies. Expression and presentation mostly accurate, proficient, and conducted with some autonomy. Good communication and expression with appropriate professional skill set. Student consistently demonstrates a well-developed range of technical, including proficiency in the English Language, and/or artistic skills. |
| 40-49%  3rd Class | 3rd - Meet the learning outcomes with a basic understanding of relevant theories, concepts and issues. Demonstrates an understanding of knowledge and subject-specific theories sufficient to deal with concepts. Assessment may be incomplete and with some errors. Research scope sufficient to evidence use of some established methodologies. Some irrelevant material likely to be present.  Basic ability to apply learning resources. Demonstrates ability to devise and sustain an argument. Demonstrates some originality, creativity and problem-solving skills but with inconsistencies. Expression and presentation sufficient for accuracy and proficiency. Sufficient communication and expression with basic professional skill set. Student demonstrates technical, including a basic level of proficiency in the English Language, and/or artistic skills. |
| 30-39%  Fail | Fails to achieve learning outcomes | Fail – Outcomes not met. Limited understanding of relevant theories, concepts and issues. Little evidence of research and use of established methodologies. Some relevant material will be present. Deficiencies evident in analysis. Fundamental errors and some misunderstanding likely to be present.  Limited ability to apply learning resources. Student’s arguments are weak and poorly constructed. Limited originality, creativity, and struggles with problem-solving skills. Expression and presentation insufficient for accuracy and proficiency. Insufficient communication and expression and with deficiencies in professional skill set. Student demonstrates some deficiencies in technical, including in their use of the English Language, and/or artistic skills. |
| 0-29%  Fail | Fail – Outcomes not met. Clear failure demonstrating very little understanding of relevant theories, concepts and issues. Minimal evidence of research and use of established methodologies and incomplete knowledge of the area. Serious and fundamental errors and aspects missing.  Very little evidence of ability to apply learning resources. Student’s arguments are very weak and with no evidence of alternative views. Little evidence of originality, creativity, and problem-solving skills. Expression and presentation deficient for accuracy and proficiency. Insufficient communication and expression and with deficiencies in professional skill set. Student demonstrates a lack of technical, including in their use of the English Language, and/or artistic skills. |