

T Level Technical Qualification in Animal Care and Management: Animal Management and Science Occupational Specialism (Level 3)

Synoptic Assignment SAMPLE Candidate Pack

May 2024 v1.0

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1. Assessment

This assessment is for the Animal Management and Science Occupational Specialism component of the Animal Care and Management Technical Qualification. This pack consists of a synoptic assignment brief, including drawings and diagrams as necessary, that you will need to use to complete your assessment tasks.

Performance outcomes

The weighting for this assessment will remain the same for every version of the synoptic assignment. This ensures the appropriate depth and breadth of knowledge and skills for each specialism can be reliably assessed in every version and meets the needs of the industry while keeping comparability between each assessment over time. The synoptic assignment marks contribute 40% towards the overall occupational specialism grade and the following performance outcomes are covered within this assessment.

Performance outcome	Typical knowledge and skills
PO2 Observe the behaviour, security and breeding practices of animals	<p>Develop the knowledge and skills to plan for, monitor and care for breeding animals in accordance with relevant legislation.</p> <p>Develop the knowledge needed for planning population management with reference to conservation and breeding requirements of the animals.</p> <p>Apply skills relevant to population management with reference to conservation and evolution.</p>
PO3 Plan for and manage the good health and welfare of animals	<p>Develop the knowledge and skills to plan for and maintain the health and welfare of animals in accordance with relevant legislation.</p> <p>Develop the knowledge needed to adapt care of animals as necessary to match the life stage of an animal.</p> <p>Apply skills relevant to maintaining the health and welfare of an animal to include physical and visual health checking, monitoring and record keeping and feeding of an animal.</p>
PO4 Carry out safe animal handling practices	<p>Develop the knowledge and skills to handle, restrain and move animals considering animal health and welfare and in accordance with relevant legislation.</p> <p>Develop the knowledge needed to adapt accommodation and handling requirements as necessary to match the life stage of an animal.</p> <p>Apply skills relevant to handling, restraining and moving animals considering health and safety of the handler and the animal and animal welfare.</p>
PO5 Plan, perform, record and communicate findings of scientific investigations in animal science	<p>Develop the knowledge and skills needed to work in a laboratory setting and undertake scientific investigations safely and in accordance with relevant legislation.</p> <p>Develop the knowledge needed to plan, risk assess and conduct a scientific investigation and to present and evaluate the results effectively.</p> <p>Apply skills relevant to undertaking scientific investigations in animal science to include microbiology, microscopy and titrations.</p>

Assessment Overview

You will be assessed against a number of tasks. This synoptic assignment has a total of 78 marks. The table below shows the weighting of the marks for each of the tasks. You will be assessed against these tasks which align to the performance outcomes.

Task	Marks per task	Task weightings	Performance outcomes (PO)
1 Health, accommodation and feeding plan	15	19.1%	PO2 Observe the behaviour, security and breeding practices of animals <hr/> PO3 Plan for and manage the good health and welfare of animals <hr/> PO4 Carry out safe animal handling practices
2 Health assessment	15	19.1%	PO2 Observe the behaviour, security and breeding practices of animals <hr/> PO3 Plan for and manage the good health and welfare of animals <hr/> PO4 Carry out safe animal handling practices
3 Population management report	9	12.1%	PO2 Observe the behaviour, security and breeding practices of animals <hr/> PO3 Plan for and manage the good health and welfare of animals <hr/> PO4 Carry out safe animal handling practices
4 Plan an investigation	12	15.3%	PO3 Plan for and manage the good health and welfare of animals <hr/> PO5 Plan, perform, record and communicate findings of scientific investigations in animal science
5 Carry out an investigation	15	19.1%	PO3 Plan for and manage the good health and welfare of animals <hr/> PO5 Plan, perform, record and communicate findings of scientific investigations in animal science
6 Present your findings	12	15.3%	PO3 Plan for and manage the good health and welfare of animals



PO5 Plan, perform, record and communicate findings of scientific investigations in animal science

Totals	78	100%
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2. Candidate guidance

General guidance

This is a formal assessment that you will be marked and graded on. You will be marked on the quality and accuracy of the work you produce. It is therefore important that you carry your work out to the highest standard you can.

Plagiarism

Plagiarism is the failure to acknowledge sources properly and/or the submission of another person's work as if it were your own. Plagiarism is not allowed in this assignment.

This assignment is an assessment of your abilities, so the work submitted must be all your own and carried out under the conditions stated. You will be asked to sign a declaration that you have not had any help with the assignment. Your assessor is allowed to give you some general advice, for example, clarification of the task instructions. However, general advice will not include:

- any specific advice on how to improve work to meet the required standard
- feedback on anything missing from your work
- any intervention that improves the standard or presentation of work.

If there is a need to provide more than general advice your assessor will need to record the advice that they have given and take it into account when marking the submitted work.

Where research is allowed, your assessor must be able to identify which work you have done yourself, and what you have found from other sources. It is therefore important to make sure you acknowledge sources used and clearly reference any information taken from them (e.g. providing as a minimum a list of web addresses / books / articles etc used).

Timings and planning

You are advised to study the details of the assessment before starting.

You should check with your assessor that you have all the relevant materials, equipment and information/data sources that you need before starting the assessment.

You should take care when planning to make sure you have divided the time available between parts of the assignment tasks appropriately. Timings for tasks are provided within this pack to support with planning and time allocation.

Word counts

Typical word counts/page lengths of evidence are provided within the requirements of each task. Where word counts/page lengths have been provided, these are given as an indicative guide only to support you to understand the type of response that is expected from you. You will not be penalised as part of the marking if your response is below or above the indicative word count provided, however you should consider the clarity and succinctness of your response if it goes above the word count/page length.

The number of pages indicated for research notes is a mandatory requirement. You should add page numbers to your research notes and your assessor should only submit the indicated number of pages of research notes. Additional pages of research notes will not be accepted.

Health and Safety

You must always work safely, in particular while you are carrying out practical tasks.

You must always follow any relevant Health and Safety regulations, Risk Assessments and codes of practice in line with centre requirements.

If your assessor sees you working in a way that is unsafe for yourself or others, or is detrimental to the welfare of the animals, they will highlight the issue and ask you to stop the task immediately.

Presentation of work

Presentation of work must be neat, legible and appropriate to the task, and evidence required for submission.

You should make sure that each piece of evidence including any forms are clearly labelled with your name and the task reference.

All electronic files must be given a clear file name that allows your assessor to identify it as your work.

When producing written work electronically, you should use font size 12 and singular line spacing.

Written work should be word-processed unless stated otherwise.

All sketches and drawings should be neat, tidy and annotated.

Any screenshots used within research notes should be clear and legible.

Calculations should be set out clearly, with all working shown, as well as any assumptions made. You should use appropriate units at all times, consistent with the requirements of the assignment.

Instructions for this assignment

Ensure you read all the provided assessment information issued by the assessor.

You must work independently and not share your work with any other candidates in these supervised assessment sessions.

Your work will be kept secure during any supervised breaks that are taken.

Internet access is **not** allowed, unless otherwise stated in the task.

You must complete all the tasks and present all evidence that is detailed in each task.

This assessment booklet contains the assignment brief.

The tasks have been separated into individual documents which will be handed to you at the start of each task.

Any additional documents/templates needed for the task will be issued to you by the assessor.

Within each task you will find the following:

- **Resources:** Provides a list of equipment, documents or tools that you will have access to, to complete the task/sub-task.

- **Conditions of assessment:** This will tell you the duration and rules you must follow when completing a task.
- **Controlled conditions:** This will tell you the rules you must follow when completing each task e.g. You must not share or discuss your work with other candidates.
- **What must be produced for marking:** This describes the evidence you must submit when the task is completed. Be aware failure to submit any evidence requested can adversely affect your overall mark for the assessment.
- **Additional evidence for this task:** This describes other forms of evidence that will be collected by the assessor to support the marking of your performance. This will often include but not limited to photographic and video evidence.
- **What must be submitted:** This describes any additional evidence that must be submitted but will not be marked.

Layout and file naming requirements

You must present all written work in size 12, Arial font with standard line spacing and borders. Pages should be numbered, and the footer should include your name and enrolment number.

Files should be saved securely with a clear file name to support the marking process that allows your work to be identified. Evidence must have a file name that clearly indicates the content of the document, including your City & Guilds enrolment number/name/qualification number/task/type of evidence. We strongly recommend the following file name convention style:

- XYZ1234_Firstname_Surname_8717-409_Task_1b_Husbandry_plan
- XYZ1234_Firstname_Surname_8717-409_Task_1c_Care_plan

3. Assignment brief

You are working as an animal scientist at a large animal centre called 'Guilds Animal Science Centre'. At the centre, animals are bred for research and educational purposes, with a focus on genetics and evolution. There is also a laboratory on site for the purpose of genetic research and animal science. The centre contains a range of mammalian, reptilian and avian species and all species at the centre have a full husbandry plan created. These animals are kept in an area away from the laboratory so do not fall under The Animal (Scientific Procedures) Act 1986.

Guilds Animal Science Centre has six staff including yourself. As part of your role, you are responsible for the mammal section, creating health, accommodation and feeding plans for individual animals that will become pregnant, as well as the care plans for offspring when they arrive.

Your day-to-day tasks include completing risk assessments, health assessments and scientific investigation of disease outbreaks. You will also work with the birds and reptiles to cover for other staff members as necessary. You are also expected to report on the population management of different species at the centre with reference to evolution and conservation.

The laboratory on site can perform testing to help with identification of disease and the best cleaning solutions, treatments and antibiotics to use for the animal. The laboratory technician supports the animal scientists with investigations by providing the equipment that is asked for, and managing any incubation or sterilisation needed. The enclosures are regularly swabbed and bacteria cultured to identify possible pathogen risks at the centre.

Your assignment contains **six** tasks in total and has a total time of **33 hours**. Your assessor will release the tasks to you at the start of each supervised session. They will also provide you with your permitted resources for that task. You will not be permitted any additional notes, such as printed resources and textbooks, or access to the internet, unless otherwise stated in the conditions for assessment.

4. Tasks

Task 1 Health, accommodation and feeding plan

Guilds Animal Science Centre is planning for the pregnancy of a mammal. The mammal already has a full husbandry plan and is a completely healthy individual. Parts of the husbandry plan must be adapted for when the mammal becomes pregnant and for the offspring. Your assessor will provide you with the species of mammal you are going to be working with.

- a) You will need to carry out research and produce notes (one side of A4) for your allocated mammal. Your research should include:
- health, accommodation and feeding requirements for the mother and offspring to include:
 - pregnancy and lactation requirements for the mother
 - requirements of the offspring in the first 0-48 hours.
 - a list of references.

- b) Using your research notes from Task 1a you are required to create a health, accommodation and feeding plan for the mammal during pregnancy and lactation.

Your plan should include justification of your choices and consequences of not following the health, accommodation and feeding plan.

- c) Using your research notes from Task 1a you are required to create a care plan for the first 0-48 hours of the offspring's life, which includes the extra considerations needed for the offspring in addition to what you have already considered for the pregnant mammal in Task 1b.

Your plan should include justification of your choices and consequences of not following the care plan.

Resources

Task 1a:

- digital equipment with internet access.

Task 1b:

- digital equipment with **no** internet access.

Task 1c:

- digital equipment with **no** internet access.

Conditions of assessment:

- The time allocated for this assessment is **7 hours**.
 - Task 1a – 1.5 hours
 - Task 1b - 4 hours
 - Task 1c - 1.5 hours

- you must carry out the task on your own, under **controlled conditions**.

Controlled conditions:

- You must only work on tasks in the allocated times
- use of the internet is permitted for Task 1a only
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

What must be produced for marking:

Task 1b:

- your completed health, accommodation and feeding plan for your allocated pregnant mammal (typically 2000 words).

Task 1c:

- your completed care plan for the offspring (typically 750 words).

Additional evidence for this task:

- N/A.

What must be submitted:

Task 1a:

- Up to one side of A4 research notes. Additional pages will not be accepted.
 - text to be Arial font, size 12
 - standard line spacing and borders
 - page numbered
 - file saved securely to be handed in.
- A list of references (these are additional to the notes and are not counted in the page limit of one side of A4).

Task 2 Health assessment

As part of the management of the Guilds Animal Science Centre, all animals have a regular, physical health assessment. Your assessor will provide you with the mammal you will be working with.

You must:

- a) Complete a risk assessment for the handling, restraint, movement and health assessment of your allocated mammal. Your assessor will provide you with a template for the risk assessment.
- b) Using appropriate handling and restraint, move your allocated mammal to a suitable place where a health assessment can take place.
- c) Carry out a physical health assessment on your allocated mammal. Once completed, replace the mammal in its enclosure.
 - you may take handwritten notes during the health assessment to aid you in Task 2d.
- d) Using any notes captured in Task 2c, fill in the health check form provided, discussing your findings in terms of overall health and welfare of the mammal.

Following the completion of the health check form, you will now also produce a written report to include:

- how you would adapt the handling of the mammal if it was a pregnant female
- how you would adapt the handling of the mammal if it was a breeding male
- the steps you would take if you discovered a congenital issue when health assessing a juvenile.

Resources:

Task 2a:

- risk assessment template (Figure 1)
- digital equipment with **no** internet access.

Task 2b:

- your allocated mammal
- a range of movement and restraint equipment to choose from
- a suitable area to perform the health assessment.

Task 2c:

- your allocated mammal
- a range of health checking equipment to choose from
- a suitable area to perform the health assessment

- a pen and paper for notes.

Task 2d:

- health check form template (Figure 3)
- digital equipment with **no** internet access
- any handwritten notes that you took in Task 2c.

Conditions of assessment:

- The time allocated for this assessment is **2.5 hours**.
 - Task 2a - 1 hour
 - Task 2b - 10 minutes
 - Task 2c - 20 minutes
 - Task 2d - 1 hour
- you must carry out the task on your own, under **controlled conditions**.

Controlled conditions:

- You must only work on your tasks in the allocated times
- use of the internet is not permitted
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

What must be produced for marking:

Task 2a:

- your completed risk assessment.

Task 2d:

- your completed health check form
- your written report (typically 500 words).

Additional evidence for this task:

Task 2b:

- practical observation form from the assessor
- photographic evidence of the restraint of the mammal.

Task 2c:

- practical observation form from the assessor
- video evidence of the health checking of the head of the mammal.

Task 3 Population management report

The Guilds Animal Science Centre regularly reviews the population management of each species held on site and considers their evolution and conservation.

- a) You will need to carry out research and produce notes (two sides of A4) for the Galapagos Tortoise (*Chelonoidis niger*). Your research should include:
 - evolution of the Galapagos Tortoise over the last 200 years
 - conservation of the Galapagos Tortoise
 - management of the Galapagos Tortoise
 - ethical and legal considerations for conservation and management of the Galapagos Tortoise
 - a list of references.

- b) Using your research from Task 3a, produce a written report, discussing the population management of a Galapagos Tortoise in a captive environment. Your report should include:
 - the evolution of the Galapagos Tortoise
 - conservation for the Galapagos Tortoise including the ethical and legal considerations for the tortoise
 - the management strategies needed for keeping and breeding the Galapagos Tortoise including the ethical and legal considerations for the tortoise.

Resources

Task 3a:

- digital equipment with internet access

Task 3b:

- digital equipment with **no** internet access.

Conditions of assessment:

- The time allocated for this assessment is **7 hours**.
 - Task 3a - 3 hours
 - Task 3b - 4 hours
- You must carry out the task on your own, under **controlled conditions**.

Controlled conditions:

- You must only work on your tasks in the allocated times
- use of the internet is permitted for Task 3a only
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

What must be produced for marking:

Task 3b:

- Population management report on the Galapagos Tortoise (typically 2000 words).

Additional evidence for this task:

- N/A

What must be submitted:**Task 3a:**

- Up to 2 sides of A4 research notes. Additional pages will not be accepted.
 - text to be Arial font, size 12
 - standard line spacing and borders
 - page numbered
 - file saved securely to be handed in.
- A list of references (these are additional to the notes and are not counted in the page limit of two sides of A4).

Task 4 Plan an investigation

One of the enclosures at the Guilds Animal Science Centre has been linked to animals showing signs of illness, including diarrhoea and lethargy. The cause of this illness needs to be identified in order to treat the animals effectively and prevent further reoccurrence. The enclosure has been swabbed for bacteria and you have been tasked with identifying the cause of the illness.

You must:

- a) Create a scientific plan with appropriate structure, in readiness for conducting an investigation, to determine the identity of the bacteria that has been found in the enclosure. You will be given 6 hours in total for the investigation (not including incubation time). This plan should include:
 - o justifications of the methodology chosen for identifying the bacteria, including aseptic technique
 - o a method of investigation for recommending the best antibiotic to treat this individual bacteria.
- b) Produce a list of equipment that you will need to carry out your investigation. Your assessor will provide you with a template for your equipment list.
- c) Complete a risk assessment for carrying out your investigation. Your assessor will provide you with a template for the risk assessment.

Your assessor will provide you with an unidentified bacteria, a bacteria identification sheet and antibiotic discs in the following task.

Resources

Task 4a:

- digital equipment with **no** internet access.

Task 4b:

- equipment list template (provided by your assessor)
- digital equipment with **no** internet access.

Task 4c:

- digital equipment with **no** internet access
- risk assessment template (Figure 2).

Conditions of assessment:

- The time allocated for this assessment is **3.5 hours**.
 - o Task 4a - 2 hours
 - o Task 4b - 30 minutes
 - o Task 4c - 1 hour
- You must carry out the task on your own, under **controlled conditions**.

Controlled conditions:

- You must only work on your tasks in the allocated times
- use of the internet is not permitted
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

What must be produced for marking:**Task 4a:**

- your completed scientific plan for the investigation (typically 1000 words).

Task 4b:

- your completed equipment list.

Task 4c:

- your completed risk assessment.

Additional evidence for this task:

- N/A

Task 5 Carry out the investigation

You are now required to carry out your investigation to determine the bacteria present in the enclosure. You will also need to determine which antibiotic is the most suitable to use for the bacteria you have been given.

You must:

- a) Using your plan from Task 4a, and the bacteria identification sheet and bacteria provided by your assessor, carry out your investigation to determine which bacteria is present in the enclosure.

Record the results of the investigation – these may be handwritten and then scanned into a PDF document for use in subsequent tasks.

- b) Using your plan from Task 4a and your bacteria identified in Task 5a, carry out an investigation to determine which antibiotic would be the best for the bacteria you have been given.

Record the results of the investigation – these may be handwritten and then scanned into a PDF document by your assessor for use in subsequent tasks.

Resources

Task 5a:

- your completed plan from Task 4a
- your equipment from the equipment list produced in Task 4b
- bacteria identification sheet
- unidentified bacteria
- pen, pencil, paper.

Task 5b:

- your completed plan from Task 4a
- your equipment from the equipment list produced in Task 4b
- your identified bacteria from Task 5a
- antibiotic discs
- pen, pencil, paper.

Conditions of assessment:

- The time allocated for this assessment is **6 hours** (this does not include time needed for incubation).
 - Task 5a - 3 hours (suggested 2hrs before incubation and 1 hour after incubation)
 - Task 5b - 3 hours (suggested 2hrs before incubation and 1 hour after incubation)
- You must carry out the task on your own, under **controlled conditions**.

Controlled conditions:

- You must only work on your tasks in the allocated times
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

What must be produced for marking:

- Your results from the investigations in task 5a and task 5b
 - these can be handwritten and then scanned onto a PDF document for safe storage and use in subsequent tasks
 - these may include any photographs of the final results that you have taken.

Additional evidence for this task:**Task 5a:**

- video of aseptic technique/streak plate
- practical observation form from the assessor.

Task 5b:

- photographic evidence of your plate(s) with the antibiotic discs
- practical observation form from the assessor.

Task 6 Present your findings

You are now required to produce a scientific report based on your investigations. The report will be shared with your colleagues from the Guilds Animal Science Centre.

- a) You will need to carry out research and produce notes (two sides of A4) for the bacteria and antibiotics that you investigated in Task 5. Your research should include:
 - how the identified bacteria is affected by the antibiotics
 - any antibiotic resistance for the antibiotics used in Task 5 and how this may affect their efficacy
 - a list of references.

- b) You must produce a scientific written report which:
 - analyses your findings from the investigation using your results from Task 5a and Task 5b
 - discusses the implications of antibiotic resistance on the Guilds Animal Science Centre
 - evaluates your laboratory skills and the techniques used for the investigation in Task 5a and Task 5b.

Resources:

Task 6a:

- digital equipment with internet access
- your plan from Task 4a
- your results from Task 5a and Task 5b.

Task 6b:

- digital equipment with **no** internet access
- your results from Task 5a and 5b
- your research notes from Task 6a.

Conditions of assessment:

- The time allocated for this assessment is **7 hours**.
 - Task 6a - 3 hours
 - Task 6b - 4 hours
- You must carry out the task on your own, under **controlled conditions**.

Controlled conditions:

- You must only work on your tasks in the allocated times
- use of the internet is permitted for task 6a only
- assessment evidence must be handed in at the end of each session for secure storage

- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

What must be produced for marking:

Task 6b:

- Your scientific report (typically 2000 words).

Additional evidence for this task:

- N/A

What must be submitted:

Task 6a:

- Up to two sides of A4 research notes. Additional pages will not be accepted.
 - text to be Arial font, size 12
 - standard line spacing and borders
 - page numbered
 - file saved securely to be handed in.
- A list of references (these are additional to the notes and are not counted in the page limit of two sides of A4).

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