



National Unit Specification

General information

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Unit code: J8N9 45

Superclass: PB

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Source: Scottish Qualifications Authority

Version: 01

Unit purpose

This unit introduces the learner to the field of forensic anthropology.

The unit is designed to enable learners to develop an understanding of the history of forensic anthropology and who the most important individuals were in the development of the profession. Learners will learn how forensic anthropology is utilised in the modern world in humanitarian responses and criminal investigations. They will gain skills and techniques which will enable them to understand the role of bones in the human body. They will gain knowledge about the chemical composition of bones, how bones are formed, and their histology. They will learn how to identify and site the bones of the human body and understand and identify the role that bones play in identification processes, including forming a biological profile.

This unit is suitable for learners who wish to obtain a basic knowledge of forensic anthropology.

National Unit Specification: General information (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Outcomes

On successful completion of the unit the learner will be able to:

1. Describe the history of the profession of forensic anthropology.
2. Describe how forensic anthropology can be utilised in the modern world.
3. Describe the role of the bones of the adult human skeleton and their form and function.
4. Identify the bones of the adult human skeleton using an appropriate reference, demonstrate methods of recording them, and basic methods of analysis used to form a biological profile.

Credit points and level

1 National Unit credit at Scottish Credit and Qualifications Framework (SCQF) level 5: (6 SCQF credit points at SCQF level 5).

Recommended entry to the unit

This unit is suitable for learners who are studying this subject for the first time. Whilst it is designed to be studied by those with no scientific background, prior experience of human biology or anatomy would be beneficial.

National Unit Specification: General information (continued)

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Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the support notes for this unit specification.

There is no automatic certification of Core Skills or Core Skill components in this unit.

Context for delivery

If this unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website:
[SQA Assessment Arrangements](http://www.sqa.org.uk/assessmentarrangements) (www.sqa.org.uk/assessmentarrangements).

National Unit Specification: Statement of standards

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Describe the history of the profession of forensic anthropology.

Performance criteria

- (a) Identify the main historical milestones in the forensic anthropology profession.
- (b) Identify key professionals who have contributed to the development of forensic anthropology.
- (c) Describe the contributions of key professionals to the development of forensic anthropology.

Outcome 2

Describe how forensic anthropology can be utilised in the modern world.

Performance criteria

- (a) Describe the role of the forensic anthropologist in the identification process of human remains.
- (b) Describe the role of the forensic anthropologist in specific humanitarian responses.
- (c) Describe the role of the forensic anthropologist in a criminal investigation.
- (d) Describe the ethics of when working with the deceased.

National Unit Specification: Statement of standards (continued)

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Outcome 3

Describe the role of the bones of the adult human skeleton and their form and function.

Performance criteria

- (a) Describe the form and function of the bones of the adult human skeleton.
- (b) Describe the chemical composition of the bones of the human skeleton.
- (c) Describe the histology of human bone.

Outcome 4

Identify the bones of the adult human skeleton using an appropriate reference, demonstrate methods of recording them, and basic methods of analysis used to form a biological profile.

Performance criteria

- (a) Identify the bones in the adult human skeleton using an appropriate reference.
- (b) Lay an adult human skeleton out in anatomical position.
- (c) List the four main parts of the biological profile.
- (d) Describe a method of analysis used per section of the biological profile.

National Unit Specification: Statement of standards (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Evidence requirements for this unit

Evidence is required to demonstrate that learners have achieved all outcomes and performance criteria.

Work can be completed on an outcome by outcome basis.

The learner can present evidence in any suitable form, written or oral. The learner will also be required to undertake observed practical activities. If group work is used, individual learners must show coverage of all evidence requirements. To do this, the learner may need to provide additional responses to, for example, structured questions.

If learners choose an oral method, we recommend that you record this in some form or provide assessor notes for external verification purposes.

All evidence will be produced in open-book conditions.

The centre should ensure the authenticity of the learner's work. Where possible, plagiarism detection software should be used.

For non-practical work (outcomes 1 to 3), it is expected that the learner will produce approximately 1,000 words. It is also possible to use an oral presentation. Learners will decide, in consultation with their lecturer, the topic to be presented. The presentation must include all knowledge and / or skills items and should last a minimum of 5 minutes. An assessor observation checklist and / or video recording should be retained as evidence of performance for each learner. Where a learner does not perform an assessed topic to the required standard, they will be given the chance to either reattempt the same topic, or to undertake a different topic of similar complexity. If the required standard is still not attained, then an alternative topic will be set.

National Unit Specification: Statement of standards (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Outcome 1 — Describe the history of the profession of forensic anthropology.

The learner must describe the history of the profession of forensic anthropology.

Evidence must include:

- identification of the main historical milestones in the profession of forensic anthropology.
- identification of five key professionals who have contributed to the profession of forensic anthropology.
- a description of the contributions of these professionals.

Outcome 2 — Describe how forensic anthropology can be utilised in the modern world.

The learner must describe when and why forensic anthropology can be useful in modern situations. Evidence must include:

- a description of three humanitarian or mass fatality responses that have involved forensic anthropologists.
- a description of the role of the forensic anthropologist in the identification process.
- a comparison of the role of a forensic anthropologist in a humanitarian response with that of the role of the forensic anthropologist in a criminal investigation.
- a description of ethical issues when working with the deceased in these situations.

National Unit Specification: Statement of standards (continued)

Unit title: Forensic Anthropology: History and Application
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Outcome 3 — Describe the role of the bones of the adult human skeleton and their form and function.

The learner must describe the role of the bones of the adult human skeleton and their form and function. Evidence must include:

- a description of the types of bones in an adult human skeleton.
- a list of the chemical composition of bones in an adult human skeleton.
- a description of the histology of human bone.

Outcome 4 — Identify the bones of the adult human skeleton using an appropriate reference, demonstrate methods of recording them, and basic methods of analysis used to form a biological profile.

The learner must identify the bones of the adult human skeleton and demonstrate methods of recording them and basic methods of analysis used to form a biological profile. Evidence must include:

- identifying, using a suitable reference, the 206 bones in the adult human skeleton grouped by type and area.
- laying out an adult human skeleton in anatomical position.
- a listing of the four main parts of the biological profile.
- a description of one method per section of the biological profile involved in analysis.



National Unit Support Notes

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Unit support notes are offered as guidance and are not mandatory.

While the exact time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this unit

Outcome 1 — Describe the history of the profession of forensic anthropology.

This outcome is designed to enable learners to develop an understanding of the history of forensic anthropology and who the most important individuals were in the development of the profession.

Learners should be provided with information about key milestones in the development of forensic anthropology. There are many people who have really made a difference as this profession has moved from being undertaken by biological anthropologists and anatomists through to the modern-day professionals who call themselves forensic anthropologists. These include Mildred Trotter, T W Todd, Ales Hrdlicka, Dale Stewart, Thomas Dwight, George Dorsey, W M Krogman, Douglas Ubelaker, Dame Prof Sue Black, K Reichs, Clyde Snow and William Bass.

Information on these individuals can be found both on the internet, in open access journal articles and in general textbooks. Some of their contributions should be looked at in detail especially those who undertook the first pieces of work for the police or who have created methods that are still in use today (Suchey Brooks, Iscan ageing from sternal end of rib, stature estimations) or who have raised the profile of the profession moving it to a profession that is now involved in humanitarian work (Argentina, Guatemala, Spain, etcetera) — Clyde Snow and others.

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
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There has been interesting work done by forensic anthropologists in response to humanitarian and mass fatality events or for the police which should also be included, such as the Luetgert case and the murder of Dr Parkman.

Outcome 2 — Describe how forensic anthropology can be utilised in the modern world.

This outcome focuses on the roles that the forensic anthropologist undertakes in humanitarian and criminal situations.

Learners should study both humanitarian and mass fatality responses involving forensic anthropologists. Good examples to direct learners to include:

Humanitarian:

The role of the forensic anthropologist in a humanitarian situation involves the location, recovery and identification of those who have been involved. Examples include the search for the missing in Spain, Argentina, Bosnia and Rwanda after the events in these countries. The main aim is to recover, identify and return the individuals to their families.

Criminal investigation:

The role of the forensic anthropologist in a criminal investigation involves the location, recovery and identification of those who have fallen victim but here the forensic anthropologist must create a report and give evidence to the investigators that adds to the information that they have in relation to the case. The forensic anthropologist may give evidence on this in court.

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
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Learners should also gain an understanding of ethical issues when working with the deceased. This includes ensuring dignity for the deceased and honouring cultural and religious rituals surrounding death. Further information is available online (for example, Interpol website) and on open-source publications.

Outcome 3 — Describe the role of the bones of the adult human skeleton and their form and function.

Learners should gain skills and techniques which will enable them to understand the role of bones in the human body, this includes their function within the anatomy of the body. They should also gain knowledge about the chemical composition of bones, how bones and cartilage are formed and their histology.

Learners should understand how bones:

- support body structure and enable locomotion and movement.
- protect key organs within the body.
- produce bone marrow and cells for the body.
- act as a store for minerals.
- act to store and release fat.

Learners should understand the chemical composition of bones:

Collagen (flexibility and strength), water, minerals in the form of hydroxyapatite, organic matrix known as osteoid, bone cells (osteoblasts, osteocytes and osteoclasts and the roles of these cells), bone marrow (blood cell production), cartilage, nerves and blood vessels (nutrients and signals) and the membranes known as the endosteum and periosteum.

National Unit Support Notes (continued)

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Histology of bones:

Histology of bone refers to the study of the structure and composition of bone tissue. Bone is made up of two types of bone — trabecular bone and compact bone. The first is formed of slender bits of bone tissue which forms a network of bone. Compact bone is made up of osteons which surround haversian canals encased in lamellae.

Outcome 4 — Identify the bones of the adult human skeleton using an appropriate reference, demonstrate methods of recording them, and basic methods of analysis used to form a biological profile.

This is a practical outcome.

Learners should be able to identify and site the bones of the adult human body and understand and identify the role that bones play in identification processes including forming a biological profile. They should be familiar with methods of recording the human skeleton, which is usually undertaken through the completion of an inventory sheet. The biological profile is made of population affinity, sex, age and stature and they should be aware how these help with the identification process.

Progression from this unit is to other units in Anthropology at SCQF level 5s and 6.

There are no National Occupational Standards that link to this unit.

This unit does not underpin any SVQs.

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Guidance on approaches to delivery of this unit

Those delivering this course should have a degree or at least SCQF level 8 qualifications in human anatomy or human biology.

The professional body for forensic anthropology is the Royal Anthropological Institute (RAI). The RAI provides a range of continuous professional development (CPD) courses. This is the link to their web site. [The Royal Anthropological Institute \(RAI\)](#)

The course should be taught in the order that the outcomes are listed with background and history first through to how forensic anthropology is used in the modern day.

Then you should move on to the bones of the human skeleton — what their role is in the human skeleton, their chemistry and histology, and then finally how to recognise and identify bones and how to lay them out anatomically, record them and analyse them.

It is a requirement that there is access to model skeletons (adult) to assist with learning and assessment. There are also now high quality online resources which also should be accessed to assist with learning skeletal elements, and how to recognise them as well as understanding the histology of bones.

It would be beneficial to take a varied and active learning and teaching approach, where learners engage in supported, independent and collaborative learning. You should encourage learners to be participative and encourage them to take responsibility for their own learning. Delivery methods you could use include:

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
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- exposition
- group question and answer sessions
- debate
- Virtual Learning Environment (VLE)
- digital tools and social media
- close reading of sources

Guidance on approaches to assessment of this unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

Evidence can be presented in any suitable form — written, oral or other forms of communication. All evidence can be generated in open-book conditions.

Here is the link to SQA's Guide to Assessment: [Guide to Assessment](#)

National Unit Support Notes (continued)

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Outcome 1 — Describe the history of the profession of forensic anthropology.

Use could be made of:

- short answer questions
- restricted and extended response questions
- essays
- oral presentations
- poster presentations
- project

Outcome 2 — Describe how forensic anthropology can be utilised in the modern world.

Use could be made of:

- short answer questions
- restricted and extended response questions
- essays
- oral presentations
- poster presentations
- project

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
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Outcome 3 — Describe the role of the bones of the adult human skeleton and their form and function.

Use could be made of:

- short answer questions
- restricted and extended response questions
- essays
- oral presentations
- poster presentations
- project

Outcome 4 — Identify the bones of the adult human skeleton using an appropriate reference, demonstrate methods of recording them, and basic methods of analysis used to form a biological profile.

This is a practical outcome and assessment should be based on practical activities.

A practical activity where a learner points at specific bones on an adult human skeleton model or virtual representation of one, or any other suitable reference, and identifies them could validly demonstrate this ability.

Authenticating learners' work is essential. You should monitor learners' progress throughout to authenticate submitted work. Where possible, you should use plagiarism detection software.

National Unit Support Notes (continued)

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Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at [SQA e-Assessment](#).

([www.sqa.org.uk/Guide to best practice.pdf](http://www.sqa.org.uk/Guide%20to%20best%20practice.pdf)).

Opportunities for developing Core and other essential skills

The delivery and assessment of this unit may contribute towards the development of the following Core Skills:

Communication

Written Communication (Reading) SCQF level 5. Read, understand, and evaluate written communication. Learners may be required to engage with written information concerning forensic anthropology and the history of forensic anthropology.

Written Communication (Writing) SCQF level 5. Produce well-structured written communication. Learners may be required to produce a detailed written response to questions posed throughout the course including set written work.

Oral Communication SCQF level 5. Produce and respond to oral communication. Learners may be required to discuss the ethics involved in working with the deceased and why this is important.

National Unit Support Notes (continued)

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Information and Communication Technology (ICT)

Accessing Information SCQF level 5. Use ICT independently, effectively, and responsibly to access information within a range of tasks. Learners may be required to use the internet to identify information relating to humanitarian and mass fatality events.

Providing / Creating Information SCQF level 5. Use ICT independently, effectively, and responsibly to carry out a range of processing tasks. Learners may be required to use ICT to write about the form and function of the skeleton.

Numeracy

Using Graphical Information SCQF level 5. Interpret and communicate graphical information in everyday situations. Learners may be required to interpret a chart that helps identify biological sex from a set of measurements.

Using Number SCQF level 5. Apply a range of numerical skills in various everyday situations. Learners may be required to interpret the outcome of a stature estimation using bone measurements.

Problem Solving

Critical Thinking SCQF level 5. Analyse a situation or issue. Learners may be required to think critically about ethics and how they apply to the deceased.

Planning and Organising SCQF level 5. Plan, organise, and complete a task. Learners may be required to lay a skeleton out in anatomical order and create a skeletal inventory.

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Problem Solving (continued)

Reviewing and Evaluating SCQF level 5. Review and evaluate a problem solving activity. Learners may be required to decide the possible biological profile of a skeleton.

Working with Others

Working Co-operatively with Others SCQF level 5. In interactions, work with others co-operatively on an activity and / or activities. Learners may be required to work as a team to lay a skeleton out and create an inventory of the skeletal elements.

Reviewing Co-operative Contribution SCQF level 5. Review work with others in a co-operative activity and / or activities. Learners will be required to understand how forensic anthropology has evolved from early days to modern days.

This work should encourage group work and group learning as well as communication and discussion, especially in relation to the history of forensic anthropology. Much of the work of the forensic anthropologist happens after humanitarian fatality events, including the disappeared of many of the countries of South America and the (within living memory) events in Spain where family members have still not been recovered. More recently forensic anthropologists have been sent to work at the Grenfell site, at the Twin Towers, the Balkans and Rwanda, all of these events give opportunity to discuss political situations, civil wars as well as experiences of those involved, and the events surrounding modern events.

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Sustainability

Teaching staff and learners should consider sustainable practices and adhere to any centre policies in this respect.

Learning for Sustainability is an entitlement for all learners in Scotland. Key policies include Vision 2030+ and its Learning for Sustainability Action Plan.

Teaching resources can be found on Education Scotland's website:

[Education Scotland — A summary of learning for sustainability resources](#)

You might want to make learners aware of the UN Sustainable Development Goals and make appropriate links in your teaching. Here is a link to the web site:

[United Nations Department of Economic and Social Affairs — The 17 Goals](#)

Links could possibly be made to Goal 16 — Peace, Justice and Strong Institutions.

Citizenship

The four capacities of Curriculum for Excellence are:

- Successful learners
- Confident individuals
- Responsible citizens
- Effective contributors

Learners should continue to develop these skills in the senior phase. Learners should be given the opportunity to discuss what it means to be a good citizen by acting responsibly, and considering matters such as human rights, values, social justice and peace. Links could be made with Learning for Sustainability.

National Unit Support Notes (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Employability

A range of Core Skills, scientific skills and other transferrable skills is developed in this unit. These will benefit the learner in progression to further education and employment. Learners could develop or complete a matrix outlining the skills developed and show this to an employer or take it along to an interview. The same could be used when applying to college or university.

History of changes to unit

| Version | Description of change | Date |
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Unit template: February 2024

General information for learners

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

This information will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit and opportunities for further learning and employment.

This unit will provide you with an introduction to the field of forensic anthropology.

The unit is designed to develop your understanding of the history of forensic anthropology and who the most important individuals were in the development of the profession. You will learn how forensic anthropology is utilised in the modern world in humanitarian responses and criminal investigations. You will gain skills and techniques which will enable you to understand the role of bones in the human body. You will gain knowledge about the chemical composition of bones, how bones are formed, and their histology. You will learn how to identify and site the bones of the human body and understand and identify the role that bones play in identification processes, including forming a biological profile.

On successful completion you will be able to:

1. Describe the history of the profession of forensic anthropology.
2. Describe how forensic anthropology can be utilised in the modern world.
3. Describe the role of the bones of the adult human skeleton and their form and function.
4. Identify the bones of the adult human skeleton using an appropriate reference, demonstrate methods of recording them, and basic methods of analysis used to form a biological profile.

General information for learners (continued)

Unit title: Forensic Anthropology: History and Application
(SCQF level 5)

Assessment

All assessment will be undertaken in open-book conditions.

Outcomes 1 to 3 can be assessed by any suitable method, written or oral.

Outcome 4 will be assessed through practical activities.

You must achieve all performance criteria.

Core Skills

You will be given the opportunity to develop the following Core Skills and Core Skill components:

- Communication (Reading, Writing, Oral) SCQF level 5
- Information and Communication Technology (ICT) (Accessing Information and Providing / Creating Information) SCQF level 5
- Numeracy (Using Graphical Information and Using Number) SCQF level 5
- Problem Solving (Critical Thinking, Planning and Organising and Reviewing and Evaluating) SCQF level 5
- Working with Others (Working Co-operatively with Others and Reviewing Co-operative Contribution) SCQF level 5

You will also develop knowledge and skills relating to sustainability, citizenship and employability.

Progression from this unit is to other units in Social Anthropology at SCQF levels 5 and 6.