



BADGES SCHEMA FOR FORENSIC ANTHROPOLOGY

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FROM LEARNING ACTIVITIES TO ASSESSED LEARNING.

The overall aim of using of a sequence of badges in the Forensic Anthropology module is:

- To support students as they develop their understanding of osteology and anatomy and the bioanthropological variations that are used to determine sex, stature, age and ancestry.

The stages of added difficulty and complexity build up understanding and confidence in anatomical, osteological, dental and forensic/physical anthropological techniques.

This supports the objectives of:

- **Encouraging flexible learning** through student being able to move through the materials at their own pace with faster learners able to move on to more complex material knowing they have consolidated their basic knowledge or in some circumstances prior learning.
- **Enabling students to access support** e.g. from peers, tutors and in online resources (Blackboard, Course Resources) when and where it is needed.
- **Designed to support tutors with developing students mastery of the subject** through testing and feedback so students and tutors are aware of student progress on the module.

The use of badges in Forensic Anthropology relies on the use of learning outcomes that support learning and the assessment of practical knowledge as well as student's ability to observe the features of bones from normal specimens through to forensic anthropological and osteoarchaeological remains.

Learning Outcomes should be prefaced with "On completion students will be able to ..."

OSTEOLOGY: POST-CRANIAL BONES

On completion students will be able to ...

LEVEL 1

Identify all the bones of the post cranial skeleton, including naming bones from their shape (morphology).

LEVEL 2

Identify and name the specific parts of the bones that support identification including; anatomical orientation, siding (Right/Left) and positioning within a group of bones (e.g. carpal/tarsal bones) and sequencing with ribs and vertebrae.

LEVEL 3

Recognise bones from small parts and pieces of bone including naming, anatomical orientation, siding, and position given any limitations due to size of bone fragments. For example; comparing shaft of tibia with shaft of femur, curvature of femoral and humeral heads.



Figure 1. Badges for Post-cranial osteology Levels 1, 2 and 3.

OSTEOLOGY: CRANIAL

On completion students will be able to ...

LEVEL 1

Identify all the bones of the cranium including naming bones from their shape (morphology).

LEVEL 2

Identify and name the specific parts and features of the bones that support identification including anatomical orientation, siding (Right/Left) and positioning.

LEVEL 3

A. Name and locate the positions of the anatomical points on the skull.

B. Recognise cranial bones from small parts and pieces of bone anatomical orientation, siding (Right/Left) and positioning given any limitations due to size of bone fragments.



Figure 2. Badges for Cranial osteology Levels 1, 2 and 3.

ODONTOLOGY

On completion students will be able to ...

LEVEL 1

Name the different types of teeth including deciduous and permanent dentition.

LEVEL 2

Identify and name the specific parts and features of the teeth that support identification including anatomical orientation, siding (Right/Left) and positioning.

LEVEL 3

Understand and apply standard nomenclatures to create dental inventories.

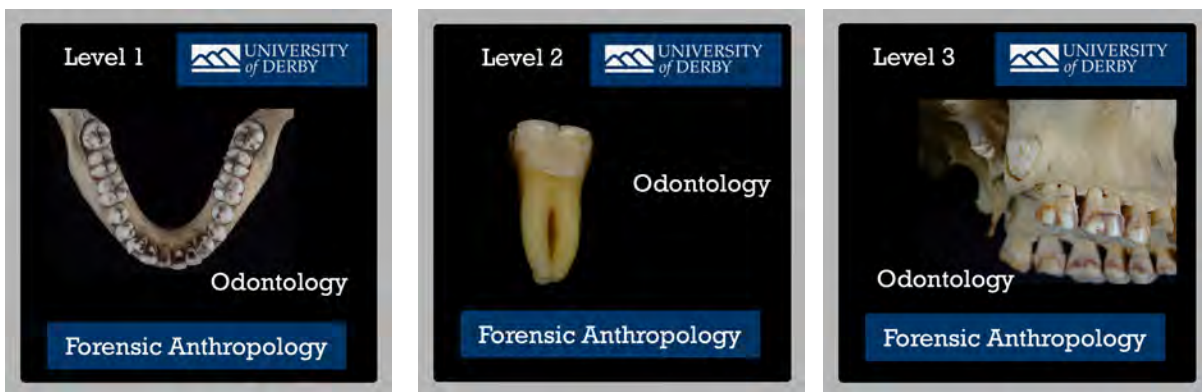


Figure 3. Badges for Odontology Levels 1, 2 and 3.

BIOANTHROPOLOGY

This section leads to 4 badges one for each of the aspects of the bioanthropological profile.

On completion students will be able to ...

Sex - Determine the sex of an individual from morphological and metrical analysis of the pelvis, skull and other bones of the body.

Stature - Estimate stature from bones including; understanding the relationship between bone length and stature, and limitations of the accuracy in relation to human variability.

Race/Ancestry - Apply a range of morphological and metrical techniques to give an opinion as to the ancestry of an individual.

Age - Apply a range of morphological and metrical techniques to estimate the age of an individual.



Figure 4. Badges for Bioanthropological Profile: Sex, Stature, Ancestry and Age.

ONLINE AND PRACTICAL CLASS BASED TESTS

Students have access to a range of learning resources for the module including a Practical Guide to Bioanthropology, videos, quizzes and other materials. The student's level of understanding in relation to the badge learning outcomes are assessed using online and practical class-based tests.

The online tests are all set at 75% to achieve mastery though students can take the tests as often as they want in order to gain a better grade. The practical class-based tests are designed to allow students to appreciate the 3 dimensionality of bones not easily visible online.

For example, Figure 5, shows a screen asking the student to select the correct areas used to determine sex of an individual from the cranium. Similarly there is a series of questions is designed to test your application of all of the bioanthropological techniques for determining sex, race/ancestry, stature and age. Currently there are 20 questions in total and completion at 75% and above will lead to you achieving the badge for Bioanthropology.

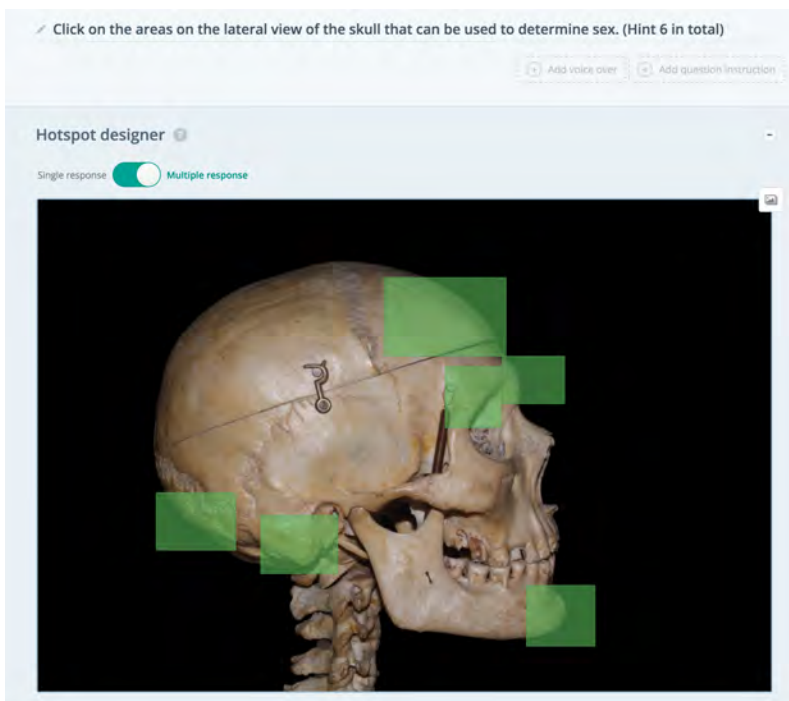


Figure 5. Example of hotspot question in designed using Easygenerator.

FORENSIC ANTHROPOLOGY

Students are supported by the online learning materials and tests so they can see how they are progressing. Students collect and add the badges they have achieved to a collecting sheet, a bit like a stamp album, see Figures 6 and 7. The grades for the online and practical tests are combined and students can see what they have achieved through the Grade Centre in Course Resources (Blackboard). The collection sheet also includes a copy of all of the learning outcomes on the reverse which supports the students in the development and recording of their personal development and employability skills.



Figure 6. Students checking their grades, sheet with green and blue colours, then applying stickers to their collection sheets.

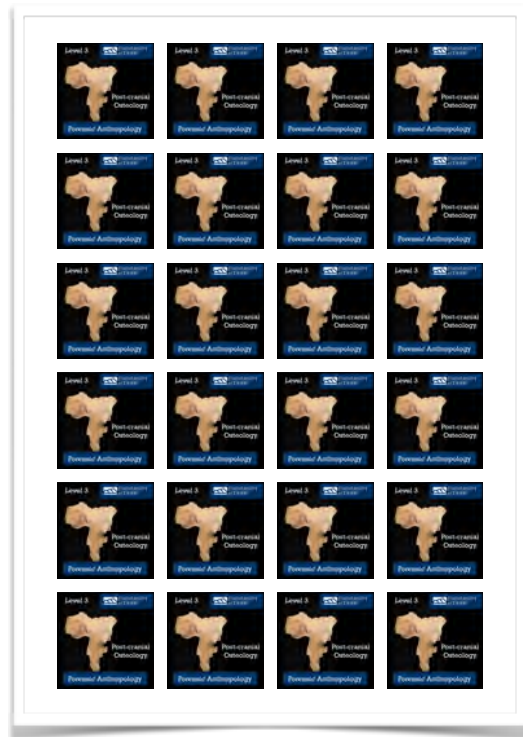
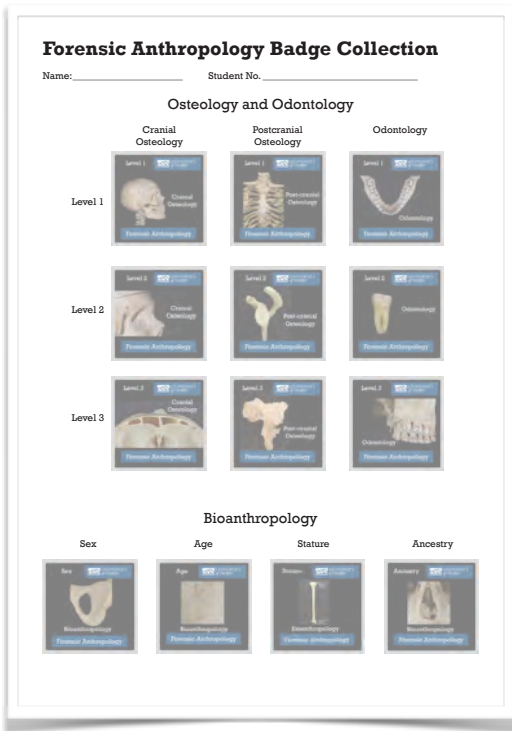


Figure 7. Example of collection sheet (Left) and sticker sheet (Right).

Once students have completed the Osteology and Odontology section or the Bioanthropology section they receive a cloth badge which can either be ironed onto their laboratory coat or used as they wish, see Figure 8.

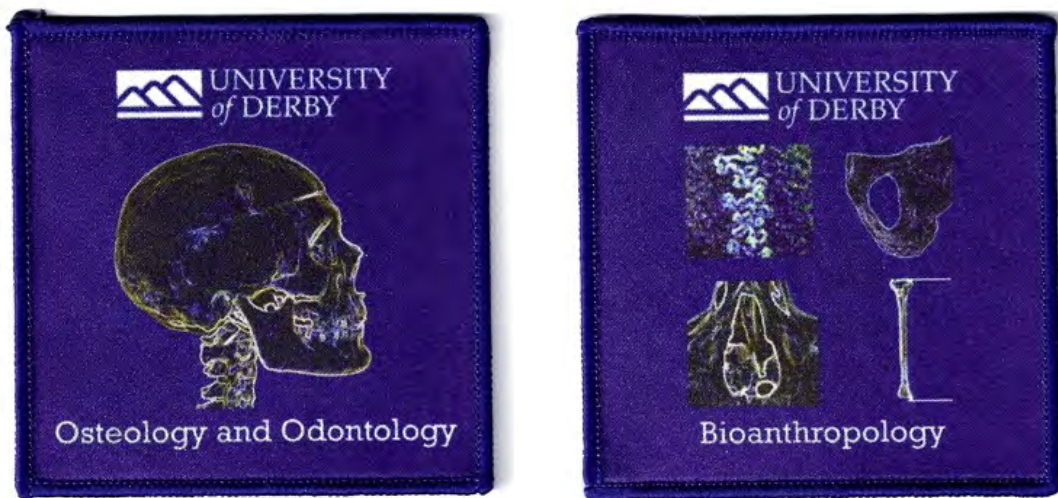


Figure 8. Cloth badges for Osteology and Odontology and Bioanthropology.