WASHBURN UNIVERSITY
Forensic Anthropology Recovery Unit

Human Skeletal Profile: Estimating the Biological Profile

Forensic Anthropology Short Course

Sample Course Modules

START: Course Introduction & Sign and submit nondisclosure agreement

1) Module: Human Osteology ➔ review two websites

2) Module: Intro to the Biological Profile

By the end of this module, participants will be able to:

- define forensic anthropology and the biological profile
- describe the current state of forensic anthropology
- comprehend the types of cases forensic anthropologists assist with and describe their role in medico-legal investigations
- understand and describe the skeletal features and regions used for estimation of the biological profile

Complete (the following items are required for the course credit):

- recorded lecture (28mins)
- read Dirkmaat et al. (2008), Austin and King (2016), and Christensen et al. (2015) articles (you may want to take notes on these for the quiz)
- take introduction quiz based on lecture and readings (check the correct answers after submission)

Optional: visit additional resources provided below for more information

3) Module: Methods in Forensic Anthropology

By the end of this module, participants will be able to:

- understand and describe how remains are treated and macerated prior to the analysis of the biological profile and trauma
- differentiate between qualitative and quantitative methods

Complete (the following items are required for the course credit:

- recorded lecture (23mins)
- read Christensen et al. (2019) Ch3 and Ch7
- answer 4 response questions based on your readings

4) Module: Sex Estimation

By the end of this module, participants will be able to:

- understand and describe the skeletal features and regions used for adult sex estimation
- describe current practices for adult sex estimation based on practitioner preferences
- apply popular morphological sex estimation methods for the pubis and skull
- apply metric sex estimation methods of the lone bones
- use MorphoPASSE program and interpret results

Complete:

- recorded lecture (40 mins)
- read Klales (2021) article on the current state of sex estimation
- complete the seven lab stations

Optional: visit additional resources (readings, websites, etc.) provided below for more information

5) Module: Subadult Age Estimation

By the end of this module, participants will be able to:

- understand and describe the skeletal features and regions used for subadult age estimation
- apply currently available subadult age estimation methods for dental eruption, dental calcification, and long bone growth and development

Complete:

- watch recorded lecture
- read Langley & Tersigni-Tarrant Ch10 and AlQahtani et al. 2010.
- complete Lab Stations 1-5

6) Module: Adult Age Estimation

By the end of this module, participants will be able to:

- understand and describe the skeletal features and regions used for adult age estimation
- describe current practices for adult age estimation based on practitioner preferences
- apply popular age estimation methods for the pubic symphysis, sternal rib ends, cranial sutures, and auricular surface
- calculate standard deviations to present age ranges

Complete:

- recorded lecture video
- read Garvin et al. (2012) and Garvin & Passalacqua (2012)
- complete Lab Stations 1-5

7) Module: Transition Analysis

By the end of this module, participants will be able to:

- describe how TA3 works for adult age estimation
- score skeletal features (i.e., the dependent variables) used in TA3
- interpret outputs from TA3 for age estimation
- analyze a case using the TA3 program (optional)

Complete:

- watch recorded lecture
- read Getz (2020) and peruse/skim the TA3 Scoring Manual 1.0
- complete Lab Stations 1. Lab Station 2 is optional and will require you to download and install the TA3 program. If you choose not to complete Station 2, at least look at the TA3 output answer key so you are familiar with the format.

8) Module: Stature Estimation

By the end of this module, participants will be able to:

- understand human stature estimation variation
- outline the differences between measured, reported, and forensic stature
- describe the current problems with stature estimation
- apply the anatomical and mathematical methods of stature estimation to forensic cases using bone measurements

Complete:

- watch recorded lecture
- read ANSI/ASB Standard 045 on Stature Estimation
- complete Lab Stations 1-5

9) Module: Ancestry Estimation

By the end of this module, participants will be able to:

- understand and describe the skeletal features and regions used for adult ancestry estimation
- apply popular morphological ancestry estimation methods for the skull (OSSA, hefneR, Decision Tree)

NOTE: this module only covers morphological ancestry estimation, metric methods will be covered in the FORDISC module

Complete:

- the lecture (in person via Zoom or recorded lecture)
- read Ousley et al. (2009) and Hefner et al. (2012)
- complete Lab Stations 1-3

Optional: visit additional resources provided below for more information

10) Module: FORDISC Program

By the end of this module, participants will be able to:

- understand and interpret the D2, posterior probabilities, and 3 typicalities
- choose the appropriate parameters to analyze a case (reference groups, stepwise, # variables, etc.)
- analyze a case from start to finish following the flow chart provided by Ousley and Jantz (2012:326 Figure 15.7)
- interpret outputs from Fordisc for combined sex/ancestry and stature

Complete:

- watch the lecture
- read Ousley & Jantz (2012)
- watch the two case example videos (one for sex/ancestry and one for stature)
- complete Lab Stations 1-4

11) Module: Cranial Measurements and Digitizing

By the end of this module, participants will be able to:

- describe how to accurately collect cranial measurements and digitize a skull
- be familiar with the 3D-ID program which can be used for sex and ancestry estimation

Complete:

- Read *Standards* landmarks and measurement definitions
- watch videos on Locating Cranial Landmarks and Collecting 3D Landmarks
- peruse/skim the 3D-ID program website and manual
- optional practice quizlet matching game
- complete Lab Station 1 quiz

12) Module: Positive Identification

By the end of this module, participants will be able to:

- understand forensic anthropologist's role in establishing an identification
- make a positive identification based on RadID, odontology, and unique skeletal biology
- describe the current problems with NAMUS, missing persons reports, and making a positive identification

Complete:

- watch the recorded lecture
- read Berg et al. (2019), Ubelaker et al. (2019), and Steadman et al. (2006) articles
- examine CA missing person report example and NAMUS website
- complete Lab Stations 1-2

13) Module: Dental Applications

By the end of this module, participants will be able to:

- describe the additional applications of dentition to the biological profile estimation
- be familiar with the new rASUDAS and (hu)MANid programs

Complete:

- watch the recorded lecture
- peruse/skim the two program links provided (rASUDAS and huMANid)

- complete 1 lab station

14) Module: Other Approaches to the Bio Profile

By the end of this module, participants will be able to:

- understand and describe the skeletal features and regions used for other methods of biological profile estimation not covered in the previous modules
- describe the use of DNA, histology, isotopes, facial reconstruction, and photo comparisons in identification
- recognize the benefits and limitations of each method

Complete:

- watch the recorded lecture
- read Bartelink & Chesson (2019), Ubelaker (2015), and Thomas (2020)

15) Module: Case Reports and Writing up the Bio Profile

By the end of this module, participants will be able to:

- document the biological profile results in case reports using the examples provided as templates
- understand the variation in reporting casework encountered in forensic anthropology

Complete:

- read the American Board of Forensic Anthropology's (ABFA) case file requirements
- read each of the case report examples provided below
- answer Lab Station 1 quiz questions

16) Module: Final Case Study Test

By the end of this module, participants will be able to:

- apply the methods learned in this course to a forensic case
- communicate the results of their analysis in a case report

Complete:

- analyze the case and write up the biological profile section of the report
- enter your case results in the quiz
- NOTE: you will receive feedback via D2L once graded and will be emailed an answer key upon submission