

Forensic Anthropology

Code: 100753
ECTS Credits: 3

Degree	Type	Year	Semester
2500250 Biology	OT	4	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Other comments on languages

The content of different subjects will be explained by the professor using visual material. The main literature and ppts will be in English

Teachers

Nuria Armentano Oller

Prerequisites

There are no official prerequisites, but it is assumed that the student has previously acquired enough solid knowledge on subjects like Genetics and Human biology

Objectives and Contextualisation

The course of forensic anthropology is designed to provide students the basic tools to manage biological information about personal identification. It is based on the application of knowledge of physical anthropology and human biology to medical and legal aspects, basically identification. We work at morphological, osteological, biochemical and molecular level. The work identifying both individual and collective lives of individuals, as the recent and ancient corpses. The emphasis in both forensic application, as in the reconstruction of ancient populations.

In this regard the course aims to:

- Understanding human variability as a source of individualization
- To know the morphological variability of characters distinctive of human groups
- To understand and interpret biochemical and molecular variability
- To analyse the biological basis of human diversity by different identification techniques

- To understand the taphonomical effects to interpret forensic situations
- To know the statistical basis of identifications

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and interpret the origin, evolution, diversity and behaviour of living beings.
- Be able to analyse and synthesise
- Be able to organise and plan.
- Control processes and provide services related to biology.
- Design and carry out biodiagnoses and identify and use bioindicators.
- Isolate, identify and analyse material of biological origin.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Perform genetic analyses.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.
- Understand heredity mechanisms and the fundamentals of genetic improvement.
- Understand the processes that determine the functioning of living beings in each of their levels of organisation.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Analyse present and past intra-population and inter-population variability in our species.
3. Analyse the sex- or gender-based inequalities and the gender biases present in one's own area of knowledge.
4. Analyse the sustainability indicators of the academic and professional activities within the area, integrating the social, economic and environmental dimensions.
5. Be able to analyse and synthesise.
6. Be able to organise and plan.
7. Critically analyse the principles, values and procedures that govern the exercise of the profession.
8. Describe heredity patterns and calculate the risk of recurrence of human diseases.
9. Identify the natural and artificial factors that affect human health.
10. Interact with and advise government institutions operating in the field of social policy and population and public health policy.
11. Interpret human variability as a source of individualisation.
12. Interpret phylogeographic analyses of the human species.
13. Interrelate the environmental, biological and cultural data that merge in the interpretation of human evolution.
14. Make population genetic determinations from which to interpret the relationships between normal and pathological variability in the human species, and interpret the findings.

15. Manipulate human samples and perform morphological, molecular and chromosome determinations for the diagnosis and prevention of diseases.
16. Propose new methods or well-founded alternative solutions.
17. Propose projects and actions that incorporate the gender perspective.
18. Propose ways to evaluate projects and actions for improving sustainability.
19. Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
20. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
21. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
22. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
23. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.

Content

- Legal framework of forensic anthropological studies
- Identification of living people and recent corpses
- Biochemistry of death
- Forensic entomology
- Conservation
- Field anthropology
- Identification from human remains
- Forensic anthropology in major catastrophes
- Biochemical and molecular applications in identification and determination of paternity

*Unless the requirements enforced by the health authorities demand a prioritization or reduction of these contents.

Methodology

The nucleus of the learning process is the work of the student. The student learns working, being the mission of the teaching staff to help him/her in this task by providing information or showing them the sources where they can achieve the most recent and efficient information. In line with these ideas and in accordance with the objectives of the subject, the development of the course is based on the following activities:

Theoretical teaching: The student acquires the scientific and technical knowledge of the course, attending the theoretical classes and complementing them with the personal study of the topics explained. The theoretical classes are conceived as a method of transmitting the teacher's knowledge to the student. However, an important part of the discussion of topics will be proposed or subjects developed using a methodology of Problem-based learning. Whenever possible, students will work in small groups. With enough anticipation, the student will know the topics to debate and discuss on the virtual forums. The audiovisual material used in class will be provided by the teacher through a virtual campus.

Seminars: seminars will focus on specific topics of theory. The students will work in small groups allowing them

to acquire the ability to work in group and also to analyse and do synthesis.

Practices: The topics related to osteology and diagnoses will be mainly taught in theoretical-practical classes with small groups of students in the laboratory. They are designed to learn osteology and its variability, and are complemented by theoretical information. Students will have a detailed work manual. In order to achieve good performance and acquire the corresponding competencies, a comprehensive reading of the proposed practice is essential before its completion. The follow-up of the practical class will also involve the individual collection of the results in a dossier of activities. To be able to attend the practical classes it is necessary for the student to justify having passed the biosafety and security tests that he will find in the Virtual Campus and be knowledgeable and accept the rules of operation of the laboratories of the Faculty of Biosciences.

*The proposed teaching methodology may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratory practices	9	0.36	2, 14, 12, 13, 5, 6
Lectures	15	0.6	2, 10, 12, 13, 5
Seminars	2	0.08	2, 10, 13, 5
Type: Supervised			
Preparation of seminars	8	0.32	2, 12, 13, 5, 6
Tutorials	2	0.08	5, 6
Type: Autonomous			
Group seminars	12	0.48	2, 13, 5, 6
Personal study	25	1	2, 12, 13, 5, 6

Assessment

As it is a continuous assessment, the participation of the student, the group work, the preparation of the seminars, the documents from the practical sessions and the note of the control will be taken into account. The final result will be the weighted sum of each of the parts.

-A written test will be carried out to evaluate the theoretical part of the subject (50%).

- The laboratory sessions represent 25% of the final mark. The assessment will take into account the attitude of the students as well as the work done in the laboratory and the questionnaires required. Attendance to practical sessions is mandatory. Students missing more than 20% of programmed sessions will be graded as "No Avaluable"

-The seminar will be used to discuss the workgroup and corresponds to 20% of the final mark. All students in the same group will have the same grade in this test, qualified by the individual work developed in the group.

- 5% of the final mark comes from the involvement and participation of the student in the subject through the student manner and activities e.g. in the virtual campus forum, etc.

To be eligible for the retake process, the student should have been previously evaluated in a set of activities equaling at least two-thirds of the final score of the course or module. Thus, the student will be graded as "No Avaluable" if the weight in of all conducted evaluation activities is less than 67% of the final score

*Student's assessment may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Class attendance and participation in in-class and virtual debates	5%	0	0	7, 4, 2, 3, 1, 8, 14, 9, 10, 12, 11, 13, 18, 16, 17, 23, 22, 21, 19, 20, 5, 6
Group seminars	20%	0	0	4, 2, 3, 1, 8, 14, 9, 10, 11, 13, 18, 16, 17, 23, 22, 21, 19, 20, 5, 6
Laboratory work	25%	0	0	7, 4, 2, 3, 1, 8, 14, 9, 12, 11, 13, 15, 18, 16, 17, 23, 22, 21, 19, 20, 5, 6
Written test	50%	2	0.08	4, 2, 1, 8, 14, 9, 12, 11, 13, 16, 23, 22, 21, 19, 20, 5

Bibliography

Basic literature:

WHITE T, BLACK MT & FOLKENS PA. Human Osteology.- Academic Press (diverses edicions)
 TERSIGNI-TARRANT MT. 2012. Forensic Antrhopology: an Introducción. CRC Press
 HAGLUND SD & SORG MH. (1997) Forensic Taphonomy: the postmortem fate of Human Remains. CRC Press
 JOBLING, M.A. i HURLES, M.E. (2004). Human Evolutionary Genetics - origin, peoples & disease. Garland Science. Cap. 15
 WEINER MP, GABRIEL SB & STEPHENS JC. (2007) - Genetic variation. A laboratory manual. Cold Spring Harbor. Cap.34

Specific literature

It will be given during the course.