

Forensic Anthropology

Code: 100753
 ECTS Credits: 3

| Degree | Type | Year | Semester |
|-----------------|------|------|----------|
| 2500250 Biology | OT | 4 | 0 |

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

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

Skills

- 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.
- Develop critical thinking and reasoning and communicate ideas effectively, both in the mother tongue and in other languages.
- Develop independent learning strategies.
- Isolate, identify and analyse material of biological origin.
- Perform genetic analyses.
- Respect diversity in ideas, people and situations
- 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 present and past intra-population and inter-population variability in our species.
2. Be able to analyse and synthesise.
3. Be able to organise and plan.
4. Describe heredity patterns and calculate the risk of recurrence of human diseases.
5. Develop critical thinking and reasoning and communicate ideas effectively, both in the mother tongue and in other languages.
6. Develop independent learning strategies.
7. Identify the natural and artificial factors that affect human health.
8. Interact with and advise government institutions operating in the field of social policy and population and public health policy.
9. Interpret human variability as a source of individualisation.
10. Interpret phylogeographic analyses of the human species.
11. Interrelate the environmental, biological and cultural data that merge in the interpretation of human evolution.
12. Make population genetic determinations from which to interpret the relationships between normal and pathological variability in the human species, and interpret the findings.
13. Manipulate human samples and perform morphological, molecular and chromosome determinations for the diagnosis and prevention of diseases.
14. Respect diversity in ideas, people and situations.

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

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:

Theory classes: 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 theory classes are conceived as a method of transmitting the teacher's knowledge to the student. However, in this subject, 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 sufficient anticipation, the student will be given the topics to debate and discuss discussion on the virtual forums. The audiovisual material used in class will be provided by the teacher through a virtual tool.

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 of analysis and 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 osteopathy 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.

Activities

| Title | Hours | ECTS | Learning outcomes |
|-------------------------|-------|------|-------------------------------|
| Type: Directed | | | |
| Laboratory practices | 9 | 0.36 | 1, 6, 5, 12, 10, 11, 14, 2, 3 |
| Lectures | 15 | 0.6 | 1, 6, 5, 8, 10, 11, 14, 2 |
| Seminars | 2 | 0.08 | 1, 6, 5, 8, 11, 14, 2 |
| Type: Supervised | | | |
| Preparation of seminars | 8 | 0.32 | 1, 6, 5, 10, 11, 14, 2, 3 |
| Tutorials | 2 | 0.08 | 6, 5, 2, 3 |
| Type: Autonomous | | | |
| Group seminars | 12 | 0.48 | 1, 6, 5, 11, 14, 2, 3 |
| Personal study | 25 | 1 | 1, 6, 5, 10, 11, 14, 2, 3 |

Evaluation

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 the 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 Available"

-The seminar will be used to discuss the work group 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 Available" if the weight of all conducted evaluation activities is less than 67% of the final score

Evaluation activities

| Title | Weighting | Hours | ECTS | Learning outcomes |
|--|-----------|-------|------|-------------------------------------|
| Class attendance and participation in in-class and virtual debates | 5% | 0 | 0 | 6, 5, 14, 2, 3 |
| Group seminars | 20% | 0 | 0 | 1, 6, 5, 12, 8, 11, 14, 2, 3 |
| Laboratory work | 25% | 0 | 0 | 1, 6, 5, 12, 10, 11, 13, 14, 2, 3 |
| Written test | 50% | 2 | 0.08 | 1, 4, 6, 5, 12, 7, 10, 9, 11, 14, 2 |

Bibliography

Basic literature:

WHITE T, BLACK MT & FOLKENS PA. Human Osteology.- Academic Press (diverses edicions)
 TERSIGNI-TARRANT MT. 2012. Forensic Anthropology: 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.