Universitat Autònoma de Barcelona

2020/2021

Human Biology

Code: 100751
ECTS Credits: 6

Degree	Type	Year	Semester
2500250 Biology	OB	2	2

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: No
Some groups entirely in Spanish: No

Teachers

Maria Eulàlia Subirà i de Galdàcano

Prerequisites

There are no prerequisites to follow the course successfully, but it would be desirable if students have Genetics course (first year) aproved.

Objectives and Contextualisation

Human Biology studies the variability of Homo sapiens sapiens, from a morphological, developmental and genetic aspect.

Human Biology is a basic subject to acquired good knowledges in "Health and Environment", course of 3rd. year of the Biology degree.

Also, students will have to obtain the knowledge of Human Biology to obtain those of the optional subjects of the fourth year: Forensic Anthropology, Molecular Anthropology, Human Genetics, Human Origins and Primatology.

The subject of Human Biology is structured in two well differentiated parts: a) knowledge of the origin and evolution of our species, and b) current human variability.

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.
- Apply statistical and computer resources to the interpretation of data.
- Assess environmental impacts.

- Be able to analyse and synthesise
- Be able to organise and plan.
- Characterise, manage, conserve and restore populations, communities and ecosystems.
- Control processes and provide services related to biology.
- Design and carry out biodiagnoses and identify and use bioindicators.
- Develop a historical vision of biology.
- Develop a sensibility towards environmental issues.
- 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 biological characteristics of human nature.
- 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 mechanisms that generate biological diversity in our species and interpret their adaptive significance and the mechanisms that maintain this diversity.
4. Analyse the sex- or gender-based inequalities and the gender biases present in one's own area of knowledge.
5. Analyse the sustainability indicators of the academic and professional activities within the area, integrating the social, economic and environmental dimensions.
6. Apply statistical and computer resources to the interpretation of data.
7. Assess environmental impacts.
8. Be able to analyse and synthesise.
9. Be able to organise and plan.
10. Critically analyse the principles, values and procedures that govern the exercise of the profession.
11. Define the role of the primates in the identification of disease-causing agents.
12. Describe heredity patterns and calculate the risk of recurrence of human diseases.
13. Detect problems associated with population changes and design alternatives.
14. Develop a sensibility towards environmental issues.
15. Explain the historical precedents that justify the study of the human being as a separate subject area.
16. Explain the underlying biological causes of human social behaviour.
17. Identify the biological characteristics of human nature at all levels of organisation.
18. Identify the natural and artificial factors that affect human health.
19. Identify the principal natural factors that have intervened in the distribution of human populations.
20. Identify the underlying genetic causes of development and of congenital defects in humans.
21. Interact with and advise government institutions operating in the field of social policy and population and public health policy.

22. Interpret human variability as a source of individualisation.
23. Interpret phylogeographic analyses of the human species.
24. Interpret the evolutionary dimension of hominids and their evolution in space and in time.
25. Interpret values of human demography and epidemiology.
26. Interrelate the environmental, biological and cultural data that merge in the interpretation of human evolution.
27. Make population genetic determinations from which to interpret the relationships between normal and pathological variability in the human species, and interpret the findings.
28. Manipulate human samples and perform morphological, molecular and chromosome determinations for the diagnosis and prevention of diseases.
29. Propose new methods or well-founded alternative solutions.
30. Propose projects and actions that incorporate the gender perspective.
31. Propose ways to evaluate projects and actions for improving sustainability.
32. Recognise the anomalies of human chromosomes and assess their consequences.
33. Select and classify museum samples and recover data from archives and registries.
34. 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.
35. 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.
36. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
37. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
38. 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.
39. Summarise and interpret the biology, evolution and behaviour of the order Primates.

Content

Topic 1. Mechanisms of human evolution

Topic 2. Human population genetics

Topic 3. Human populations biodemography .

Topic 4. Molecular markers

Topic 5. Evolution of the life cycle.

Topic 6. Primates and Human Evolution

Topic 7. Techniques applied to human evolution

Topic 8. Miocene Period

Topic 9. Bipedalism

Topic 10. ***Homo***

These are the proposed contents, unless the requirements enforced by the health authorities demand a prioritization or reduction of these contents.

Methodology

The development of the training activities of the course is based on: theory classes, problem classes, seminars and laboratory practices classes; Each of them with their specific methodology. These activities will be complemented by a series of tutoring sessions.

Theory classes: Students acquire their own scientific knowledge of the course by attending lectures: master classes with ICT support, which will complement the personal study of the exposed topics. The audiovisual material used in class can be found in the "teaching material" tool of the Virtual Campus, with the current restrictions on intellectual property. These classes are conceived as a fundamentally unidirectional method of transmitting teacher's knowledge to students, which forces them to develop autonomous learning strategies outside class.

Problem classes: The knowledge acquired in the theory classes and in the personal study apply to the resolution of practical cases that arise in the problem classes where the way to solve them is worked. The students work in small groups allowing them to acquire the ability to work in group and analysis and synthesis. It also allows you to apply statistical resources in the interpretation of data. The students will find the words of the problems worked in class at the Virtual Campus. In addition, you will have the statement of other problems that you can work independently.

Seminars: With sufficient anticipation, the students will be provided with the necessary documentation to discuss in the seminars; The students must have prepared them from the material given by the teaching staff.

Practical classes: Students come into contact with the material and laboratory techniques. The results will be discussed at the end of each practice and / or the evaluable materials will be collected. Students will be able to access the protocols and practical guides through the Virtual Campus.

Tutorials: The objective of these sessions is multiple: to resolve doubts, to carry out debates on topics that have been proposed in class, to guide the sources consulted by the students and to explain the use of the necessary Virtual Campus tools for the proposed activities. These sessions will not be exhibited nor in them will be advanced matter of the agenda, but will be sessions of debate and discussion. Much of the content of the tutorial sessions will be based on the work done by students independently.
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			
theory, practices, seminars, problems	50	2	3, 2, 6, 7, 11, 12, 13, 15, 16, 27, 18, 19, 20, 17, 21, 23, 24, 22, 25, 26, 28, 32, 39, 33, 14, 8
Type: Supervised			
group tutorials	5	0.2	6, 14, 8
Type: Autonomous			
study, problem solving and preparation of seminars	87	3.48	6

Assessment

In this course the evaluation is continuous: the participation of the student, the preparation of the seminars and problems, the practical materials and the notes of the controls will be taken into account.

The weighting of the different parts of the matter is as follows:

Controls: Two eliminatory controls with a weight of each of 25% will be made.

Practices: they weight 30% of the final grade. Assessment will take into account both the attitude of the students as well as the work carried out in the laboratory itself and the questions raised.

Others (seminars, problems ...): they ponder 20% on the final grade. Assessment will take into account the attitude of the students as well as the work carried out in the classroom and the questions and problems that arise.

For the evaluation of the theoretical part of the subject two controls will be made. Students who have not passed through continuous assessment any of the theoretical controls will be evaluated with a final control of the part that has not been passed.

The seminars, problems, as well as the practical classes will be evaluated as indicated by the teaching staff (through controls, presentation of works or memoirs, of the mark obtained "in situ" in the laboratory, ...).

To pass the subject, the minimum grade in each of the evaluable parts must be 4.0. The final grade of the subject must be equal to or greater than 5.

Students who pass will be allowed to upload the note through an integrative control of the wholesubject. In this case, the note that will be considered will be this last one independently of which it is superior or inferior to the obtained one previously.

"To participate in the recovery, the students must have been previously evaluated in a set of activities whose weight equals to a minimum of two thirds of the total grade of the subject or module. Therefore, Students will obtain the "Non-Appraising" qualification when the evaluation activities carried out have a weighting of less than 67% in the final grade. "

"Attendance at practical sessions (or field trips) is mandatory. Students will get the" Non-Appraising "qualification when the absence is greater than 20% of the scheduled sessions."
continuous evaluation, the participation of the student, the preparation of the seminars and problems, the practical materials and the notes of the controls will be taken into account.

The weighting of the different parts of the matter is as follows:

Controls: Two eliminatory controls with a weight of each of 25% will be made.

Practices: they weight 30% of the final grade. Assessment will take into account both the attitude of the students as well as the work carried out in the laboratory itself and the questions raised.

Others (seminars, problems ...): they ponder 20% on the final grade. Assessment will take into account the attitude of the students as well as the work carried out in the classroom and the questions and problems that arise.

For the evaluation of the theoretical part of the subject two controls will be made. Students who have not passed through continuous assessment any of the theoretical controls will be evaluated with a final control of the part that has not been passed.

The seminars, problems, as well as the practical classes will be evaluated as indicated by the teaching staff (through controls, presentation of works or memoirs, of the mark obtained "in situ" in the laboratory, ...).

To pass the subject, the minimum grade in each of the evaluable parts must be 4.0. The final grade of the subject must be equal to or greater than 5.

Students who pass will be allowed to upload the note through an integrative control of the whole subject. In this case, the note that will be considered will be this last one independently of which it is superior or inferior to the

obtained one previously.

"To participate in the recovery, the students must have been previously evaluated in a set of activities whose weight equals to a minimum of two thirds of the total grade of the subject or module. Therefore, Students will obtain the "Non-Appraising" qualification when the evaluation activities carried out have a weighting of less than 67% in the final grade. "

"Attendance at practical sessions (or field trips) is mandatory. Students will get the" Non-Appraising "qualification when the absence is greater than 20% of the scheduled sessions."
"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
Delivery, to the teaching staff of the subject, of the material evaluable throughout the course	2	2	0.08	10, 5, 4, 1, 6, 31, 29, 30, 14, 8, 9
Evaluation	50	6	0.24	3, 2, 6, 7, 11, 12, 13, 15, 16, 27, 18, 19, 20, 17, 21, 23, 24, 22, 25, 26, 28, 38, 37, 36, 34, 35, 32, 39, 33, 8

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SPECIFIC BIBLIOGRAPHY

It will be given during the course of teaching the subject.