



General information	
Academic subject	<i>Primates genome evolution</i>
Degree course	<i>LM Biologia Ambientale</i>
Academic Year	<i>2021/2022</i>
European Credit Transfer and Accumulation System (ECTS)	4
Language	<i>Italian</i>
Academic calendar (starting and ending date)	<i>October-November</i>
Attendance	<i>Suggested</i>

Professor/ Lecturer	
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Virtual headquarters	
Tutoring (time and day)	by mail appointment

Syllabus	
Learning Objectives	<i>The course has the main objectives of exploring the aspects of primates evolution, including human. Indeed, the recent human evolution and his relationship with the Neanderthals will be illustrated.</i>
Course prerequisites	<i>Basic genetics knowledge</i>
Contents	<ul style="list-style-type: none">• <i>Darwin and the evolution through natural selection</i>• <i>Hardy-Weinberg</i>• <i>Speciation</i>• <i>Primates karyotype evolution</i>• <i>Homo sapiens recent evolution, thus, why we are what we are. In detail, what are the characteristics that distinguish us from other primates:</i><ul style="list-style-type: none">• <i>Language, use of tools, culture</i>• <i>Descended larynx (articulation of the speech)</i>• <i>Big brain compared to the body</i>• <i>Standing position + narrowing of the pelvis</i><ul style="list-style-type: none">○ <i>Problematic childbirth</i>○ <i>Brain development after birth</i>○ <i>Skull bones soft at birth</i>○ <i>Shorter gestation</i>



	<ul style="list-style-type: none"> ○ <i>Decreased muscle strenght</i> • <i>Long non self-sufficiency of human child</i> • <i>Perennially developed breasts, even in virgins</i> • <i>The woman hides the fertile period</i> • <i>Parental care extended to grandparents = longer life</i> • <i>Opposable thumb</i> • <i>Resistance to running at high temperatures (savannah)</i> <ul style="list-style-type: none"> ○ <i>Efficient sweating all over the body</i> ○ <i>Hair loss and dark skin</i> • <i>Slow healing of wounds</i> • <i>White sclera of the eyes</i> • <i>Homo sapiens and Neanderthal</i>
Books and bibliography	Slides
Additional materials	

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
100 h	32 h	0 h	68 h
ECTS			
4	4		
Teaching strategy			
Expected learning outcomes			
Knowledge and understanding on:	○ Acquisition of adequate knowledge about the primates evolution.		
Applying knowledge and understanding on:	○ The course, through conspicuous examples and analysis of publications of significant scientific interest, will allow the acquisition of knowledge on the appropriate choice of experimental methods to be applied in the study of the genome evolution.		
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Students will learn to: 1) interpret the genome evolutionary data; 2) associate social implications to the studied aspects; 3) independently investigate the most significant aspects of the primates evolution. Verification of the acquisition of independent judgment will be evaluate through an oral exam. • <i>Communicating knowledge and understanding</i> 		



	<ul style="list-style-type: none">○ Students will have acquired adequate oral communication skills and tools on 1) mechanisms inherent in the evolution of the genome 2) <i>Homo sapiens</i> evolutionary peculiarities.● <i>Capacities to continue learning</i><ul style="list-style-type: none">○ The students will be able to understand and further characterise the subject of the course through the use of peer-reviewed scientific articles
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Assessment and feedback	
Methods of assessment	<i>Oral exam</i>
Evaluation criteria	<ul style="list-style-type: none">● <i>Knowledge and understanding</i><ul style="list-style-type: none">○ Understanding of the mechanisms that characterize the evolution of the genome● <i>Applying knowledge and understanding</i><ul style="list-style-type: none">○ Ability to choose the appropriate scientific method for studying the genome evolution.● <i>Autonomy of judgment</i><ul style="list-style-type: none">○ Critical skills in reading scientific articles● <i>Communicating skills</i><ul style="list-style-type: none">○ Ability to present in an efficient and concise way the acquired notions
Criteria for assessment and attribution of the final mark	<i>Oral Exam with evaluation on a 30/30 marking scale</i>
Additional information	