

Optional course – main information	
Academic subject	History of Evolutionary Biology
ECTS credits (CFU)	4
Compulsory attendance	No
Teaching language	Italian
Accademic Year	2019/2020

Professor/Lecturer	
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Tutorial time/day	Tue 9-11

Course details	Pass-fail exam/Exam with mark out of 30	SSD code	Type of class
	Exam with mark out of 30	M-STO/05	Lecture/workshop

Teaching schedule	Semester	day and time (afternoon)	room
	I	Wed – Thu 15-17	

Lesson type	CFU/ECTS	Lessons (hours)	CFU/ECTS lab	Lab hours	CFU/ECTS tutorial/workshop	Tutorial/workshop hours	CFU/ECTS field trip	Field trip Hours
	4	32						

Time management	Total hours	Teaching hours	Self-study hours
	80 hours	32 hours	48 hours

Academic Calendar	First lesson	Final lesson
	October 2019	January 2020

Syllabus	
Course entry requirements	There are no special entry requirements, except for some basic knowledge of the main historical events from the Renaissance to the present day
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	
<i>Knowledge and understanding</i>	Main scholars, events and scientific ideas concerning the history of evolutionary biology, placing debates and different theories in their respective time periods, paying attention also to epistemological, communicative and didactic aspects.
<i>Applying knowledge and understanding</i>	Knowing how to contextualise historical events and elements in order to reconstruct thematic pathways of disciplinary development, with attention to different perspectives of historiographical analysis and science communication.
<i>Making informed judgements and choices</i>	Acquisition of critical skills to compare hypotheses and different scientific theories, highlight aspects of convergence and divergence of ideas, link the facts of experience to their possible explanations as they variously emerged through the history of evolutionary biology.
<i>Communicating knowledge and understanding</i>	Use a correct language concerning with historical and scientific contexts, showing an adequate familiarity with the concepts discussed, inventiveness and intellectual vivacity even in scientific communication and teaching life sciences.
<i>Capacities to continue learning</i>	Reconstruction of the scientific undertaking from a historical and epistemological point of view can help to approach transversally conceptual issues of science, and influence learning capacity by stimulating divergent thinking, creativity, as it reveals different visions or interpretations of the same investigated object.

Syllabus	
Course content	<p>INTRODUCTORY SECTION: Didactics of scientific disciplines with a humanistic approach Outline of epistemology and philosophy of science Elements of scientific communication</p> <p>HISTORICAL AND EVOLUTIONARY SECTION: <i>Traces of the idea of a modification of species in the pre-Darwinian era</i> - Gardens and bestiaries from Antiquity to the Enlightenment - The system by Carl von Linné - Cuvier, Lamarck and the birth of modern biology <i>Charles Darwin and Darwinism</i> - Life and works of Charles Darwin - Natural selection and the three of life - Alfred R. Wallace, August Weismann and the birth of neo-Darwinism <i>Towards the Modern Synthesis of Princeton</i> - The birth of genetics and the Darwin-Mendel opposition - Population approach and the synthetic theory of evolution by natural selection - The renewal of the morpho-physiological and behavioural investigation <i>The post-synthetic phase</i> - The levels of selection controversy - Neutralism at the molecular level - Punctuated equilibria - Criticism of the adaptationist program - Micro and macroevolution - Evolutionary Developmental Biology, Evo-Devo</p>
Course books/Bibliography	Lecture notes provided during the lessons. Open source digital materials.
Notes	More detailed information will be provided during the course lessons, as well as recommended readings.
Teaching methods	The course includes lectures and guided discussions based on the reading of original scientific texts. Interdisciplinary approach. In-depth events can be added to with the participation of students at conferences and meetings of particular interest for the topics addressed in class. During the activities dialogic interaction will be constantly encouraged, through moments of discussion and shared analysis. INSTRUMENTS: Paper material; multimedia supports; linkography and other Internet resources.
Assessment methods (indicate at least the type written, oral, other)	Test and/or Oral Examination
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are)	The assessment of disciplinary knowledge will be accompanied by requests for comments and the formulation of personal judgments to better evaluate the understanding of the topics; the ability to compare historical events, placing them on the time line; discriminate between different scientific visions of the world; to pronounce with independent judgment on intellectual controversies, contextualizing events and avoiding historical strains; to argue different points of view, notions and theories with appropriate vocabulary and intellectual coherence; learning awareness and metacognition. Analytical scheme: disciplinary knowledge: 70%; communication skills: 10%; reasoning skills and metacognition: 20%.
Further information	-