

Course evaluation for BIO210 Evolutionary Biology

Spring 2023, Course responsible Adele Mennerat

Content

This 10-point course is mandatory for master students in Ecology and Evolution. It is meant to create a deep understanding of how evolution works and provide an overview of central questions in evolutionary biology. There is also a secondary focus on the scientific method and what distinguishes science from belief. The course is based on reading parts of the textbook “Evolutionary Analysis” by Herron & Freeman (5th ed.), and parts of the pocketbook “Why evolution is true” by J. Coyne.

During the first half of the semester the focus is on setting the conceptual foundation of evolutionary research. Learning for this part of the course relies on students reading chapters in the textbook; to guide their reading, one document per chapter is available for them with a list of the most important points to remember. Their reading is completed by in-class teaching starting with a quiz and followed by a lecture interspersed with short group exercises. Three specific chapters (the most advanced and important) are entirely team-based learning. Learning in this part of the course is mostly content knowledge and is evaluated in a midterm exam in week 11 (digital, multiple choice).

There are three mandatory assignments in weeks 6, 10, and 12: guided exercises in a virtual simulation program to (1) draw phylogenies, (2) explore evolution by natural selection (combined with drift & migration) and (3) evolution by sexual selection. Learning here is mostly hands-on, concrete case studies solidifying the concepts previously learned.

The later part of the course involves lectures on various topics given by multiple lecturers, providing examples of current and local evolutionary research in topics such as disease evolution (A. Mennerat), evolutionary development (A. Hejnol), human evolution (SapienCe, UiB), and speciation / biogeography (H. Meijer / N. Straube, University Museum). This part of the course is also focused on equipping students with tools and examples how to address creationism and engage proponents of intelligent design. What is learned here is mostly reflection and debating skills, on evolution as a science and its place in society.

Follow-up of previous evaluations

This version of the course has only been run since 2021, there was no previous evaluation available to the new course coordinator.

Student evaluation and other evaluations that are relevant to the course.

100% of respondents:

- evaluate the course as relevant for their studies
- think there is a good match between the course description, learning outcomes and the course contents.

88% of respondents:

- judge the amount of work appropriate
- are satisfied with the course as a whole

Some work is needed to improve communication / clarify expectations:

- 38% think the communication with the teachers could be better (mostly, 3 complaints that replies to emails should be faster)
- 25% would like the expected level at the exams to be clearer

In spring 2023 steps are being taken to improve on this: clearer instructions on how to contact the course coordinator (in particular explaining that a response should be expected within 24h, but not faster than that), and extra effort to repeat expectations for assignments and exams as clearly as possible, as well as working together on typical exam questions and how to address them.

Experiences from others who contribute to the teaching of the course, both students and staff.

Other lecturers have mostly signalled that they enjoyed teaching in this course, that the students are active and that they would like to continue doing so.

The percentage of failure in the course

Failure rates are low: 0% and 3% in 2021, and 2022 respectively.