

ES7025 Biogeochemistry (3AUs)

This course aims to teach the interplay between biology, chemistry and the environment shape our Earth system. The course will both teach you the fundamental concepts of biogeochemistry during weekly lectures, but will also challenge you to think critically push towards new scientific frontiers. We will cover the biogeochemistry of both terrestrial and aquatic systems and analytical techniques for advancing our knowledge. Throughout the course, we will consider how humans are shaping the biogeochemistry of the Earth, such as via eutrophication, ocean acidification, or effects of rising temperatures. As an advanced-level course, there will be a significant emphasis on reading and discussing original research papers. Moreover, as part of the assessment, you will prepare a group presentation on a selected research proposal topic which includes a written proposal, and also write a separate review article or essay on a different biogeochemical topic.

The course will consist of 11 lectures with topical tutorials that conclude with proposal presentations held by course participants. The lectures will outline the core knowledge that you are expected to acquire by the end of the course, and the tutorials will deepen this by reading and discussing topical research and/or review papers. You will research and write an essay/review on a biogeochemical research article during the semester, and you will prepare for a group presentation and discussion on a chosen research proposal topic that will be held at the end of the semester.