

BIOGEOCHEMICAL CYCLES

ESP Diploma - 2nd semester 2017-2018

Syllabus

First part: April 2 to 24 - Lecturer: Prof. SOLIDORO Cosimo

csolidoro@inogs.it

Classes on Tuesday and Thursday, 2-3:30PM (no classes on april 9-14)

1. Earth's energy budget. Temperature profiles of the atmosphere and the oceans. The water cycle.
2. Chemical composition of the seawater and salinity distribution.
3. Phosphorus and carbon cycles.
4. Marine carbon dynamics (and acidification).
5. Modeling biogeochemical cycles 1: fundamentals and equations.
6. Modeling biogeochemical cycle 2: some examples.

Second part: April 30 to May 11 – Lecturer: Dr. STRADA Susanna

sstrada@ictp.it

Classes on Monday, Wednesday and Friday, 11-12:30AM

7. Introduction on biogeochemical cycles related to the atmosphere and atmospheric chemistry.
8. The oxygen and carbon cycles (focus on terrestrial ecosystems).
9. The nitrogen, phosphorus and sulfur cycles (focus on the atmospheric and biospheric reservoirs)
10. Stratospheric ozone
11. Ozone air pollution
12. Aerosols