

# Biogeochemical cycles

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Niveau d'étude  
Master 2



ECTS  
3 crédits



Volume horaire  
24h



Période de  
l'année  
Semestre 3

## Présentation

notions de géochimie, de chimie des eaux et des surfaces, thermochimie, notions de géodynamique des enveloppes superficielles de la Terre.

### DESCRIPTION

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The critical zone of the Earth is where gases from the atmosphere react with the lithosphere by the action of the water cycle. Acide-base, redox and biological reactions occur that transform the surface of the planet into a thin, but habitable, layer. The critical zone can be seen as the place where the biogeochemical cycles (i.e carbon, nitrogen, metals). This course intends to show how the biogeochemical's grammar is formulated, the vocabulary associated and describe the timescales of global biogeochemical cycles (from days to millions years).

### OBJECTIFS

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Know how the habitable layer of the planet is formed and maintained.

The basics of how to build a biogeochemical cycle

The use of isotopes and molecular speciation techniques

### HEURES D'ENSEIGNEMENT

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|-----------------------|-----------------|-----|
| Biogeochemical cycles | Cours Magistral | 12h |
| Biogeochemical cycles | Travaux Dirigés | 12h |

### PRÉ-REQUIS NÉCESSAIRES

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