



# Evaporation, de la parcelle au bassin versant agricole



Niveau d'étude  
BAC +5



ECTS  
3 crédits



Composante  
Faculté des  
Sciences

## Présentation

### Description

This course focuses on surface-atmosphere water and energy fluxes observations and modeling, integrated in catchments or irrigated perimeters, to estimate and predict crops water needs and water stress in drought contexts. Attention is given to the effect of spatial heterogeneities on fluxes, from the plot scale to the catchment scale. Effects of topography on surface fluxes are also covered. The course contains two main steps:

1. Water and energy fluxes within the SPAC at the plot scale: review of basic concepts of micro-meteorology, modeling surface-atmosphere fluxes for homogeneous crops ("big-leaf" approach), coupling with soil water transfers in the rooting zone, water stress indicators at the plot scale
2. Water and energy fluxes within the SPAC at the catchment scale: spatial heterogeneity, effect of advection on the fluxes, topographical effects on radiative and convective fluxes, water stress indicators at the catchment scale.

### Objectifs

The aim of this course is to provide the advanced understanding keys and modeling elements on green water and energy fluxes within the Soil-Plant-Atmosphere Continuum (SPAC), from the plot to the catchment scale.

### Pré-requis nécessaires

UE « Eau et production végétale » (M1),

UE « Hydrodynamique des sols » (M1),

UE « Cycle de l'eau et BV » (M1),

UE « Eau et Agriculture : enjeux » (M1)

### Contrôle des connaissances

Contrôle terminal par examen écrit sans document (2h) (50%)  
et Contrôle continu (50%)

### Syllabus

Land-surface fluxes, Evaporation, Sol-Plant-Atmosphere-Continuum, Catchment scale, Water stress indicators

### Infos pratiques

#### Lieu(x)

› Montpellier - Triolet