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| N° ECUE | XA4S841 |
| Title | Ecological engineering |
| ECTS : 3 |  | Lecture(h)/Tutorials : 25.5 |  | Field trip (h) : 3 |  | Pratical works (h) TP : 3 |  | Project (h)7.5 |  |
| Description*1. Objectives and Applications of Environmental Engineering* Course: Context, objectives, foundations, activity Sectors, conducting a project, feedback on concrete study casesProjects: Context and project design (Initial condition with collection of data and synthesis of the context, objectives and indicators of the project, elaboration of the specifications)*2. Ecological continuity* Course: Hydrological characterization and ecological issues. Presentation of the upstream crossing structures. Methods of dimensioning works. Solid transportationTutorial: Specialised software in the dimensioning of fishwaysVisit: dam sites equipped with fish passes*3. Ecotoxicology*Course: fields of application and objectives of ecotoxicology, the main sources of pollution. pollutant transfer and biomass contamination. pollutants and biological effects. ecotoxicological risk analysis methodologiesTD: Ecotoxicological risk calculation: application to different case studies. Mode of action of herbicides and mechanisms of resistance.TP: Evaluation of the danger of a herbicide on two species of freshwater chlorophycea: *Chlorella* sp. and *Chlamydomonas* sp. |
| Key Words | Rehabilitation / restoration of natural environments, Ecological continuity, Ecotoxicology |
| Type of Evaluation | The final grade is composed of a project evaluation (50%), a lab work (10%) and a final exam (40%). |