|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 cases  Projects: 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 transportation  Tutorial: Specialised software in the dimensioning of fishways  Visit: 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 methodologies  TD: 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%). | | | | | | | | |