**Sustainable Management and Valuation of Ecosystems**

**Teaching staff contacts – Coordonnées de l’équipe pédagogique:**

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**Course’s Objectives – Objectif du cours:**

Short descriptions of each topic:

**Sustainable management of biological resources:** The course is an introduction to the field of bio-economics. The lecture browses through distinctive works in this field and discusses various topics in human-environment interactions, forest management, global oceans commons, biodiversity protection and management, bio-mimicry.

**Ecosystem services:** The course provides some examples of environmental valuation studies applied to biodiversity and ecosystems at different scales (from local to global). This course is designed to train students in a broad set of non-market approaches to environmental valuation applied to biodiversity and ecosystem services. We will cover some theoretical issues but the lectures will be driven mainly by empirical examples.

**Course outline**

**Sustainable management**

1- Human-environment interaction as a predator-prey problem

2- Forest economics

3- Global oceans commons

4- GMO and bio-resistance

5- Biodiversity
   - As a collection problem
   - As a competition between species problem with human interference
   - As a spatial management problem

**Ecosystem services:**

1- An introduction to the valuation of ecosystem services

2- Valuing biodiversity and ecosystems – Methods & techniques
3- Valuing biodiversity and ecosystems – Examples and implementation issues

**Prerequisites – Pré-requis :**

No special prerequisites except for knowledge about economics obtained either prior, or during the first semester of TSE M2 E&E.

**Grading system – Modalités d’évaluation :**

Participation/presence in class will represent 10% of the grade.

The remaining 90% of the grade will be based on a written report in which the students identify and constructively discuss an environmental/ecological problem related to one of the topics of the course (the preferred topic is to be chosen by the student him-/herself).

**Bibliography/references – Bibliographie/références :**

**Sustainable management:** All the background of the course (papers, reports) will be available on the Moodle platform prior to the lecture.

**Ecosystem services:** The required reading will be based on published peer-reviewed articles and lectures notes (that will be given to the students before each session).