Course title - Intitulé du cours: Population Demography & Evolutionary Ecology

Level / Semester - Niveau /semestre: M2 / S1

School - Composante: Ecole d'Economie de Toulouse

Teacher - Enseignant responsable: DE MAZANCOURT CLAIRE - ROY MELANIE

Other teacher(s) - Autre(s) enseignant(s): Simon Blanchet

Other teacher(s) - Autre(s) enseignant(s): Jorge Pena

Other teacher(s) - Autre(s) enseignant(s): Jean Clobert

Lecture Hours - Volume Horaire CM: 30

TA Hours - Volume horaire TD

TP Hours - Volume horaire TP

Course Language - Langue du cours: Anglais

TA and/or TP Language - Langue des TD et/ou TP: Anglais

Teaching staff contacts - Coordonnées de l’équipe pédagogique:

by email

Simon Blanchet (SETE) BLANCHET Simon <simon.blanchet@sete.cnrs.fr>

Jorge Pena (TSE) Jorge Peña <jorge.pena@iast.fr>

Jean Clobert (SETE) CLOBERT Jean <Jean.CLOBERT@sete.cnrs.fr>

Course’s Objectives - Objectifs du cours:

This course will present an in-depth review of demographic and population dynamic tools. At the end of the course, students will be able to simulate demographic scenarios to evaluate the population growth of a species, and to think about potential demographic effects of different management actions. Several concepts will be presented to understand key demographic and fitness variables, to estimate them from data, and to calculate demographic and population dynamics. We will assess the effects of demographic, genetic and temporal variance.

The course will be divided into two main parts. The first part will introduce the fundamental principles of population and evolutionary demography and of life history theory (e.g., dynamics of class-structured populations, evolutionary trade-offs) as well as hands-on training in a software tool for the analysis of class-structured populations (ULM, https://www.biologie.ens.fr/~legendre/ulm/ulm.html). The second part aims at providing students some applied research tools for making these fundamental principles useful to help investigating some societal questions.

Prerequisites - Pré requis:

being accepted in the M2 Economics & Ecology track
Practical information about the sessions - Modalités pratiques de gestion du cours:

Attendance at lectures is required.

Grading system - Modalités d’évaluation:

The course grade will be determined by the performance of the student on assignments (individual or team-based assignments, and/or presentations), and/or a final exam.

Bibliography/references - Bibliographie/références:

Suggested readings:


Distance learning – Enseignement à distance:

Due to Covid19, most of classes will take place online