

Introduction à l'évolution culturelle **Introduction to cultural evolution**

Note: This document is a sketch of a syllabus for a class that will be start to be given on the third year of the CPES "Sciences des données, arts et culture" (which will be in September 2025 for the L3 of the first promotion). The full syllabus will be communicated 6 months before the start of the course.

Responsable du cours :

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Descriptif du cours : Why do fashions come in cycles? How many generations can a legend be remembered for? Can we predict the success of a movie? Can we detect social or linguistic « laws » across human cultures? Recently, researchers have started to answer these questions using methods loosely derived from evolutionary biology. The transmission of ideas and behaviors (that is, anything from songs to cooking recipes) can be modeled in (approximately) the same way that biologists model the transmission of genes or viruses; the deep evolutionary history of languages or myths can be explored as a family tree using the tools of phylogenetic analysis; fundamental social behaviours like cooperation and competition can be approached using evolutionary game theory. This class will provide an introduction to the toolbox of cultural evolution, showing what it can offer to data scientists in training.

Objectifs pédagogiques et compétences développées :

Students will:

- approach the foundational questions of the study of culture, from anthropology to cultural history, through a cultural-evolutionary lens.
- learn the basics of how to model cultural processes (diffusion, innovation, long-term transmission, etc.);
- learn multiple ways to analyse cultural datasets in ways that respect the specificity of cultural data (for instance, "Galton's problem", the fact that cultural data points are seldom independent);
- familiarise themselves with experimental techniques used to study culture in the lab (for instance, transmission chain experiments)

Contenu détaillé du cours :

- Is it wise to "biologise" culture?
- Social learning: Learning from others
- Random models of cultural diffusion
- Animal cultures and their evolution
- Cognition and culture
- The cultural impact of demography
- Culture and the evolution of cooperative behaviours
- The evolution of political institutions
- Cultural phylogenies: the 'family trees' of culture
- Cultural phylogenies and their limitations

Langue d'enseignement : Anglais

Type de cours : Cours magistral avec exercices

Modalités d'évaluation : A mix of in-class quizzes, exercises, and practical assignments done at home.

Année : L3

Semestre : Semestre 1

Lectures obligatoires : There is no textbook, but each class will come with one paper that constitutes mandatory reading, as well as several optional readings.