

# Syllabus: Critical Thinking

## **Contribution of the course to the overall degree programme goals**

This course aims to provide a set of skills to improve critical and argumentative abilities. The most significant models in logic and theory of argumentation will be presented; moreover, we will focus on the heuristics of reasoning and the cognitive bias. Critical thinking will enable you to better understand, evaluate, and defend the beliefs that make up your worldview, as well as the competing beliefs offered by others.

## **Expected learning outcomes**

Students will have to know how to analyze and evaluate different kinds of arguments; they will be able to negotiate different argumentative positions by applying the conceptual resources of logic, probability calculus and theory of explanation.

## **Pre-requirements**

None

## **Contents**

The course has two parts. In the first, we will take into exam the function of argumentation within the field of rationality; we will learn to recognize, to analyze and to evaluate different kinds of arguments. In order to achieve this goal, we will take into account some case-studies; in particular, we will construct together a debunking strategy against well-known pseudo-arguments (no-vax manifesto, conspiracy theories and so on). Through the use of refutation strategies, we will analyze the structure of some fallacies and cognitive bias which undermine all dimensions of reason.

The second part will address the theme of rationality in the contexts with incomplete information; we will see the fundamental role played by the probability and by the probability ascriptions which, usually, we make about the possible evolutions of the system under concern. Probability is a powerful theoretical device to characterize the rationality of our choices; however, it has been proved that we are subjected to forms of systematic error about the probabilistic inferences. As in the first lecture, we will base our approach on Kahneman and Tversky's famous case-studies (among the others) in order to emphasize the most important features of rationality.

## **Referral texts**

Some introductory material will be provided before the lectures; slides will be at disposal. Further bibliographical references will be provided during the course.

## **Assessment methods**

The overall evaluation will result from 1) the argumentative sample (50%) and 2) the active participation of the students in the lessons (50%).

## **Teaching methods**

Interactive workshop; Simulation of argumentative contexts; Construction and defense of arguments.