**Designation**
Thought and Language

**Lecturers (s)** Mário Boto Ferreira; Paulo Ventura; Leonel Garcia-Marques

**Credits (ECTS)**
6 ECTS

**Teaching hours**
Four hours per week: One theoretical lesson (2 hours) and one applied lesson (2 hours)

**Goals**
Thought and Language is an introduction to the main research themes in each one of these two domains. With respect to thought, the goal is to contrast descriptive and normative models of thought, reasoning, judgment and decision-making. Specifically, we will study how people reason and make decisions in their daily lives and how these decisions differ from normative models of inductive and deductive judgment and decision-making.

With respect to Language, the main goal is to provide an integrated view of the cognitive processes underlying four crucial language domains: speech recognition; reading (word recognition) and their interactions; speech production and writing (production of written language).

**Competences**
In the end of the course students should be able to:

Thought:
1. Demonstrate an articulated comprehension of the psychological processes underlying thought, judgment and decision-making as well as understand when and how these processes may lead to (more or less) calibrated judgments. Analyze and compare different theories of reasoning, judgment and decision-making.

Language:
2. Demonstrate an articulated comprehension of the psychological processes underlying language recognition and production of language; understand not only the consensual theoretical arguments but also the contrasting theories about the different aspects of language.

**Pré-Requisites**
*non applicable*

**Topics**
1. Inductive reasoning and models of Judgment and decision-making
   1.1 Summary of past research on inductive reasoning: formal models of decision-making.
1.2. Bounded rationality as a first reply to the limitations of formal models of decision-making.
1.3. The research program on Heuristics and biases advanced by Tversky and Kahneman as a new approach to judgment under uncertainty.
1.4. Structure and function of the heuristics: main limitations and alternative approaches

2. Deductive reasoning and Mental Models
2.1. Types of deductive reasoning
2.2. Systematic and characteristic difficulties in deductive reasoning presented by lay-people
2.3. Mental models
2.4. Logical errors in deductive reasoning

3. Speech Recognition
3.1. The segmentation of the continuous acoustic stream
3.2. Intermediary unities for lexical access
3.3. Models of speech recognition

4. Recognition of written language
4.1. The role of visual information in lexical access in reading.
4.2. Intermediary unities for lexical access
4.3. The role of phonology in lexical access.
4.4. Models of word recognition in reading

5. Speech Production
5.1. Lexicalization
5.2. Phonological encoding
5.3. Contrast between strictly serial models, interactive models and cascade models

6. Writing (production of written language)
6.1. Processes underlying writing
6.2. Theoretical models
6.3. The role of working memory

References
Other references will be provided during the course
**Teaching methods**

Theoretical lessons will provide a general overview of the main themes of the UC (please see “Topics”) as well as a conceptual framework for the theoretical-practical lessons.

In each theoretical-practical lesson a scientific poster based on research papers covering the main Topics of the UC (papers to be provided by the lecturers) is to be presented by groups of students (groups will be defined in the beginning of the course). The remaining groups (not presenting) will be requested to present questions about the poster that will be discussed in class.

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**Evaluation**

Group presentations of a scientific poster presented during applied lessons (30%); Groups weekly questions about the posters to be presented (to be handed in in the beginning of each applied lesson (30%); Final exam (40%) – date to be announced in the beginning of the semester. Students have to obtain a passing grade (10 or more) in the final exam in order to pass the course. Students’ participation in two experiments connected to the Topics of the UC (dates to be announced in the beginning of the semester)**.

*Although the weekly questions are mandatory the final grade of this evaluation element will be based on the average of the 4 best questions (two relative to Language topics and two relative to Thought topics)

**For students who do not participate in the experiments the evaluation of the weekly questions will be based on the average of all the questions made during the semester.

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**Grade improvement**

In the same scholar year, students can only try to improve their grade by repeating the final exam (40%).

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**Regras relativas à melhoria de nota**

Dada a natureza contínua de parte da avaliação (posters e questões semanais) só é possível fazer melhoria de nota (no mesmo ano lectivo) da componente da avaliação referente ao exame final.

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**Assiduity***

Students are required to attend at least 2/3 of the applied lessons to be approved in this course.

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**Specific rules for students under exceptional conditions**

*** Assiduity rules to not apply to students in the following exceptional conditions: Working students, High competition athletes, Leaders of students’ associations in the University of Lisbon; military students; Students with children, Students with special educational needs.

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**Teaching language: Portuguese**