

**Intelligence and Cognitive Processes**

Code: 102597  
ECTS Credits: 6

Degree	Type	Year	Semester
2502443 Psychology	OT	4	2

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

**Contact**

Name: Antoni Castelló Tarrida  
Email: Toni.Castello@uab.cat

**Use of Languages**

Principal working language: english (eng)  
Some groups entirely in English: Yes  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: No

**Prerequisites**

No requirements.

**Objectives and Contextualisation**

Knowledge about the way people create and operate with representations is the basis for explaining human mental activity. A number of large processes (such as learning, comprehension, reasoning or decision making) sustain on representations and operations involving representations. Hence the goals of this course are related with the understanding of human cognitive system, which supports representations managing as well as the ways the cognitive system operates. The goals include a description of intelligence's physical bases and their articulation in useful cognitive functions, which integrate brain's resources with cultural instruments. The course contents will permit the analysis and explanation of outstanding human cognitive activities, understanding their general mechanisms and the variety of instances they may display.

**Competences**

- Actively participate in the formulation of social, professional and ethical rules in activities related to the profession.
- Analyse scientific texts written in English.
- Apply knowledge, skills and acquired values critically, reflexively and creatively.
- Define objectives and develop the intervention plan based on the purpose of the (prevention, treatment, rehabilitation, integration, support).
- Distinguish and relate the different focuses and theoretical traditions that have contributed to the historical development of psychology as well as its influence on the production of knowledge and professional practice.
- Evaluate, contrast and take decision on the choice of adequate methods and instruments for each situation and evaluation context.
- Recognise and evaluate the procedures and techniques applied to the construction and adaptation of the instruments of evaluation in psychology.
- Show respect and discretion in communication and the use of the results of psychological assessments and interventions.
- Use adequate tools for communication.

- Use different ICTs for different purposes.
- Work in a team.

## Learning Outcomes

1. Actively participate in the formulation of social, professional and ethical rules in activities related to the profession.
2. Analyse scientific texts written in English.
3. Apply knowledge, skills and acquired values critically, reflexively and creatively.
4. Create instruments for cognitive and intellectual diagnosis and analysis.
5. Create instruments for diagnosis and analysis of the individual differences in intelligence and knowledge structures.
6. Design plans for the optimisation of cognitive functioning for each representational profile.
7. Differentiate between the different psychoeducational models for explaining teaching quality and the individual differences in school learning.
8. Effectively communicate the result of an intellectual evaluation using psychometric instruments.
9. Make adequate use of instruments of exploration for the analysis of cognitive processes.
10. Select adequate measuring instruments for cognition analysis.
11. Select and properly use exploratory instruments for the analysis of formal and non-formal education.
12. Select the appropriate exploratory instruments for analysing individual differences in school learning.
13. Use adequate tools for communication.
14. Use different ICTs for different purposes.
15. Work in a team.

## Content

01. Representations and intelligence
02. Cognitive systems. Physical and functional architectures
03. Biological dimensions of human cognition
04. Cultural dimensions of human cognition
05. Objects representation and cognitive products
06. Distributed cognition
07. Learning and knowledge structures
08. Reasoning, problem solving and contextual interactions
09. Diachronic dimensions: cognition in the life-span
10. Cognitive bases of competences
11. Variability and exceptional cognitive configurations
  - A. Intellectual measurement instruments (I)
  - B. Intellectual measurement instruments (II) and situated measures
  - C. Profile analysis
  - D. Measurement of knowledge structures
  - E. Analysis of competences

Contents numerically indexed correspond to theoretical lectures and encompass the main body of the course. Those indexed with letters refer to practical lessons where applied issues are considered.

## Methodology

Teaching method is based in five general approaches:

- (1) Lessons conducted by the professor, where the main contents are presented and discussed.
- (2) Lessons devoted to case-analysis and applications, where the student has an active role under supervision.
- (3) Sessions addressed to contact instruments and measurement procedures, where students are supervised.
- (4) Sessions of reading, documenting and reflexion, developed by students themselves with ensuing feedback on their work.
- (5) Sessions of individualized advice addressed to follow-up individual tasks and knowledge optimisation.

All programmed activities meet one or more of the described methodological approaches and also include testing procedures which serve as continuous evaluation of the contents taught.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Conducted	36	1.44	2, 3, 7, 1, 12, 11, 15, 14, 13
Type: Supervised			
Supervised	20	0.8	2, 3, 7, 1, 12, 11, 15, 14, 13
Type: Autonomous			
Autonomous	92.5	3.7	2, 3, 12, 11, 15, 13

## Assessment

Learning assessment will be made through a set of optional assignments that allow to accumulate points. There will also be an exam including all contents which permits improving the mark.

Specifically, the programmed assignments are:

- (A) Week 6: Short exam on class-notes (up to 2.5 points). The task can be done individually or with a group.
- (B) Week 9: Conceptual map (up to 2.5 points). The task can be done individually or with a group.
- (C) Week 12: Examples (up to 2.5 points). The task can be done individually or with a group.
- (D) Week 15: List-Link (up to 2.5 points). The task can be done individually or with a group.

The summation of the points obtained in these four activities permits achieving a maximum score of 10 points.

Then, the final exam (activity E, second assessment period), which is optional too, may improve the actual accumulated score up to the mark of 10 (if the A+B+C+D assignments accumulated 6 or more points) or up to the mark of 8.5 in any other case. The final exam will be performed individually in a classroom.

If less than two assignments has been delivered, activity E will not be available. A recovery exam, like that in activity E, must be attained by those having a final mark lesser than 5 with, provided that they have delivered at least three of the four evidences (A, B, C, and D). The recovery exam will have a ceiling of 8.5 points.

Students who enrolle this subject for the second time or more should not expect a single, non recoverable, synthesis exam.

General directions about the evaluation norms in Psychology Faculty can be found at:  
<https://www.uab.cat/web/estudiar/graus/graus/avaluacions-1345722525858.html>

N.B. The proposed teaching and assessment methodologies may experience some modifications as a result of the restrictions on face-to-face learning imposed by the health authorities. The teaching staff will use the Moodle classroom or the usual communication channel to specify whether the different directed and assessment activities are to be carried out on site or online, as instructed by the Faculty.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
A. Questions on class-notes (optional)	20-25%	0	0	2, 3, 8, 7, 1, 12, 11, 15, 14, 13
B. Conceptual map	20-25%	0	0	2, 3, 8, 6, 7, 4, 5, 1, 12, 11, 15, 14, 13
C. Examples	20-25%	0	0	2, 3, 6, 7, 1, 12, 10, 11, 15, 14, 13
D. List-Link (optional)	20-25%	0	0	2, 7, 4, 5, 12, 11, 9, 14, 13
E. Complementary exam (optional)	Up to a mark of 10 or 8.5 depending on previous marks	1.5	0.06	2, 3, 7, 1, 12, 10, 11, 15, 14, 13

## Bibliography

### COMPLEMENTARY READINGS

SMITH, E.E. y KOSSLYN, S.M. (2007). Cognitive Psychology: mind and brain. London: Pearson Educations, publishing as Prentice Hall.

CASTELLÓ, A. (2001). Inteligencias. Una integración multidisciplinaria. Barcelona: Masson.

CASTELLÓ, A. (2002). La inteligencia en acción. Barcelona: Masson.