Universitat Autònoma de Barcelona

2022/2023

Intelligence and Cognitive Processes

Code: 102597
ECTS Credits: 6

Degree	Type	Year	Semester
2502443 Psychology	OT	4	2

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

Other comments on languages

Materials, avaluacions i sessions de classe es fan íntegrament en anglès.

Prerequisites

No requirements.

Objectives and Contextualisation

Knowledge about the way people create asnd operate with representations is the basis for explaning human mental activity. A number of large processes (such as learning, comprehension, resoning 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 explaniation of outstanding human cognitive activities, understanding their general mechanisms and the variety of instances they may display.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- 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.

- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- 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.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.
- 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 a situation and identify its points for improvement.
3. Analyse scientific texts written in English.
4. Analyse the sex- or gender-based inequalities and the gender biases present in one's own area of knowledge.
5. Analyse the sustainability indicators of the academic and professional activities in this field, integrating the social, economic and/or environmental dimensions.
6. Apply knowledge, skills and acquired values critically, reflexively and creatively.
7. Assess how stereotypes and gender roles impact professional practice.
8. Assess the impact of the difficulties, prejudices and discriminations that actions or projects may involve, in the short or long term, in relation to certain persons or groups.
9. Communicate in an inclusive manner avoiding the use of sexist or discriminatory language.
10. Create instruments for cognitive and intellectual diagnosis and analysis.
11. Create instruments for diagnosis and analysis of the individual differences in intelligence and knowledge structures.
12. Critically analyse the principles, values and procedures that govern the exercise of the profession.
13. Design plans for the optimisation of cognitive functioning for each representational profile.
14. Differentiate between the different psychoeducational models for explaining teaching quality and the individual differences in school learning.
15. Effectively communicate the result of an intellectual evaluation using psychometric instruments.
16. Identify situations in which a change or improvement is needed.
17. Identify the principal forms of sex- or gender-based inequality and discrimination present in society.
18. Identify the social, economic and/or environmental implications of academic and professional activities in the area of your knowledge.
19. Make adequate use of instruments of exploration for the analysis of cognitive processes.
20. Propose new experience-based methods or alternative solutions.
21. Propose new ways of measuring the viability, success or failure of the implementation of innovative proposals or ideas.
22. Propose viable projects and actions to boost social, economic and/or environmental benefits.
23. Propose ways to evaluate projects and actions for improving sustainability.
24. Select adequate measuring instruments for cognition analysis.
25. Select and properly use exploratory instruments for the analysis of formal and non-formal education.
26. Select the appropriate exploratory instruments for analysing individual differences in school learning.
27. Use adequate tools for communication.
28. Use different ICTs for different purposes.
29. 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 an discussed.

(2) Lessons devoted to case-analysis and applications, where the stdent has an active role under supervision.

(3) Sessions addressed to contact instruments and measurement procedures, where students are supervised.

(4) Sessions of reading, documenting an reflexion, developed by students themselves with ensuant feedback on their work.

(5) Sessions of individualized advise 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 continuos evaluation of the contents taught.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes

Type: Directed			
Conducted	36	1.44	12, 5, 4, 3, 2, 6, 9, 14, 18, 17, 16, 1, 23, 20, 21, 22, 26, 25, 29, 28, 27, 7, 8
Type: Supervised			
Supervised	24	0.96	12, 5, 4, 3, 2, 6, 9, 14, 18, 17, 16, 1, 23, 20, 21, 22, 26, 25, 29, 28, 27, 7, 8
Type: Autonomous			
Autonomous	90	3.6	12, 5, 4, 3, 2, 6, 9, 18, 17, 16, 23, 20, 21, 22, 26, 25, 29, 28, 27, 7, 8

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 10: Conceptual map (up to 2.5 points). The task can be done individually or with a group.

(C) Week 13: Exemples (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.

If less than two assignments have been delivered, the person will be considered as non evaluable. A recovery, individual, multiple-choice exam 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 enrole 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 (week 6)	25%	0	0	12, 5, 4, 3, 2, 6, 9, 15, 14, 18, 17, 16, 1, 23, 20, 21, 22, 26, 25, 29, 28, 27, 7, 8
B. Conceptual map (week 10)	25%	0	0	12, 5, 4, 3, 2, 6, 9, 15, 13, 14, 10, 11, 18, 17, 16, 1, 23, 20, 21, 22, 26, 25, 29, 28, 27, 7, 8
C. Examples (week 13)	25%	0	0	12, 5, 4, 3, 2, 6, 9, 13, 14, 18, 17, 16, 1, 23, 20, 21, 22, 26, 24, 25, 29, 28, 27, 7, 8

D. List-Link (week 15)	25%	0	0	12, 5, 4, 3, 2, 9, 14, 10, 11, 18, 17, 16, 23, 20, 21, 22, 26, 25, 19, 28, 27, 7, 8

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.

Software

Will be provided through the CampusVirtual website.