

## PSYCHOLOGY OF ATTENTION AND EXECUTIVE FUNCTIONS – Code 800145

### COURSE INFORMATION

**Undergraduate Studies:** 0812 – Degree in Psychology (Studies Plan 2009-10)

**Type:** Compulsory

**ECTS:** 6.0

**Module:** Compulsory psychological training

**Area:** Psychological processes

**Year:** First

**Semester:** 2

### INSTRUCTOR INFORMATION

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### SYNOPSIS

#### COMPETENCIES

##### General competencies

GC1: Know and understand the functions, characteristics and limitations of the different theoretical models in psychology.

GC2: Know and understand the basic laws of the different psychological processes.

GC4: Know and understand the biological foundations of human behaviour and psychological functions.

GC5: Know and understand the main psychosocial principles of the functioning of groups and organizations.

GC6: Know and understand research methods and data analysis techniques.

GC15: Know and comply with the requirements of professional ethics in psychology. Know and understand the main psychosocial principles of the functioning of groups and organizations.

##### Transversal competencies

TC1: Analysis and synthesis.

TC2: Preparation and defence of properly reasoned arguments.

TC3: Problem solving and decision making in Psychology.

TC5: Looking for information and data interpretation on social, scientific and ethical topics related to the field of Psychology.

TC6: Team work and collaboration with other professionals

TC7: Critical thinking and self- analysis.

TC9: Communication skills, learning how to communicate ideas to both, professional and non-professional audiences.

##### Specific competencies

SC1: Identify needs and demands of the recipients of work performed by the psychologist in the different areas of application.

SC2: Be able to establish goals of basic psychological action in different contexts, proposing and negotiating goals with recipients and interested parties.

SC4: Be able to describe and measure variables (personality, intelligence and other aptitudes, attitudes, etc.) and cognitive, emotional, psychobiological and behavioural processes.

SC5: Be able to identify differences, problems and needs.

SC8: Be able to identify group and inter-group problems and needs.

SC14: Be able to use strategies and techniques to participate in interventions with recipients.

## TEACHING ACTIVITIES

- **Formal lectures** (2h per week): The lecturer will deliver theoretical content.
- **Presentations in class:** Students will present a short class in teams of about 20 min. This presentation should be about the content of a research article about attention and they will also present an original idea for an experiment to complete their final assignment (see below).
- **Final assignment:** Students will complete an original experiment about attention and they will present the results in the format of a Poster to be shown in a public session at the end of the course.
- **Tutorials:** Students will attend in groups to tutorial sessions in the lecturer's office to receive orientation about their final assignments and any other questions
- **Practical sessions in the computer Lab:** Students will attend to practical sessions in a computer lab in which they will complete experimental task, collect and analyse data demonstrating main attentional phenomena explained in the classroom (Stroop, Flanker, Visual Search...etc).
- **Practical reports** will be submitted via the virtual campus.

TEACHING ACTIVITIES	Hours	% of total credits	Attendance
Class sessions	30	20%	100%
Lab sessions	15	10%	100%
Tutorials	5	3.3 %	50%
Students' work (class assignments and time of study)	95	63.3%	0%
Assessment activities	5	3.3%	100%

## BRIEF DESCRIPTION:

In this course students will be introduced to various aspects on the theory and research of psychology of attention and executive functions. The course will be taught combining traditional lectures, group seminars and hands-on activities.

## PRE-REQUISITES

Medium to advanced knowledge of English language

## OBJECTIVES

1. Understanding main concepts, theories, and phenomena of attention and executive functions.
2. Familiarize with procedures and techniques used in psychology of attention research.
3. Learning to interpret and report research results within attention framework.
4. Understanding the role of attention in behaviour explanations.

## TOPICS

1. Definition and types of Attention. Historical background.
2. Introduction to theoretical accounts and models of attention. Measures of Attention. Main experimental variables.
3. Structural models. Selective Attention
4. Resource models. Divided Attention. Sustained Attention. Automaticity and control.
5. Executive functions: Inhibitory control, Working Memory, Mental flexibility.
6. Neurocognitive perspective: Posner's Networks of attention. Orienting network, Executive Network, Vigilance Network. Network interactions.

*Additional Topics may be discussed in seminars and hands-on activities*

## ASSESSMENT

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To pass the course students will have to succeed a final exam (>4.5) and to complete and submit at least the 80% of a number of laboratory activities. Some of the lab classes will involve the use of software (E-prime, Excel, Word). 80% of attendance to lab activities is required to pass the course.

**Evaluation criteria:** Final Exam: 70% Lab activities and assignments: 30% Additional points can be obtained by participation in experiments: +0,1 in the final note per 1h. of participation. Max. 0,5 point in total can be obtained by these means and it can be use only to upgrade from 5 and above.

## RESOURCES

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### Textbooks:

Styles, E. (2006). The psychology of attention. Psychology Press. 2<sup>nd</sup> Edition

### Basic references

American Psychological Association. (2007). APA style guide to electronic references (PDF).

Washington, DC: Author. Retrieved September 14, 2008, from

<http://books.apa.org/books.cfm?id=4210509>

Posner & Raichle (1994). Images of mind. New York: Scientific American library

Sarter M, Givens B, Bruno JP (2001) The cognitive neuroscience of sustained attention: where top-down meets bottom-up. *Brain Research Reviews* 35:146–160.

Diamond, A. (2013). Executive functions. *Annual review of psychology*, 64, 135.

### Supplementary references/ material

Cash, F.T. (2009). Caveats in the proficient preparation of an APA-style research manuscript for publication. *Body Image*, 6, 1-6

Gorfein, D. S. & McLeod, C. M. (2007). Inhibition in cognition. American Psychological Association

Posner, M. (2011). Cognitive Neuroscience of Attention. Ed.: 2<sup>a</sup> ed. Guildford Publications

Additional research articles with experimental studies on attention to be searched and presented by students.

### Other resources

Stoet, G. (2017). PsyToolkit: A novel web-based method for running online questionnaires and reaction-time experiments. *Teaching of Psychology*, 44(1), 24-31.

<https://www.psychtoolkit.org/>

Wolfe, J. M., Kluender, K. R., Levi, D. M., Bartoshuk, L. M., Herz, R. S., Klatzky, R. L., ... & Merfeld, D. M. (2006). *Sensation & perception*. Sunderland, MA: Sinauer.

COMPANION SITE FOR LAB ACTIVITIES (CHAPTER 7)

<http://sites.sinauer.com/wolfe4e/index.html>