COURSE DATA

Data Subject	
Code	34318
Name	Vision of movement and depth
Cycle	Grade
ECTS Credits	4.5
Academic year	2018 - 2019

Study (s)

Degree	Center	Acad. year	Period
1207 - Degree in Optics and Optometry	Faculty of Physics	4	First term

Subject-matter

Degree	Subject-matter	Character
1207 - Degree in Optics and Optometry	16 - Optional subjects	Optional
1207 - Degree in Optics and Optometry	20 - Visual perception: mechanisms and clinical applications	Optional

Coordination

Name	Department
PONS MORENO, ALVARO MAXIMO	280 - Optics and Optometry and Vision Sciences

SUMMARY

English version is not available

La asignatura presenta las consecuencias de la visión binocular en la percepción de la estructura 3D de las escenas así como la base fisiológica para la realización de tales cálculos. Así mismo se presenta la descripción básica del movimiento como variación de la irradiancia en el plano imagen (flujo óptico) y la dependencia del mismo con la estructura 3D de la escena. Se analiza el funcionamiento de los mecanismos fisiológicos en V1 y MT que permiten la estimación de la velocidad en el sistema visual humano.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

Es conveniente haber cursado "Psicofísica" (de 2º) y "Mecanismos y Modelos de la Visión" (de 3º)

OUTCOMES

1207 - Degree in Optics and Optometry

- To have and to understand the fundamentals of Optometry for its correct clinical and healthcare application.
- Knowing how to apply the knowledge acquired to professional activity, knowing how to solve problems and develop and defend arguments.
- Being able to gather and interpret relevant data to make judgments.
- Being able to transmit information, ideas, problems and solutions to both a specialized and non-specialized audience.
- Development of learning skills necessary to undertake further studies with a high degree of autonomy.
- To know the applicable legislation in professional practice, with special attention to matters of gender equality between men and women, human rights, solidarity, sustainability, protection of the environment and promotion of the culture of peace.
- To know the way in which the information of the various perceptual dimensions is integrated to make judgments about the scene.
- To know and to handle advanced vision models (non-linear and / or integrated by elements belonging to the extra striated cortex).

LEARNING OUTCOMES

English version is not available

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Tutorials	7,50	100
Laboratory practices	7,50	100
Development of group work	2,50	0
Study and independent work	50,00	0
Readings supplementary material	5,00	0
Preparation of evaluation activities	10,00	0
TOTAL	**112,50**	

TEACHING METHODOLOGY

English version is not available

EVALUATION

English version is not available

REFERENCES

Basic

- Apuntes de clase y notas proporcionadas por el profesor (disponibles en el aula virsual)
  Howard & Rogers. Binocular Vision & Stereopsis. Oxford UNiversity Press.
  B. Wandell. Foundations of Vision

Additional

- Artículo Watson & Ahumada, JOSA A 1985
  Artículo Heeger, JOSA A 1987
  Artículo Heeger & Simoncelli, Vision Research 1998

  Artículos de investigación