Fiche UE MU5BINV1
Vision From retina to primary visual cortex

Responsable	**Gaël ORIEUX**				
Co-responsable	**Olivier MARRE**				
Descriptif	***Parcours type***	***Option***	***Niveau***	***Semestre d'enseignement***	***ECTS***
	Neurosciences	Sciences de la Vision	M2	S3	6

Modalités pédagogiques	***Volume horaire Cours***	***Volume horaire TD***	***Volume horaire TP***
	35	6	

Objectifs	The purpose of this course is to introduce the different approaches used to study the early visual system, with a focus on development, physiology and modelling from the retina to the primary visual cortex.
Thèmes abordés	Physics of the eye and of the phototransduction. Development of the early visual system, from the retina to the cortical maps. Physiology and computational modelling of information processing in the early visual system, from the retina to the primary visual cortex.. Tools to study neural circuits. Psychophysics.
Compétences acquises à l'issue de l'UE (concepts, méthodologie et outils)	Students will learn about different experimental techniques, as well as computational tools, and how they can be used and combined to study how the visual system process and extract the information contained in the visual scene. The course will allow getting the essential knowledge about the early visual system. It will also emphasize the diversity of tools, concepts and technologies used for its study. Most of these tools are also relevant to study other neural circuits. As such, the contents presented during this course will also be useful for students interested in other parts of the brain.
Prérequis	Basic knowledge in Neuroscience, This course is part of the Neuroscience program of the Master of integrative Biology. This course is taking place during the second year of the program.

Modalités d'évaluation/100	***Ecrit***	***Oral***	***CC***	***Autre***
	70-100	0-30		

The evaluation should be conducted through a formal written examination. However, according to the number of participant, oral presentation could be organised.

Langues utilisées	***Dans les cours, TD, TP***	***Dans les documents, supports***
	English	English
Localisation	UPMC	