

Physiology of Vision and Perception

Module Code:	OPT4004-B
Academic Year:	2018-19
Credit Rating:	20
School:	School of Optometry and Vision Science
Subject Area:	Optometry
FHEQ Level:	FHEQ Level 4

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	48
Laboratory	12
Directed Study	137
Examinations DO NOT USE	3

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Academic Year (Sept - May)

Module Aims

To introduce the physiology of vision and perception as applied to the clinical study of optometry. To stimulate an understanding of the physical, physiological and psychological aspects of visual perception in the normal visual system. To provide a basis for understanding the design of some clinical tests of vision.

Outline Syllabus

Lectures:

Methods for studying visual perception - an introduction. Overview of eye and vision.

Evolution of eyes. Rods and cones. Light adaptation. Spectral sensitivity. Retinal physiology. Visual pathway. LGN and visual cortex. Illusions. Visual acuity. Electrophysiology. Visual psychophysics - stimuli, responses and procedures. The limits of vision - detection and discrimination. Spatial vision & contrast sensitivity. Temporal perception. Binocular vision - fusion, rivalry and sensitivity. Binocular vision - disparity, stereopsis and space perception. Colour perception - normal and abnormal. Entoptic phenomena.

Practicals:

Peripheral visual acuity. Psychophysical methods. Illusions. Contrast sensitivity function. Binocular vision. Colour vision.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Describe different methods for studying visual perception.
- 2 Describe the mechanisms of human visual perception.
- 3 Outline the physiology of vision.
- 4 Explain the essential principles in visual psychophysics, limits of vision, binocular vision and colour perception.
- 5 Interpret physiological and behavioural measurements of visual function.
- 6 Collect, process and present information and data.
- 7 Demonstrate competency in the use of PC spreadsheet software.

Learning, Teaching and Assessment Strategy

Lectures will be used to introduce and explain ideas about how the visual system is organised in terms of physiology, and the consequences that this has for visual perception. Practical sessions will explore some of these perceptual consequences, and will allow students to develop their skills in gathering, processing and presenting data.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Computerised examination	Closed book computerised exam via QMP	1.25 hours	40%	No
Summative	Computerised examination	Closed book computerised exam via QMP	1.75 hours	60%	Yes

(including MCQ)
at end of module

Legacy Code (if applicable)

OP-0206L

Reading List

To view Reading List, please go to [rebus:list](#).