

Module Details	
Module Title:	Physiology of Vision and Perception
Module Code:	OPT4004-B
Academic Year:	2019-20
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	140

Availability	
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.

Learning Outcomes

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
Summative	Computerised examination	Closed book written exam	1.25 hours	40%
Summative	Computerised examination	Close book written exam at the end of the module	1.75 hours	60%

Reading List

To access the reading list for this module, please visit <https://bradford.rl.talis.com/index.html>.

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.