

Module Details	
Module Title	Physiology of Vision and Perception
Module Code	OPT4004-B
Academic Year	2020/1
Credits	20
School	School of Optometry and Vision Science
Subject Area	Optometry
FHEQ Level	FHEQ Level 4
Pre-requisites	N/A
Co-requisites	N/A

Contact Hours	
Type	Hours
Online Lecture (Synchronous)	12
Online Lecture (Asynchronous)	36
Online Seminar (Synchronous)	10
Practical Classes or Workshops	10 (computerised practical work)
Directed Study	132

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Academic Year

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

Delivered content:

Methods for studying visual perception - an introduction. Overview of eye and vision. Rods and cones. Light adaptation. Spectral sensitivity. Retinal physiology. Visual pathway. LGN and visual cortex. 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. Visual development. Visual perception and ageing. Eye-movements and Reading.

Computerised Practical Work:

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

Learning Outcomes

Outcome Number	Description
01	Describe different methods for studying visual perception.
02	Describe the mechanisms of human visual perception.
03	Outline the physiology of vision.
04	Explain the essential principles in visual psychophysics, limits of vision, binocular vision and colour perception.
05	Interpret physiological and behavioural measurements of visual function.
06	Collect, process and present information and data.
07	Demonstrate competency in the use of PC spreadsheet software.

Learning, Teaching and Assessment Strategy

Delivered content will introduce and explain ideas about how the visual system is organised in terms of physiology, and the consequences that this has for visual perception. Take-home computer-based practical work 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	Computer-based assessment	Closed book exam at the end of the module	2 hour	100%

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.

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