



## **Module Specification**

### Vision and Optics

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#### **Contents**

<b>Module Specification .....</b>	<b>1</b>
<b>Part 1: Information .....</b>	<b>2</b>
<b>Part 2: Description .....</b>	<b>2</b>
<b>Part 3: Teaching and learning methods .....</b>	<b>3</b>
<b>Part 4: Assessment.....</b>	<b>4</b>
<b>Part 5: Contributes towards .....</b>	<b>5</b>

## Part 1: Information

**Module title:** Vision and Optics

**Module code:** UZYY4T-30-1

**Level:** Level 4

**For implementation from:** 2023-24

**UWE credit rating:** 30

**ECTS credit rating:** 15

**Faculty:** Faculty of Health & Applied Sciences

**Department:** HAS School of Health and Social Wellbeing

**Partner institutions:** None

**Field:** Allied Health Professions

**Module type:** Module

**Pre-requisites:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** Not applicable

**Features:** Not applicable

**Educational aims:** This module will enable students to develop a fundamental understanding of geometrical and physical optics and their relevance to the eye, and present the theories of spectacle lenses.

**Outline syllabus:** Students will examine light propagation by performing laboratory experiments, using ray diagrams and mathematics (students will be required to use algebra, trigonometry and indices). Students will be introduced to a variety of spectacle lenses and how to verify these lenses using focimetry.

This module will cover the underlying mechanisms of the human visual system and how these mechanisms develop in the early years of life.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** This module will be typically delivered through weekly lectures and weekly practical lab classes.

Students will also typically spend one week in a lens laboratory or optometric practice.

**Module Learning outcomes:** On successful completion of this module students will achieve the following learning outcomes.

**MO1** Demonstrate an understanding of the propagation of light, definition of vergence and sign conventions

**MO2** Exhibit an understanding of how wave and particulate theories of the nature of light can explain phenomena such as diffraction and interference

**MO3** Verify lenses using a focimeter, and demonstrate an understanding of reflection and refraction at plane, curved surfaces and through a prism

**MO4** Solve optics problems involving thick and thin lenses and use ray tracing

**MO5** Describe the nature of visual perception and motion perception and of the development of vision in infancy

**MO6** Demonstrate a good knowledge of spatial, temporal and colour vision, and the factors that limit resolution

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 228 hours

Placement = 15 hours

Face-to-face learning = 108 hours

Total = 351

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/uzyy4t-30-1.html) via the following link <https://uwe.rl.talis.com/modules/uzyy4t-30-1.html>

## **Part 4: Assessment**

**Assessment strategy:** Assessment Task 1 will be an Objective Structured Clinical Examination (OSCE), maximum 45 minutes in duration, where lens recognition, lens problems and focimetry will be assessed line with General Optical Council competency requirements.

Rationale – this will assess students' ability to demonstrate physical skills in specific optical procedures under timed examination conditions.

Assessment Task 2 will be a 2000 word written assignment on visual perception.

Rationale – students will be assessed on their understanding of the theory of visual perception and students will be able to develop their academic writing skills.

Formative Assessment: A lab book will be completed throughout the year comprising of formative feedback for students, in addition to formative in-class quizzes, and peer and tutor feedback throughout the module's teaching activities and review of draft written work. students will complete a library workbook to assist them with essay writing skills for the written assignment.

### **Assessment tasks:**

#### **Examination (First Sit)**

Description: Objective structured clinical examination (osce) maximum 45 minutes

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

**Written Assignment (First Sit)**

Description: Written assignment 2000 words

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO5, MO6

**Examination (Resit)**

Description: Objective structured clinical examination (osce) maximum 45 minutes

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

**Written Assignment (Resit)**

Description: Written assignment 2000 words

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO5, MO6

**Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Optometry [Glenside] BSc (Hons) 2023-24

