



VISN5511 Course Outline

VISN5511

The visual system, impairments and implications

*School of Optometry and Vision Science
Faculty of Medicine and Health
UNSW Sydney*

Term 2, 2021

1. Staff

Position	Name	Email	Contact Details
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Lecturer and tutor	Dr. Jack Phu	j.phu@unsw.edu.au	+61 2 8115 0792 Centre for Eye Health, South Wing, Rupert Myers Building
Lecturer and tutor	Dr. Revathy Mani	revathy.mani@unsw.edu.au	School of Optometry and Vision Science, Level 3, Room 3.021, North Wing, Rupert Myers Building

2. Course information

Units of credit: **6**

Pre-requisite(s): **none**

Teaching times and locations: **Fully Online** (please refer to course Moodle site for up-to-date information)

2.1 Course description and aims

This course provides students with a broad understanding of the visual system, its disorders, and how vision loss affects visually guided behaviour and daily activities. Its scope includes a review of the visual pathways, visual function and its measurement, as well as diseases and disorders of the visual system that lead to low vision and blindness. The course also includes an introduction to educational strategies and training to improve orientation and mobility in people with vision loss. This course will be delivered online.

2.3 Course learning outcomes (CLO)

At the successful completion of this course you (the student) should be able to:

1. Identify anatomical structures of the visual system and articulate how they are organised and function
2. Analyse and appraise methods used to assess vision and to quantify visual loss
3. Evaluate how diseases/disorders that affect the eye and brain cause functional vision loss
4. Recognise and articulate the psychosocial implications of low vision and blindness

2.4 Relationship between course learning outcomes and assessments

Course Learning Outcome (CLO)	LO Statement	Related Tasks & Assessment
CLO 1	Identify anatomical structures of the visual system and articulate how they are organised and function	Precis, Essay and Mid Term quiz
CLO 2	Analyse and appraise methods used to assess vision and to quantify visual loss	Mid Term and Final Exam quiz
CLO 3	Evaluate how diseases/disorders that affect the eye and brain cause functional vision loss	Mid Term and Final Exam
CLO 4	Recognise and articulate the psychosocial implications of low vision and blindness	Precis, Essay, Mid Term and Final Exam

3. Strategies and approaches to learning

3.1 Learning and teaching activities

This course will be delivered across 1 term of study and will be online. It will comprise of a series of pre-recorded lectures that will be delivered on a weekly basis through the 10-week teaching term. Lectures will be supported by online tutorials and practicals to promote greater understanding and application of content. In tutorials and practicals, students will engage in reviewing research, case studies and engage in activities that expands their conceptualisation of the impact of vision loss on daily activities and behaviour.

This course aims to develop knowledge of the organisation and function of the visual system, its disorders, and how vision loss affects visually guided behaviour and daily activities.

4. Course schedule and structure

Aligned CLOs	Lecture contents	Tutorials & Key learning activities (Blackboard Collaborate)	Week
CLO1) Identify anatomical structures of the visual system CLO1) Articulate how they are organised and function	No Class	No Tutorial	O-week
	Lecture block 1: The visual system 1.1 Introduction to the organisation of the visual system 1.2: Anatomy and Physiology of the human eye 1.3: Visual processing in the brain – Primary visual cortex 1.4: Visual pathways in the brain	Course Introduction, Study Plan and Student Expectations Essay set	Week 1
		No Tutorial Self-learning exercises Read: Livingstone, M.S., Hubel, D.H. (1988) Segregation of form, color, movement, and depth: anatomy, physiology, and perception. Science, 240, 740-749. Goodale, M. A., & Milner, A. D. (1992) Separate visual pathways for perception and action. Trends in Neurosciences, 15, 20-25.	Week 2
CLO2) Analyse and appraise methods used to assess vision and to quantify visual loss	Lecture Block 2: Function of the visual system 2.1 Introduction to visual function 2.2: Contrast sensitivity and visual acuity 2.3: Colour perception, binocular vision and motion	Tutorial Review of visual pathways from eye to the brain	Week 3
CLO1) Articulate how they are organised and function CLO2) Analyse and appraise methods used to assess vision and to quantify visual loss	Lecture Block 3: Measuring visual function using optometric tests 3.1: Standard clinical approaches to measuring vision	Tutorial discussion and small group learning Discussion and small group learning: The functioning visual system, implications for behaviour	Week 4
	Mid-term Quiz	No Tutorial	Week 5

<p>CLO3) Evaluate how diseases /disorders that affect the eye and brain cause functional vision loss</p> <p>CLO4) Recognise and articulate the psychosocial implications of low vision and blindness</p>	<p>Lecture block 4: Diseases of the eye and brain</p> <p>4.1: Overview of common retinal diseases/disorders and their psychosocial impact</p> <p>4.2: Blinding diseases of the eye 1: Retinal diseases of the eye</p> <p>4.3: Blinding diseases of the eye 2: Ageing related visual change</p> <p>4.4: Blinding diseases of the cortex: visual pathway deficits and cortical loss</p> <p>4.5: Agnosias and functional vision loss</p>	<p>Tutorial discussion and small group learning:</p> <p>Introduction to vision assessment tests and how to interpret their outcomes.</p>	<p>Week 6</p>
		<p>Tutorial discussion and small group learning</p> <p>Review of eye diseases and their diagnosis</p>	<p>Week 7</p>
		<p>Tutorial discussion and small group learning</p> <p>Review of cortical loss and vision impairment</p>	<p>Week 8</p>
<p>CLO4) Recognise and articulate the psychosocial implications of low vision and blindness</p>		<p>Tutorial discussion and small group learning</p> <p>Psychosocial impact of vision loss and blindness: Guest Speaker</p>	<p>Week 9</p>
	<p>6.1 Course review and consolidation</p>	<p>No Tutorial</p>	<p>Week 10</p>

5. Assessment

5.1 Assessment tasks

Assignment Research Essay – 40%

Test Mid-term quiz 15%

Assignment Precis 15%

Examination Final exam 30%

There are four assessment tasks in this course designed to enable you to demonstrate that you have achieved the course learning outcomes. Completion and submission of all assessment tasks by the due date are necessary to receive a final mark in the course. Late submissions without approved Special Considerations will be subject to a 10% penalty of the assessment task weighting per day.

	ASSESSMENT TASKS (ATs)	RELEASE DATE	DUE DATE	WEIGHTING	CLO(s)	FEEDBACK	
						TYPE	DATE
1	AT1: Assignment Precis	Week 1	Week 4	15%	1, 2, 3, 4.	Written	Week 4
2	AT2: Mid-term quiz	Week 5	Week 5	15%	1, 2, 3, 4.	Written	Week 6
3	AT3: Assignment research essay	Week 1	Week 10	40%	1, 2, 3, 4.	Written	Study Period
4	AT4: Final exam quiz	TBA	TBA	30%	1, 2, 3, 4.	Marks	Exam Period

Further information

UNSW grading system: <https://student.unsw.edu.au/grades>

UNSW assessment policy: <https://student.unsw.edu.au/assessment>

6. Academic integrity, referencing and plagiarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Further information about referencing styles can be located at

<https://student.unsw.edu.au/referencing>

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage.¹ At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity and **plagiarism** can be located at:

- The *Current Students* site <https://student.unsw.edu.au/plagiarism>, and

¹ International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

- The *ELISE* training site <http://subjectguides.library.unsw.edu.au/elise/presenting>

The *Conduct and Integrity Unit* provides further resources to assist you to understand your conduct obligations as a student:

<https://student.unsw.edu.au/conduct>.

7. Readings and resources

Norton, T., Corliss, D., & Bailey, J.E. (2002). *The Psychophysical Measurement of Visual Function*. London, Butterworth-Heinemann. Available in the University Bookshop.

Kaufman, P.L., & Alm, A. (2002). *Adler's Physiology of the Eye* 10th edition. St Louis, Mosey.

Palmer, S.E. (1999). *Vision Science: Photons to Phenomenology*, Cambridge, Mass: MIT Press. Available in the University Bookshop.

Levine, M.W. (2000). *Fundamentals of Sensation and perception*, 3rd edition New York, Oxford University Press.

8. Administrative matters

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UNSW, Sydney

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<https://www.optometry.unsw.edu.au/>

9. Additional support for students

- The Current Students Gateway: <https://student.unsw.edu.au/>
- Academic Skills and Support: <https://student.unsw.edu.au/academic-skills>
- Student Wellbeing, Health and Safety: <https://student.unsw.edu.au/wellbeing>
- Disability Support Services: <https://student.unsw.edu.au/disability-services>
- UNSW IT Service Centre: <https://www.it.unsw.edu.au/students/index.html>