

Subject Description Form

Subject Code	SO2003
Subject Title	Visual Science 1
Credit Value	3
Level	2
Pre-requisite	NIL
Objectives	To introduce some basic concepts of vision, visual optics and refractive errors
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. describe the concepts of vision and visual optics b. describe the methods for measuring different ocular components and give their appropriate dimensions c. define different refractive errors, and the cause(s) for each of them d. create a visual acuity chart e. compare and contrast different optometers f. describe the basis of heterophoria g. discuss the relationship between different accommodative stimuli on accommodative response h. apply appropriate knowledge on clinical eye examination
Subject Synopsis/ Indicative Syllabus	<ul style="list-style-type: none">• Introduction of visual science• Measurement of ocular components• Optics of the eye• Emmetropia and ametropia• Visual acuity• Optometers• Heterophoria• Accommodation
Teaching/Learning Methodology	<p>Lecture: This subject will help students understand the basic concepts of vision and visual optics.</p> <p>Tutorial: Problem-based learning case studies will be presented through small group discussion.</p>

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)							
			a	b	c	d	e	f	g	h
	Coursework (test and lab quiz)	50	✓	✓	✓	✓	✓	✓	✓	✓
Examination	50	✓	✓	✓	✓	✓	✓	✓	✓	
Total	100									

Student Study Effort Expected	Class contact:	
	▪ Lecture	26 Hrs.
	▪ Laboratory	12 Hrs.
	▪ Tutorial	4 Hrs.
	Other student study effort:	
	▪ Self-study	80 Hrs.
	Total student study effort:	122 Hrs.

Reading List and References	<p>Goss DA, West RW. Introduction to the optics of the eye, 2002. Butterworths-Heinemann.</p> <p>Rabbetts RB. Bennett and Rabbetts' Clinical visual optics, 4th ed. 2007. Butterworths-Heinemann.</p> <p>Henson D. Optometric instrumentation, 2nd ed. 1996. Butterworths-Heinemann.</p> <p>Atchison D, Smith G. Optics of the human eye, 2000. Butterworths-Heinemann.</p> <p>Kaufman PL, Alm A. Adler's Physiology of the Eye, 10th ed. 2003. Mosby-Year Book Inc.</p> <p>Emsley HH. Visual Optics. Vols 1 and 2. 1977. Butterworths.</p>
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