

Subject Description Form

Subject Code	SO4020
Subject Title	Management and Prevention of Refractive Errors
Credit Value	2
Level	4
Pre-requisite	NIL
Objectives	<ol style="list-style-type: none"> 1. To equip students with the knowledge of the phenomenon and physiology of eye growth and myopia 2. To familiarize students with both experimental and clinical methods for controlling refractive errors
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a. describe the epidemiology of refractive errors/myopia in the world and the public health perspective of myopia b. demonstrate the understanding on clinical management of refractive errors and high refractive errors by optical and surgical means c. demonstrate the understanding on the process of emmetropization in terms of its physiology and mechanism and the role of risk factors in affecting eye growth d. demonstrate the understanding of clinical methods for myopia control e. identify the relevant/important elements of a given myopia related case, recognise the different approaches which could be taken to develop an appropriate management plan for myopia control.
Subject Synopsis/ Indicative Syllabus	<p>Epidemiology of myopia and refractive errors in different regions and countries: past, present and future</p> <p>Public health and myopia: the societal, economical and personal cost of myopia</p> <p>Clinical methods of refractive correction and managements: an overview of history and current clinical practice</p> <p>Emmetropization in animal species –its mechanism: optical, biochemical and physiological perspectives</p> <p>The characteristics of emmetropization in human:</p> <ul style="list-style-type: none"> • risk factors and human eye growth: nature versus nurture <p>Control and prevention of refractive errors:</p> <ul style="list-style-type: none"> • past, present and future • optical, pharmacological, surgical methods
Teaching/Learning Methodology	<p>Lecture: Didactic teaching and group discussion.</p> <p>Problem based learning.</p> <p>Tutorial: Small group discussion of topics of interests. Answering questions raised by students.</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
	1. Coursework (tests)	50	✓	✓	✓	✓	✓
	2. Examination	50	✓	✓	✓	✓	
Total	100						
Student Study Effort Required	Class contact:						
	▪ Lecture						19 Hrs.
	▪ Tutorial						2 Hrs.
	▪ Problem-based learning						5 Hrs.
	Other student study effort:						
	▪ Self-study						55 Hrs.
	Total student study effort:						81 Hrs.
Reading List and References	<u>Prescribed Reading</u> Grosvenor, Theodore P. Clinical management of myopia. Theodore Grosvenor, David A. Goss. Boston : Butterworth-Heinemann, 1999. Grosvenor, Theodore P, Merton C. F. Refractive anomalies: research and clinical applications. Boston: Butterworth-Heinemann, 1991. Grosvenor, Theodore P. The myopia epidemic: nearsightedness, vision impairment and other vision problems. Twenty, 2002. Rosenfield M, Gilmartin B. Myopia and nearwork. Oxford. Boston: Butterworth-Heinemann, 1998.						
	<u>Recommended Reading</u> Tokoro, Takashi. Atlas of posterior fundus changes in pathologic myopia. Springer, 1998. Thorofare N. J. Ocular anatomy and physiology. Slack, 2008. Kaufman P.L, Alm A. Adler's Physiology of the Eye. 10 th ed. Mosby, 2003.						