

Name of the instructor: Lec. Noura Aldossary

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Office: 2A15

Office hours: Saturday 10-1
Monday 10-11

Course title and code: Visual Science III (OPTO 377)

Units: 2+0

Pre-Requisite: OPTO 272

Objectives

Students will be able to understand the perception of depth, direction, size, shape, distance, motion and time, through the visual medium. In addition, optical illusions and entoptic phenomena will be introduced as well as their causes and significance to the visual system. Finally, the student will know the mechanisms of color vision, color vision defects and their significance.

Topics

- 1) Visual Perception
 - Understanding Visual Perception
 - Perception of Depth
 - Perception of motion
 - Directional Sensitivity
 - Perception of Shape
 - Perception of Size
 - Perception of Distance
 - Perception of Time
- 2) Optical Illusion and Entropic Phenomena
 - Description of Optical Illusions
 - Causes
 - Significance to the visual System
- 3) Color Vision
 - Mechanism of Color Vision
 - Color Vision Defects and their Significance

Course Plan:

Topics to be Covered	Weeks	Lecture
Introduction- Visual Perception (1) Visual processing- Understanding Visual Perception and Visual sensation. Optical processing- aberration and spatial frequency.	10-9-2012	1
Introduction- Visual Perception (2) Spatial frequency and retinal receptive field. Contrast sensitivity Edge detection	17-9-2012	2
Visual Perception (3) Perception of depth.(Stereopsis) Perception of Motion, directional sensitivity (channels)	24-9-2012	3
Visual Perception (4) Perception of shape and size. Perception of Distance and Tim.	1-10-2012	4
First Mid Term Exam	8-10-2012	
Optical Illusion. Description and causes of optical illusions.	15-10-2012	5
Entopic Phenomenon Optical Entopic Phenomenon. Physiological Entopic Phenomenon.	5-11-2012	6
Color vision The mechanisms of color vision, color vision defects and their significance.	12-11-2012	7
Second Mid Term Exam	19-11-2012	
Final exam		

Marks Distribution

Quizzes	10 marks
Attendance with engagement	5 marks
1 st mid term	22.5 marks
2 nd mid term	22.5 marks
Final	40 marks

d) References:

- Note book of Visual science 3 (opto 377) / USSO / Olisha.
- Visual Perception by Cornsweet
- Optometry by Keith Edwards and Richard Llewellyn
- The Physiology of The Eye (fourth ed.) by Hugh Davson

e) Ground Rules:

- *Respect time*
 - Be on time (11:00 am): 15 mins late will be marked as “late”
 - 3x late= absent
- *Treat others with respect and consideration*
 - Switch your phone off or to “silent” mode
 - Don’t use your mobile in the classroom
 - You will be asked to leave the class if you use a mobile phone inappropriately
- *Ask for explanation if you are confused*
 - In class
 - Email
 - Office hours
- *Assign a group leader for group issues*