

## ***OPTO 328 - Physiology of Vision I***

Instructor: Shatha Algowaifly      salgowaifly@ksu.edu.sa


Office hours: Sunday 10-11 / Mon 11-12 / or any time by appointment.


Lecture time: Sunday from 8:00-10:00 pm      Room # 9- Ground floor

Credit hours: 2

Goal: to provide material about how the eye works as a receptor organ as well as the perceptual feature of visual processing and understand the principles that underlie psychophysical assessment of a patient's vision.

Week	Day	Subject Area	Notes
1	Sun 26-1	Introduction in to the course and content	
2	Sun 2-2	The eye as a receptor organ: <ul style="list-style-type: none"><li>• Retinal landmarks and layers</li></ul>	Lecture 1
3	Sun 9-2	The eye as a receptor organ: <ul style="list-style-type: none"><li>• Photoreceptor structure, distribution and functional implications.</li><li>• Photopigment types and absorption characteristics.</li></ul>	Lecture 2
4	Sun 16-2	Photochemical and Electrophysiological Aspects of Vision: <ul style="list-style-type: none"><li>• Rods and cones circuit</li><li>• Thermal reaction.</li><li>• Production And Turnover Of Outer Segment Disc Lamellae</li></ul>	Lecture 3

		Photochemical and Electrophysiological Aspects of Vision: <ul style="list-style-type: none"> <li>Bleaching and regeneration of Rhodopsin.</li> </ul>	
5	Sun 23-2	Review	
6	Sun 3-2	Midterm 1	Lecture 1-3
7	Sun 9-3	Horizontal, Bipolar, and Retinal ganglion cells Sensory aspect of vision: <ul style="list-style-type: none"> <li>Light Sense</li> <li>Color Sense</li> </ul>	Lecture 4
8	Sun 16-3	Sensory aspect of vision: <ul style="list-style-type: none"> <li>Color Sense</li> <li>Form Sense</li> </ul> Spatial and temporal summation.	Lecture 5
9	Sun 23-3		
10	Sun 30-3	Concept of threshold Spatial vision Temporal vision	Lecture 6
11	Sun 6-4	Review	
12	Sun 13-4	Midterm 2	Lecture 4-6
13	Sun 20-4	Psychophysical methodology of Visual Assessment: Clinical electrophysiology ERG, mfERG, EOG, VEP	Lecture 7
14	Sun 27-4	Psychophysical methodology of Visual Assessment: Clinical electrophysiology	Lecture 8

		ERG, mfERG, EOG, VEP	
15	Sun 4-5	Some Clinical implications of disruption in retinal and optic nerve function	
16	Sun 11-5	Relaaaaax and Get Ready for the FINALS	
17	Sun 18-5	<div>Good Luck</div> 	
18	Sun 25-5		
19	Sun 5-6		

#### Resources:

- Lectures presentation.
- Visual Perception 4<sup>th</sup> edition by Steven Schwartz
- Clinical anatomy and physiology of the visual system by Lee Ann Remington

Exams form: Multiple choices and short answer questions.

#### Grading:

Mid 1: 20 %

Mid 2: 25 %

Assignments: 15%

Final Examination: 40%

Good Luck 😊