Understanding Visual Impairments and Functional Rehabilitation of Visually Impaired Patients

COURSE OBJECTIVES:

Lecture 1: Anatomy and Physiology of Vision
Authored by: Gislin Dagnelie, Ph.D.
Approximately 36 minutes

As a result of the successful completion of this course, participants will be able to:

• identify the principal structures of the eye
• identify the pathway from the eye to the brain
• identify the principal visual areas of the brain
• state the role of the eye's optics
• describe the function of retinal layers, retinal areas, and principal cell types
• explain the roles of the principal brain structures involved in vision

Lecture 2: Optics
Authored by: Robert W. Massof, Ph.D.
Approximately 40 minutes

As a result of the successful completion of this course, participants will be able to:

• calculate diopters of wave front curvature from object distance
• calculate image distance from knowledge of object distance and lens power
• identify types of lenses required to correct different types of ametropia
• transform refractive error prescriptions from plus to minus cylinder form
• calculate lens power required to see clearly at different viewing distances
Lecture 3: Perception and Action  
Authored by: Kathleen A. Turano, Ph.D.  
Approximately 16 Minutes

As a result of the successful completion of this course, participants will be able to:

- differentiate between the Traditional Theory of Perception and the Ecological Theory of Perception
- explain the visual guidance of action using examples of postural adjustments and walking
- demonstrate how vision plays a role in perception and action
- illustrate how the roles of vision affects postural adjustments and walking
- list rehabilitation strategies for the visually impaired patient

Lecture 4: Visual Acuity and Contrast Sensitivity  
Authored by: Robert W. Massof, Ph.D.  
Approximately 33 Minutes

As a result of the successful completion of this course, participants will be able to:

- define visual acuity
- measure visual acuity
- define contrast sensitivity
- measure contrast sensitivity
- describe how visual acuity and contrast sensitivity are related to one another

Lecture 5: Understanding Visual Function Tests  
Authored by: Gislin Dagnelie, Ph.D.  
Approximately 40 Minutes

As a result of the successful completion of this course, participants will be able to:

- name the common types of perimetry
- outline why each type of perimetry is performed
- identify normal and abnormal visual fields
- describe what field loss patterns ensue from major eye disease categories
- tell how vision rehabilitation can benefit from visual field tests
Lecture 6: Understanding Refractive Errors  
Authored by: Shirin Hassan, Ph.D.  
Approximately 40 Minutes

As a result of the successful completion of this course, participants will be able to:

- list what types of refractive errors exist and how they can be corrected
- identify symptoms of myopia, hyperopia, and astigmatism
- identify reasons for myopia

Lecture 7: Anterior Eye Diseases  
Authored by: Shirin Hassan, Ph.D.  
Approximately 33 Minutes

As a result of the successful completion of this course, participants will be able to:

- list the functions of the cornea
- list the disorders of the cornea
- identify the most common corneal dystrophy
- identify examples of corneal degeneration
- list disorders of the iris and how they affect reduced visual acuity
- identify the leading cause of severe visual impairment and blindness in the world

Lecture 8: Ocular Diseases Causing Visual Impairment and Disability  
Authored by: Janet S. Sunness, M.D.  
Approximately 46 Minutes

As a result of the successful completion of this course, participants will be able to:

- label the basic anatomical structures of the eye
- identify how diseases of given structures affects vision
- identify 3 leading causes of severe vision loss in the adult population
- list treatments to help patients with visual impairments
Lecture 9: Optics of Low Vision Devices  
Authored by: Robert W. Massof, Ph.D.  
Approximately 42 minutes

As a result of the successful completion of this course, participants will be able to:

- identify type of magnification employed by different low vision devices
- identify the optical characteristics of Galilean and Keplerian telescopes
- calculate the amount of add required for a given magnifier power and viewing distance
- transform magnification to equivalent diopters
- calculate the power of a telescope from measures of lens and exit pupil sizes

Lecture 10: The Use of Bioptics in Low Vision Rehabilitation  
Authored by: Suleiman Alibhai, O.D.  
Approximately 21 minutes

As a result of the successful completion of this course, participants will be able to:

- identify the different uses of telescopes
- identify characteristics of clients who would be good candidates for bioptics
- list examples of bioptics and identify how they are used
- list advantages and disadvantages of specific bioptics

Lecture 11: Opto-Electronic Low Vision Enhancement  
Authored by: Robert W. Massof, Ph.D.  
Approximately 46 minutes

As a result of the successful completion of this course, participants will be able to:

- identify opto-electronic low vision enhancement aids
- list basic principles of opto-electronic low vision enhancement
- identify functions of opto-electronic low vision enhancement components
- calculate magnification of an opto-electronic low vision enhancement system
- identify advantages of contrast enhancement
Lecture 12: Low Vision Rehabilitation Service Providers
Authored by: James T. Deremeik, M.A., CLVT
Approximately 20 minutes

As a result of the successful completion of this course, participants will be able to:

- list low vision rehabilitation service providers who provide direct low vision care.
- compare traditional low vision rehabilitation service providers who work in the vocation model of low vision service to medical low vision rehabilitation service providers working in a medical low vision rehabilitation delivery service model.
- differentiate what the various service providers do in the delivery of low vision rehabilitation direct care.
- describe the changing low vision service delivery model from the traditional vocational model to the current medical model.

Lecture 13: Understanding Functional Assessments in Low Vision
Authored by: Robert W. Massof, Ph.D.
Approximately 44 minutes

As a result of the successful completion of this course, participants will be able to:

- identify how World Health Organizations applies to function and function assessments
- identify theory and methods of assessing function
- define theoretical constructs, primarily social value and individual preferences as well as functional abilities and functional reserve
- list the properties of visual abilities and identify their relationships to other functional abilities
Lecture 14: Visual Skills Training  
Authored by: James T. Deremeik, M.A., CLVT  
Approximately 38 minutes

As a result of the successful completion of this course, participants will be able to:

- describe the different types of visual field limitations that would require visual skills training
- demonstrate the basic techniques of instructions to a low vision patient having central vision loss and peripheral vision loss.
- demonstrate basic visual skills instruction to perform and successfully complete ADL tasks.

Lecture 15: Low Vision Devices, Training Tips and Techniques  
Authored by: James T. Deremeik, M.A., CLVT  
Approximately 36 minutes

As a result of the successful completion of this course, participants will be able to:

- identify the appropriate low vision equipment for the performance of near, intermediate and distance tasks.
- discuss and demonstrate the instructional techniques and strategies in working with a low vision patient for the performance of near, intermediate and distance tasks using low vision devices.

Lecture 16: Orientation and Mobility Guiding Techniques  
Authored by: Duane R. Geruschat, Ph.D.  
Approximately 22 minutes

As a result of the successful completion of this course, participants will be able to:

- analyze walking from the patient perspective
- demonstrate specific guiding techniques for the visually impaired patient
- identify what to do and what not-to-do when using guiding techniques
Lecture 17: The Visually Impaired Driver  
Authored by: Herbert Simon, CDI  
Approximately 29 minutes

As a result of the successful completion of this course, participants will be able to:

- describe the profile of a low vision driver  
- identify poor driving habits of a low vision driver  
- list compensatory strategies and techniques for the low vision driver

Lecture 18: ADL Adaptations to the Home  
Authored by: Christine L. Moghimi, M.A.S., O.T.R.  
Approximately 40 minutes

As a result of the successful completion of this course, participants will be able to:

- identify appropriate modifications to the low vision patient’s home environment based on their visual impairments and functional complaints (came from home assessment objectives)  
- list examples of adaptive equipment and devices to increase safety in the home of the low vision patient

Lecture 19: Understanding Sensory Substitution-Compensatory Techniques for Vision Loss  
Authored by: James T. Deremeik, M.A., CLVT  
Approximately 18 minutes

As a result of the successful completion of this course, participants will be able to:  
- list the multiple sensory input options for gathering information from the environment.  
- list examples of the tactual and auditory modality for gathering information form the environment.  
- discuss and refer low vision patients for sensory substitution resources from the material provided in the lecture.
Lecture 20:  Auditory Assistive Devices for the Blind  
Authored by:  Robert W. Massof, Ph.D.  
Approximately 40 minutes

As a result of the successful completion of this course, participants will be able to:

• identify different classes of auditory devices
• list advantages and disadvantages of sonification
• list advantages and disadvantages of auditory aids
• identify principles of sound localization

Lecture 21:  Education Rehabilitation Services  
Authored by:  James T. Deremeik, M.A., CLVT  
Approximately 29 minutes

As a result of the successful completion of this course, participants will be able to:

• differentiate between mandated services for visually impaired children and optional services for visually impaired adults.
• discuss the federal education mandate for visually impaired children in the United States.
• follow the continuum of services from the transition years of high school to the adult service providers of vocational rehabilitation.
• discuss resources for low vision patients and their families that would be helpful.

Lecture 22:  Psychosocial Implications of Low Vision  
Authored by:  Nina M. Glasner, M.S.W., M.A.  
Approximately 44 minutes

As a result of the successful completion of this course, participants will be able to:

• summarize the psychosocial implications of low vision
• list the consequences, functional difficulties and common reactions of vision loss
• describe the adjustment process to low vision as adapted from "Self-Esteem and Adjusting with Blindness" by Tuttle and Tuttle
• identify characteristics and common behaviors of grieving of the low vision patient
• identify and address the psychosocial needs of the low vision patient