



AMERICAN ACADEMY
OF OPHTHALMOLOGY®

Ophthalmology Learning During COVID for Medical Students, Residents, and Educators

Webinar Handout

Contact Information

Moderator: Laura K. Green, MD largreen@lifebridgehealth.org

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Presenters: Alice C. Lorch, MD alice.orch@gmail.com; Anuradha Khanna, MD anuradha_khanna@hotmail.com; Pavlina Kemp, MD pavlina-kemp@uiowa.edu; Robert T. Swan, MD SwanRo@upstate.edu

Academy Clinical Webinars webpage

For information about future webinars as well as recordings of past webinars, please refer to <https://aao.org/clinical-webinars>

Academy Minority Ophthalmology Mentoring Program

This resource for underrepresented in medicine students has a deadline of July 15: <https://aao.org/minority.mentoring>

Resources from Dr. Swan's Presentation

- [Google Document for Virtual Wet Lab](#) from Dr. Alice Lorch
- [Shared Google Calendar of Online Learning Events](#) from Dr. Michael Boland
- OKAP Study Presentations by Steven Flynn <https://www.aao.org/okap-study-presentations>
- Moran CORE Lectures Online <http://morancore.utah.edu/core-resident-lectures/>
- AAO Self-Assessment Program (free questions)

<https://www.aao.org/self-assessments>

- AAO BCSC Self-Assessment Program (paid)



- OphthoQuestions (paid)
- Headspace, a meditation app, offers free access to healthcare workers through 2020
 - <https://www.headspace.com/health-covid-19>
 - Thank you, Jamie Rosenberg
- FACE COVID eBook by Russ Harris
 - Found in the AUPO Resource Library
 - Also: <https://www.actmindfully.com.au/wp-content/uploads/2020/03/FACE-COVID-eBook-by-Russ-Harris-March-2020.pdf>
- Book recommendations: [Saving Sight](#) and [The Black Swan](#)

Online Ophthalmology Curriculum

<u>Video Lectures</u> <i>Watch these ahead of the assigned day</i>	<u>Zoom Discussion</u> Discussed together on the assigned day	<u>Additional videos</u> <i>Watch these ahead of <u>or</u> on the assigned day</i>	<u>Interactive Content</u> <i>Do these ahead of <u>or</u> on the assigned day</i>	<u>Assignment</u> <i>Due as shown (details at link above)</i>
Day 1: Eye Exam and Eye Anatomy (35m)	Orientation	Basic Eye Exam (5m) Eye exam including slit lamp (13m) Optics (24m) Anatomy (25m) Video tutorials on eye exam	Interactive Figures on Eye Exam and Anatomy Eyes Have It Anatomy Quiz Eyes Have It Eye Exam Quiz Iowa Eye Exam Module (from Physical Exam Skills)	Schedule Physical Exam Skills Zoom Observations (occurring throughout the rotation)
Day 2: Acute Vision Loss (30m) and Red Eye (30m)	Acute Vision Loss and Red Eye	Online MedEd: Adult Ophtho (13m)	IU Cases: A B C D Eyes for Ears Podcast	
		Corneal Transplant (2m)	Eye Guru: Dry Eye Eye Guru: Abrasions and Ulcers IU Cases: A B C D E Eyes for Ears Podcast AAO Case - Red Eye #1 AAO Case Red Eye #2	
Day 3: Chronic Vision Loss (34m) and Systemic Disease (32m)	Chronic Vision Loss and Systemic Disease	Cataract Surgery (11m) Glaucoma Surgery (6m) Intravitreal Injection (4m)	EyeGuru: Cataract EyeGuru: Glaucoma EyeGuru: AMD IU Cases: A B Eyes for Ears Podcast	Independent learning reflection (due Day 3 at 8 pm)
			EyeGuru: Diabetic Retinopathy IU Cases: A B Eyes Have It Systemic Disease Quiz AAO Case Systemic Disease #1 AAO Case Systemic Disease #2	
Day 4:	Mid-clerkship feedback (small groups)			Patient note #1 (due Day 4 at midnight)

Day 5: Drugs and the Eye (27m) Ocular and Orbital Injuries (30m)	Ocular and Orbital Injuries		Eyes Have It Medications Quiz TRC Pharmacology: On Campus, Off Campus. IU Cases: A B Eyes Have It Trauma Quiz AAO Case - Trauma	
Day 6: Eyelid, Lacrimal and Orbital Disease (Oculoplastics) (24m)	Eyelid, Lacrimal and Orbital disease (Oculoplastics)	Eyelid surgery (Blepharoplasty) (5m)	IU Cases: A B	
Day 7: Neuro-Ophthalmology (34m)	Neuro-Ophthalmology		IU Cases: A B C D E F G H Eyes for Ears Podcast	
Day 8: Pediatric Ophthalmology: Amblyopia and Strabismus (23m)	Pediatric Ophthalmology: Amblyopia and Strabismus	Strabismus surgery (6m) Online MedEd: Peds Ophtho (16m)	IU Cases: A B Eyes for Ears Podcast	Patient note #2 (due Day 8 at 5 pm)
Day 9:	Interactive history and exam session (small groups)			
Day 10: Exam				

Physical Exam Skills and Direct Observations

Repeat each category three times:

Visual Acuity • near card or app
Confrontation Visual Fields
Alignment Assessment • Hirschberg test
Extraocular Muscle Ductions
Pupil Assessment
Penlight Assessment • Lids • Conjunctiva/sclera • Cornea • Anterior chamber depth • Clarity of media
Instillation of Drops

If you have a cooperative human at home, please perform these skills on them. Ideally, do this three days in a row. One time, we will plan on having the clerkship director observe your skills via Zoom for [Direct Observation of Physical Exam Skills](#)

- ☐ **Visual acuity:** *Eye Handbook* app available in App Store, other resources also available
- ☐ **Pupils:** Use a penlight or flashlight
- ☐ **Instillation of eye drops:** If you have eye drops at home, use these. If not, simulate what you would do if you did have drops.
- ☐ **Direct ophthalmoscopy:** Complete [virtual module](#).

Clerkship Direct Observation Form**Physical Exam Skills*****Ophthalmology***

Student name: _____

Date: _____

Evaluator name: _____

Circle one: Faculty Resident/Fellow Other(specify)

Did student perform adequate hand hygiene (*before and after the exam if a full exam is observed*)? Yes No

PE skill	Unsatisfactory	Needs improvement	Satisfactory	Not observed
Demonstrates respect for patient privacy, comfort, and safety <i>e.g., explains physical exam maneuvers, tells patient what one is doing at each step, drapes patient appropriately</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performs physical exam in a logical sequence <i>e.g., exam follows a certain order (such as by organ system or head to toe), limits repositioning of patient</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Demonstrates appropriate physical exam technique <i>e.g., takes correct position for the exam, uses exam tools correctly, uses exam maneuvers that provide an accurate evaluation of the organ assessed</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performs a clinically relevant physical exam appropriate to the setting and purpose of the patient visit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Modifies approach to physical exam to meet patient's developmental and physical needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recognizes and correctly interprets abnormal exam findings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Describe 1-2 effective skills that the student performed:

Suggest ways to help the student move 1-2 skills to the next level:

Evaluator Signature: _____ Student Signature: _____

Individual learning and self-reflection

In the setting of current events, our ophthalmology curriculum has shifted from an in-person clinical curriculum to online, necessitating increased student responsibility for their learning and time management.

In this assignment, please reflect on your approach to self-directed, individual learning.

- ☐ How have you approached this in your pre-clinical years, how did this change in your clerkships?
- ☐ What is your approach and plan for virtual learning currently, and how do you anticipate using these skills as a resident and attending in your future career?
- ☐ Do you have a system that is working for you, or are there habits you would like to change?

Please target about two paragraphs of reflection, no more than approximately 500 words.

We will discuss your thoughts at our feedback session mid-rotation.

Interactive history and exam session

<u>Administrative goals:</u> <ul style="list-style-type: none">• Direct observation of history taking• Patient note #2	<u>Practical goals:</u> <ul style="list-style-type: none">② During the session: Take a history on a patient with an eye complaint and obtain physical exam information② After the session: Write a patient note based on your interaction
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For this session, students will be paired. One student will act as a patient, and their history and physical exam will be provided to them.

The other student will act as the examiner, and start by taking a history. Then, the examiner will ask the patient for physical exam information in oral boards style. For example:

Examiner: "I will check the patient's visual acuity with a near card, by asking him to cover one eye with the palm of his hand, wear his habitual glasses and hold the near card at 14 inches away,"

Patient: "The visual acuity in my right eye is 20/20, and in the left eye is 20/40."

Examiner: "I will now check the confrontation visual fields by...." etc.

Then, students will switch roles. The history and physical exam provided to the next student will be a different case.

After this is completed, students will each write a note with the information they obtained and submit as Patient Note 2.

Chief Complaint

81-year-old with sudden, painless vision loss OS.

History of Present Illness

- Sudden black spot in the vision that spread out over the complete visual field OS over a 15-minute time frame. No pain, no diplopia, no problems in the right eye.
- Drove directly to the ER.

POHx

- No history of ocular surgeries or trauma
- Mild myopia and presbyopia

PMHx

- Coronary artery disease s/p CABG & balloon angioplasty
- Right carotid endarterectomy (1990s)
- Left carotid stenting (endovascular) recently with transient right hemiparesis (resolved).

FHx

- Father had poor vision from cataracts, died of heart disease
- Mother and brother had glaucoma

SHx: Retired school teacher, lives alone

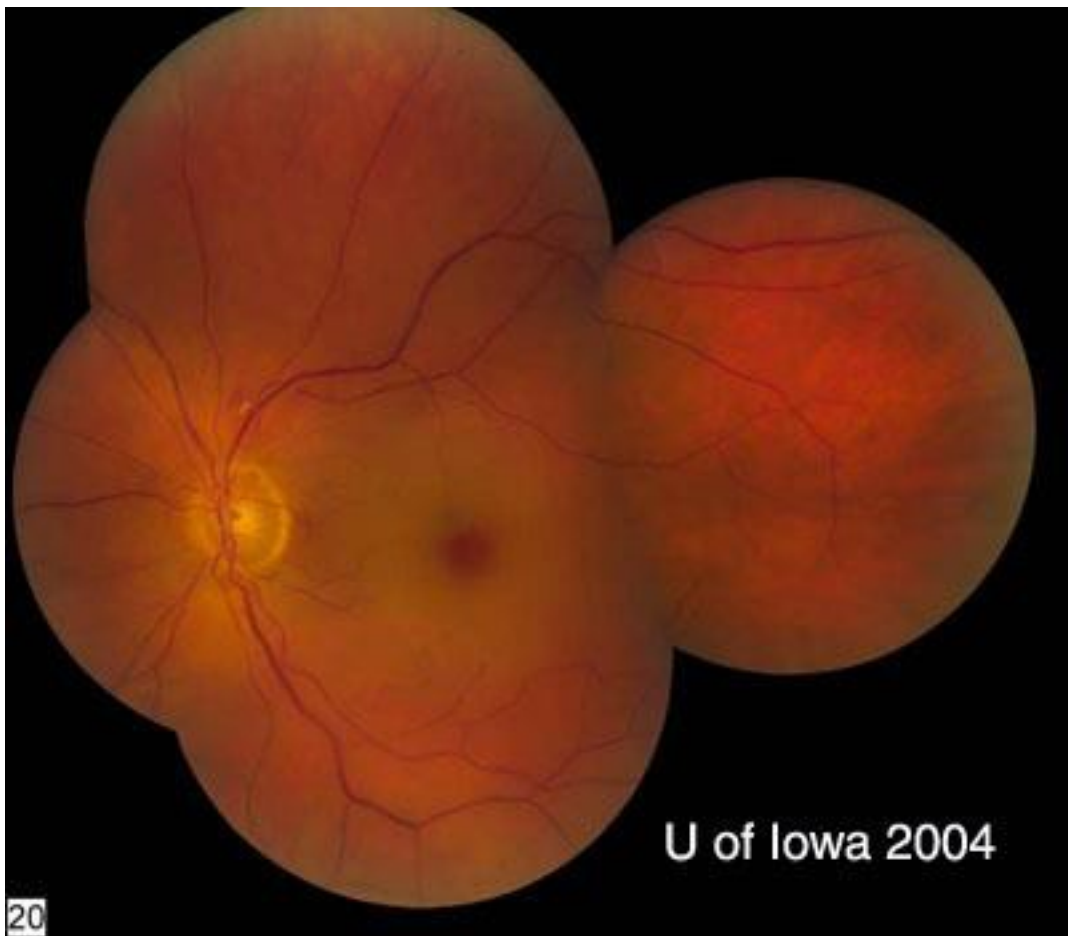
Meds: ASA, Plavix, nitroglycerine PRN and alfalfa pills

Allergies: None

ROS: denied headaches, jaw claudication, scalp tenderness, weight loss, and loss of appetite, otherwise as in HPI or negative

EXAM

- Visual acuity with glasses: 20/30 OD and HMOS.
- Confrontation visual fields: Normal OD, able to see hand motions in all four quadrants OS
- Pupils: pupils equal in light and dark, reactive, large RAPD OS
- EOM: full OU
- Hirschberg: Symmetric corneal light reflexes
- Penlight exam of anterior segment: mild nuclear sclerosis cataracts OU
- Fundus: normal OD, see photo OS (share screen with the examining student and show only the image below)



Chief Complaint

34-year-old with watery, red, irritated eyes; left more than right

History of Present Illness

- 6-day history of watery, irritated eyes
- Noted that the left eye was tearing, slightly blurry, and starting to get red six days ago
- The eye gradually became increasingly red and irritated over the ensuing 2 days and the with increased crusting in the mornings.
- There is a mild "scratchy" sensation.
- Given antibiotic drops 3 days ago, but no improvement in symptoms
- Left eye continued to worsen
- 2 days ago, right eye started to get red and watery
- One week prior to any ocular symptoms, had an upper respiratory infection which had subsided spontaneously.

POHx: Former contact lens wearer (five years ago), now only wears glasses for myopia. No eye surgery or trauma

PMHx: Healthy

PSHx: Tonsillectomy in childhood

FHx: Maternal grandmother with macular degeneration (in her 80s), paternal grandfather with recent cataract surgery

SHx: Married, works as an accountant

Meds: Daily multivitamin

Allergies: None

ROS: As in HPI, otherwise negative

EXAM

- Visual acuity with glasses: 20/20 OD and 20/30 OS
- Confrontation visual fields: Normal OD and OS
- Pupils: pupils equal in light and dark, reactive, no RAPD
- EOM: full OU
- Hirschberg: Symmetric corneal light reflexes
- Penlight exam of anterior segment: Evident crusting on lashes and watery discharge, OU. The conjunctiva is injected OS>OD. There is mild swelling of the eyelids, again L>R.
- Palpable pre-auricular lymphadenopathy (LAD), L>R

(share screen with the examining student and show only the images below when asked about penlight exam or lymphadenopathy exam)

- Direct ophthalmoscopy: normal OD and OS



Jordan M. Graff, MD
Univ. of Iowa 2005

Clerkship Direct Observation Form
History Taking and Communication Skills

Ophthalmology

Student name: _____

Date: _____

Evaluator name: _____

Circle one: Faculty Resident/Fellow Other(specify)

Skill	Unsatisfactory	Needs Improvement	Satisfactory	Not Observed
Evaluates reasons for visit in organized manner	<input type="radio"/> many disjointed unorganized questions	<input type="radio"/> most but not all questions followed logical order	<input type="radio"/> questions followed clear logical order	<input type="radio"/>
Explores symptoms in sufficient detail to generate a logical DDx	<input type="radio"/> level of detail insufficient to generate logical DDx	<input type="radio"/> level of detail allows some but not fully developed DDx	<input type="radio"/> Level of detail allows a logical well-developed DDx	<input type="radio"/>
Elicits PMH, FH and SH as applicable to the case	<input type="radio"/> did not obtain any relevant PMH, SH or FH	<input type="radio"/> addressed some but not all relevant domains	<input type="radio"/> addressed all relevant domains	<input type="radio"/>
Elicits pertinent ROS (positive, negative)	<input type="radio"/> did not obtain a ROS	<input type="radio"/> obtained ROS, omitting some important details	<input type="radio"/> obtained relevant ROS with all important details	<input type="radio"/>
Uses appropriate combination of open and closed questions	<input type="radio"/> rare use of open questions; most questions were closed	<input type="radio"/> open questions with some but not all major lines of inquiry; heavy use of closed questions	<input type="radio"/> open questions with all major lines of inquiry, followed by appropriate number of closed questions	<input type="radio"/>
Demonstrates active listening	<input type="radio"/> frequent interruption of patient; lack of facilitative skills to encourage patient to tell their story	<input type="radio"/> occasional inappropriate interruption of patient; some but inconsistent use of facilitative and guiding skills	<input type="radio"/> No inappropriate interruption of patient; consistent use of facilitative and guiding skills	<input type="radio"/>
Responds to patient's concerns with appropriate verbal and non-verbal behavior	<input type="radio"/> negative/closed body language; no eye contact; no expression of empathy	<input type="radio"/> open body language; some but inconsistent eye contact and expression of empathy	<input type="radio"/> open body language; effective eye contact and expression of empathy	<input type="radio"/>

Describe 1-2 effective skills that the student performed:

Suggest ways to help student move 1-2 skills to the next level:

Evaluator Signature: _____

Student Signature: _____

Patient Note 1

Please find an interesting case on AAO Medical Student website, the Indiana University case website, **or** EyeRounds, and write a patient note on this case.

Do not copy and paste into your note. If you do so, you will get reduced points. This should be your work, and you should understand all parts of your note. Write out all abbreviations.

Please include:

1. **History:** History of present illness, past ocular history, past medical history, family history, social history, present medications (including eye drops)
2. **Examination:** Best corrected visual acuity with/without pinhole, ocular motility, pupil exam (including size, reactivity and presence of afferent pupillary defect), confrontation visual fields, external examination, slit lamp examination, intraocular pressures, direct ophthalmoscopy.
3. **Assessment:** Organized by problem if there are multiple problems
4. **Plan:** Organized by problem if there are multiple problems

Patient Note 2

Please note 2 will be based on your history taking exercise.

Please include:

1. **History:** History of present illness, past ocular history, past medical history, family history, social history, present medications (including eye drops)
2. **Examination:** Best corrected visual acuity with/without pinhole, ocular motility, pupil exam (including size, reactivity and presence of afferent pupillary defect), confrontation visual fields, external examination, slit lamp examination, intraocular pressures, direct ophthalmoscopy.
3. **Assessment:** Organized by problem if there are multiple problems
4. **Plan:** Organized by problem if there are multiple problems

Project Presentation

Prepare and present a 6 to 8 minute presentation on an ophthalmological diagnosis, which could be commonly encountered by a primary care provider or perhaps relevant to your own future career. You may use EyeRounds as the foundation for a 'patient' to present.

Suggested format

- PowerPoint presentation, presented to your classmates via Zoom.
- If including a brief case report, please provide chief complaint, brief HPI, past ocular history, pertinent past medical and surgical history, pertinent family and social history. Describe key portions of the exam, with pictures if available.
- Briefly provide key information about the diagnosis. You may choose to include: epidemiology, signs and symptoms, exam findings, diagnostic tests if applicable, management and treatment, prognosis, differential diagnosis.
- Provide key pearls, which a primary care provider should remember if they encounter a patient with this diagnosis in their clinic.

Resources

- Your textbooks
- [EyeRounds](#) – this is a great resource for both information and for pictures

Due Dates

By the Wednesday at 5:00 pm, notify the course director of your chosen topic

On Friday of your rotation, present your project to your peers and instructor at the morning learning session.

Examples of appropriate topics

<ul style="list-style-type: none">• Cataract – senile, congenital or traumatic• Age related macular degeneration• Retinal detachment• Angle closure glaucoma• Primary open angle glaucoma• Open globe• Preseptal cellulitis• Orbital cellulitis• Dry eye• Third nerve palsy• Fourth nerve palsy• Sixth nerve palsy• Optic neuritis	<ul style="list-style-type: none">• Non-arteritic ischemic optic neuropathy• Arteritic ischemic optic neuropathy/giant cell arteritis• Viral conjunctivitis• Chalazion and hordeolum• Esotropia• Exotropia• Refractive, strabismic or deprivational amblyopia• Nasolacrimal duct obstruction• Fuch's endothelial dystrophy• Thyroid eye disease
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This is not an exhaustive list – any topic covered in your Basic Ophthalmology textbook can be a good topic, or email the course director with your idea

Ophthalmology Required Clinical Encounters

Minimum participation for diagnoses: Observed

Acute Vision Loss (2)

- ☐ Amaurosis Fugax
- ☐ Compressive Optic Neuropathy
- ☐ Corneal Edema
- ☐ Giant Cell Arteritis
- ☐ Hyphema
- ☐ Non-arteritic Ischemic Optic Neuropathy
- ☐ Optic Neuritis
- ☐ Retinal Arterial Occlusion
- ☐ Retinal Detachment
- ☐ Retinal Vein Occlusion
- ☐ Vitreous Hemorrhage

Chronic Vision Loss (2)

- ☐ Cataract
- ☐ Glaucoma
- ☐ Macular Degeneration

Ocular Pharmacology (1)

- ☐ Hydroxychloroquine
- ☐ Injected Corticosteroids
- ☐ Oral Corticosteroids
- ☐ Systemic Anticholinergics
- ☐ Systemic Sympathomimetics
- ☐ Topical Alpha-Agonists
- ☐ Topical Anticholinergics
- ☐ Topical Beta-Blockers
- ☐ Topical Corticosteroids

Ophthalmology Assessment of Systemic Disease (2)

- ☐ Cerebral Vascular Event
- ☐ Diabetes Mellitus
- ☐ Giant Cell Arteritis
- ☐ HIV
- ☐ Hypertension
- ☐ Increased Intracranial Pressure
- ☐ Malignancy
- ☐ Pregnancy
- ☐ Rheumatoid Arthritis
- ☐ Sarcoidosis
- ☐ Sickle Cell Disease
- ☐ Systemic Lupus Erythematosus
- ☐ Thyroid Eye Disease

Red Eye (1)

- ☐ Allergic Conjunctivitis
- ☐ Bacterial Conjunctivitis
- ☐ Blepharitis
- ☐ Chemical Injury
- ☐ Corneal Abrasion
- ☐ Corneal Foreign Body
- ☐ Corneal Laceration (open globe)
- ☐ Dry Eye
- ☐ Hyphema
- ☐ Orbital Cellulitis
- ☐ Preseptal Cellulitis
- ☐ Scleritis
- ☐ Subconjunctival Hemorrhage
- ☐ Viral Conjunctivitis

Subspecialty Ophthalmology (1)

- ☐ Amblyopia
- ☐ CN III, IV or VI Palsy
- ☐ Compressive Optic Neuropathy
- ☐ Congenital Cataract
- ☐ Congenital Glaucoma
- ☐ Giant Cell Arteritis
- ☐ Horner Syndrome
- ☐ Idiopathic Intracranial Hypertension
- ☐ Internuclear Ophthalmoplegia
- ☐ Myasthenia Gravis
- ☐ Non-arteritic Ischemic Optic Neuropathy
- ☐ Optic Disc Elevation
- ☐ Optic Neuritis
- ☐ Retinoblastoma
- ☐ Strabismus
- ☐ Thyroid Eye Disease
- ☐ Visual Field Defect

Minimum participation for exam skills: Performed

- ☐ Exam: Alignment Assessment (3)
 - o Hirschberg
- ☐ Exam: Confrontation Visual Fields (3)
- ☐ Exam: Extraocular Motility (3)
- ☐ Exam: Instillation of Drops (3)
- ☐ Exam: Penlight Assessment (3)
 - o Include: Lids, conjunctiva/sclera, cornea, anterior chamber depth and clarity of media
- ☐ Exam: Pupil Assessment (3)
- ☐ Exam: Visual Acuity (3)
 - o With near card, including pinhole
- ☐ Exam: Funduscopy (3)
 - o Direct ophthalmoscopy online module fulfills three skills

Ophthalmology Clerkship Grading Policy

Scoring Component	Value
Evaluations	10 points (score x 2)
Written Exam	60 points (percentage correct x 0.6)
Discussion Sessions <ul style="list-style-type: none"> 5 pts = contributed 2 or more times 4 pts = contributed 1 time 3 pts = attended, but did not participate 	30 points (6 sessions each worth 5 pts)
Professionalism	Loss of points

Requirements for Pass	Final Score: > 70 Final Exam: ≥ 60% Evaluation: ≥ 3.0
Clerkship Failure	Final Score: 0 – 69.9 Failure to complete criteria regardless of points Attendance/Participation: Clerkship failure if more than 2 days missed Evaluation: < 3.0 Written Exam: score < 60% (eligible for one retake) Discussion Sessions: more than 1 missed Required clinical encounters incomplete