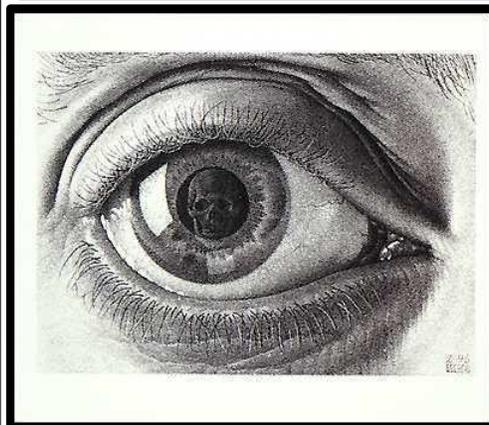




HARVARD MEDICAL SCHOOL

TRAINING THE EYE:
IMPROVING THE ART OF PHYSICAL DIAGNOSIS



March 27, 2015- May 22, 2015

TABLE OF CONTENTS

- A. Course Overview
- B. Course Faculty and Staff
- C. Course Biographies
- D. Course Schedule
- E. Maps and Directions
- F. Sketchbook Journal Assignments
- G. Sessions and Reading Assignments
 - 1. Introduction to Visual Literacy and Vision
 - 2. Formal Analysis
 - 3. Patterns and Dermatology
 - 4. The Face in Question (Line and Symmetry in the Cranial Nerve Exam)
 - 5. Contour in Thoracic Imaging
 - 6. The Body in Question (Form and Motion in Neurological Exam)
 - 7. Form and Function in Respiratory Physiology
 - 8. Putting It All Together

Front cover artwork: top left: Untitled by Delilin; top right: Cylinder by Ali Akbar Sadeghi (1993); bottom left: Athlete with a scraper, A.D. 110-135 Roman (MFA 00.304); bottom right: Eye by Maurits Cornelis Escher (1948)

COURSE OVERVIEW

Course Description

Training the Eye: Improving the Art of Physical Diagnosis is an interactive, preclinical course that addresses the visual challenges of clinical diagnosis. Students will develop visual analysis skills and examine the process of diagnosis broadly. The course capitalizes on the power of the visual arts to promote the communication and analysis skills necessary to addressing ambiguity in the physical exam. Through discussions, drawing and writing exercises, lectures and interactions with patients, and an intensive drawing workshop (mandatory), students will learn to apply these skills by examining both art and patients with a broad range of disorders. Class size is limited to encourage active and frequent participation.

Program Goals

1. Provide museum and lecture-based opportunities for students to understand and practice competencies of the physical examination;
2. Expand students' abilities in observation, description, and analysis;
3. Increase students' confidence in visual and communication abilities used in examining patients;
4. Provide opportunities for students to work as teams, similar to the medical teams on the wards, listening, analyzing and further developing each other's observations and hypotheses.

Learning Outcomes

Students will:

1. Practice active looking and communication through art;
2. Engage in collaborative meaning-making;
3. Explore connections between art-viewing and the physical exam;
4. Reflect metacognitively on own looking process;
5. Learn about clinical diagnosis in a variety of situation, settings and disciplines.

Course Structure

Each class is divided into a museum session and a clinical lecture. Other key aspects of the course include clinical rounds, and course journals.

Museum Sessions

In these sessions, students work directly with original works of art in the galleries to practice observation, description, and collaborative meaning-making. Led by professional art museum educators, museum sessions draw upon *Visual Thinking Strategies (VTS)*, a methodology that develops visual literacy and cognition skills. These interactive sessions present a time for students to gain skills and confidence in visual thinking. Critical to the physical exam and the process of formulating a diagnosis are skills such as: observing, interpreting, analyzing, collaborating, speculative thinking, and the ability to slow down and notice details. Museum sessions also incorporate drawing and writing assignments. Throughout the museum sessions, students will be challenged with new material, as well as a variety of artistic media including drawing, painting, and sculpture.

Clinical Lectures

Led by a rotation of faculty physicians, these didactic sessions focus on visual diagnosis and the physical exam. Each lecturer presents clinical situations (and imagery, as much as possible) from his or her area of specialty, thereby modeling core competencies of the physical exam from a variety of standpoints, styles and disciplines. Towards the end of the course, students will have the opportunity to observe and interact with live patients in lecture sessions.

Clinical Rounds

Students will join course faculty Drs. Katz and Khoshbin in examining ambulatory and hospitalized patients. This experience allows participants to practice and consolidate observation skills relevant to patient care, and to begin to explore other areas of physical examination.

Patient Pictures

Small group discussions led by teaching assistants.

Course Sketchbook Journal

At the beginning of the course, each student will be given a sketchbook and basic drawing materials. Students will keep a sketchbook journal for the duration of the course, to be used for both drawing and writing assignments. The objectives of this course component are to encourage:

- The practice of habitual drawing;
- Connections between art (drawing and viewing) and the physical exam process;
- Ongoing reflection about what and how you are learning;
- Retention and synthesis of course material.

Please bring your Sketchbook Journal to each class. You should be prepared to share your work.

Reading Assignments

Readings for the course include selections from James Elkins, How to Use Your Eyes; Margaret Livingstone, Vision and Art: The Biology of Seeing; Rodolf Arnheim, Art and Visual Perception, and Mary Acton, Learning to Look At Paintings as well as articles from a variety of sources.

Student Evaluation

Students' responsibilities include: (a) weekly attendance and active participation in visual skills sessions, (b) completion of weekly Sketchbook Journal assignments, (c) one hour of assigned reading per week, and (d) satisfactory completion of the evaluations. Evaluation (pass/fail) of the students will be based on fulfilling all 4 of these criteria.

Feedback

Sketchbook Journals will be collected in class on May 15, 2015 and reviewed by course instructors. Faculty will be available to meet with students individually should the need arise. Students will complete a course evaluation during the final session.

Background

Dolev et al at Yale Medical School demonstrated the ability of one day of art education to improve medical students' visual diagnostic skills.¹ With tremendous artistic resources both on-campus and in close proximity, Harvard Medical School began an innovative, hands-on, interdisciplinary, longitudinal course (TTE) utilizing art as a means to expand diagnostic skills in 2004. The goal of this course is to enhance medical students' diagnostic acumen by expanding their observational skills through the understanding of artistic concepts, and learning to apply this knowledge and skill in assessing patients with a broad range of disorders. A prospective randomized controlled study demonstrated that the TTE course was successful in meeting these goals, and that the magnitude of the effect correlated with high levels of attendance.²

¹ Dolev JC, Friedlaender LK, Braverman IM. Use of Fine Art to Enhance Visual Diagnostic Skills. JAMA 2001; 286: 1020-1021.

² Naghshineh S, Hafler JP, Miller AR, Blanco MA, Lipsitz SR, Dubroff RP, Khoshbin S, Katz JT. Formal art observation training improves medical students' visual diagnostic skills. Journal of General Internal Medicine. 2008;23:991-997.

COURSE FACULTY & STAFF

COURSE DIRECTORS

Joel T. Katz, MD
Assistant Professor of Medicine
Brigham and Women's Hospital
jkatz@partners.org

Shahram Khoshbin, MD
Associate Professor of Neurology
Brigham and Women's Hospital
skhoshbin@partners.org

COURSE FACULTY/INSTRUCTORS

Robert Brown, MD

rbrown5@partners.org

Margaret Livingstone, PhD

margaret_livingstone@hms.harvard.edu

Judy Murray, MA

jmpembroke63@comcast.net

Sam Rodriguez, MD

samrodriguez07@gmail.com

Kitt Shaffer, MD, PhD

kittshaffer@gmail.com

Amy Ship, MD

aship@bidmc.harvard.edu

COURSE TEACHING ASSISTANTS

Matthew Growdon, HMS Class of 2015

matthew_growdon@hms.harvard.edu

David Ziehr, HMS Class of 2015

david_ziehr@hms.harvard.edu

Ambika Bhushan, HMS Class of 2016

ambika_bhushan@hms.harvard.edu

ACKNOWLEDGEMENTS: Rachel Dubroff, MD; Sheila Naghshineh, M.D.; Daniel Federman, MD; Ronald Arky MD; Edward Hundert MD; generous financial support from Estrellita Karsh, John Fish and Fred Sharf; co-founders of VTS: Abigail Housen and Philip Yenawine; Barbara Martin and Brooke DiGiovanni Evans (Museum of Fine Arts, Boston); Michelle Grohe and Corinne Zimmermann (Gardner Museum). Thank you also to Alexa Miller; Joanna Nash; Ann Plasso and Jill Springer.

Training the Eye: Improving the Art of Physical Diagnosis Course Biographies



Joel T. Katz, MD

Jkatz@partners.org

A graduate of Earlham College and the Johns Hopkins University School of Medicine, Joel T. Katz, MD is an infectious diseases consultant, Director of the Internal Medicine Residency program, Vice Chair for Education, and *Marshall A. Wolf Chair of Medical Education* at Brigham and Women's Hospital. He is an Associate Professor of Medicine at the Harvard Medical School. As a former commercial artist and illustrator, his academic work focuses on innovative methods to improve medical education, including through the observation of fine arts and art education methodology.



Shahram Khoshbin, MD

Skhoshbin@partners.org

Shahram Khoshbin, MD, is an Associate Professor of Neurology at the Harvard Medical School, and a Neurologist at the Brigham and Women's Hospital and the Children's Hospital. He received his MD degree from Johns Hopkins University and then came to Harvard for his internship and residency in pediatrics at the Children's Hospital. In addition, he completed his adult neurology residency in the Harvard Combined Neurology Program. His research interests include the electrical activity of the brain. He has a special interest in the relationship of the brain disease and the visual arts.



Robert Brown, MD

rbrown5@partners.org

Robert Brown, MD, is Director of the Pulmonary Function Laboratory and Co-Director of the Respiratory Acute Care Unit at Massachusetts General Hospital. He received his MD degree from McGill University in Montreal, Canada where he was Valedictorian. Dr. Brown then went on to complete his residency at Royal Victoria Hospital before completing a fellowship at Brigham and Women's Hospital. He is also an Associate Professor of Medicine at Harvard Medical School.



Ambika Bhushan, HMS Class of 2015

Ambika_bhushan@hms.harvard.edu

Ambika Bhushan is a rising fourth year medical student at HMS. Before coming to medical school, she did her undergrad at Yale, where she was a Biology and Sociology major, and a Masters in Global Health at Oxford, during which she spent a semester in South Africa working on HIV/AIDs and drug-resistant TB. Currently, she is doing a research year working with Walter Willett at the Public Health school on the associations between diet, genetics and memory loss. She grew up in the tropical Philippines and still working on acclimating to Boston winters! Her medical interests include internal medicine, global health, medical education, nutrition and public health. Her non-medical hobbies include cooking, spinning (and biking when warm), yoga, reading, travelling, knitting, growing things (that don't require a ton of upkeep) and obviously learning about and looking at art! She's very excited to be TA'ing this class as it was one of her favorites she took at HMS.



Matthew Growdon, HMS Class of 2015

matthew_growdon@hms.harvard.edu

Matthew is a 4th year medical student at HMS, currently pursuing a MPH at HSPH. His interests include neurology (with an emphasis on neurodegenerative diseases), internal medicine, and public health and health policy as they relate to the aging population. He studied History and Literature in college and strives to stay connected to the humanities through courses like *Training the Eye*. In his free time, he enjoys singing, running around Jamaica Pond, and keeping up with politics. His home town is Los Angeles.



Margaret Livingstone, PhD

Margaret_Livingstone@hms.harvard.edu

Margaret is Professor of Neurobiology at Harvard Medical School. She studies vision using anatomy, physiology, and human perception. Livingstone has a special interest in how the eye and brain use color and luminance information. She is also involved in studies of dyslexia and visual processing.



Judy Murray, MA

jmpembroke63@comcast.net

Judy has worked at the Museum of Fine Arts, as Manager of the Gallery Instructor Program; at the Gardner Museum as Director of Visitor Learning; and, most recently at the Harvard Art Museums as Senior Museum Educator. A graduate of Brown University with an M.A. in history from Boston University, her ongoing interest is in exploring connections between art and medicine. She has taught workshops for the Cambridge Health Alliance, the Macy Institute and works with Drs. Katz and Khosbin assessing and improving the *Training the Eye* course.



Sam Rodriguez, MD

samrodriguez07@gmail.com

Hailing from New Jersey, Sam completed residency at Massachusetts General Hospital followed by a fellowship in Pediatric Anesthesia at Boston Children's Hospital. In addition to his clinical practice, Sam works as a medical illustrator and painter. His illustrations have been featured in numerous textbooks and academic papers with a focus on Anesthesia and Neurosurgery. He is an award winning oil painter whose work focuses primarily on portraiture and medical narratives. Select works can be viewed at sampaintings.com. Sam is currently a Pediatric Anesthesiologist at Stanford University Hospital.



Kitt Shaffer, MD, PhD

kittshaffer@gmail.com

Kitt Shaffer, MD PhD FACR is the Vice-Chair for Education in Radiology at Boston Medical Center and a Professor of Radiology at BU Medical School, where she chairs the Faculty Promotions Committee and teaches extensively in all four years of the medical curriculum on topics in Anatomy, Educational Methods and Radiology.



Amy N. Ship, MD, MA

aship@bidmc.harvard.edu

Amy N. Ship, MD is an internist and educator at Beth Israel Deaconess Medical Center and an Assistant Professor of Medicine at Harvard Medical School. She received a B.A. with Honors in English Literature from Swarthmore College, an M.A. in Art History from Columbia University, and her medical degree from the Albert Einstein College of Medicine. Before becoming a doctor, she did curatorial work at two major art museums and was a reporter for a national newspaper. She completed her residency in Internal Medicine at Beth Israel Hospital and served as Chief Resident in Primary Care. She has completed two fellowships in Medical Education at the Shapiro Institute for Medical Education at BIDMC. She facilitates the “Literature and Medicine” program sponsored by the Massachusetts Council for the Humanities at the Brigham and Women’s Hospital.



David Ziehr, HMS Class of 2015

david_ziehr@hms.harvard.edu

TRAINING THE EYE: COURSE SCHEDULE

PLEASE NOTE: In order for the class to be most effective, prompt attendance is necessary. Unless otherwise specified, we will meet at **1:50 pm** sharp at the **Museum of Fine Arts Schools and Groups Entrance** located on Museum Road opposite the Parking Garage. (For details see the following section *Maps and Directions*). **TMEC=Tosteson Medical Education Center.**

DATE/TIME	EVENT	LOCATION
March 27, 2015	1. <u>Introduction to Visual Literacy & Vision</u>	TMEC 324
2:00-3:20	<i>Intro to Visual Observation—A Fresh Look at the Physical Exam</i> , Joel T. Katz & Shahram Khosbin	
3:30-4:30	<i>What Art Can Tell Us About the Brain</i> , Margaret Livingstone	
April 3, 2015	2. <u>Formal Analysis</u>	MFA
2:00-3:15	<i>Practicing Observational Skills in Art</i> Judy Murray, Ambika Bhushan, Matthew Growdon David Ziehr	
3:30-4:30	<i>Formal Analysis</i> , Amy Ship	MFA, Sem. Rm. G39
April 10, 2015	3. <u>Patterns and Dermatology</u>	MFA
2:00-3:00	<i>Practicing Observational Skills in Art</i> Judy Murray, Ambika Bhushan, Matthew Growdon David Ziehr	
3:10-4:10	<i>Patterns and Dermatology</i> , Joel T. Katz	MFA, Sem. Rm. G39
4:10-4:30	<i>Narrative Clinical Images</i> , Matthew Growdon, David Ziehr, Ambika Bhushan	

April 17, 2015	4. <u>The Face in Question (Line and Symmetry in the Cranial Nerve Exam)</u>	MFA
2:00-3:15	<i>Practicing Observational Skills in Art</i> Judy Murray, Ambika Bhushan, Matthew Growdon David Ziehr	
3:30-4:30	<i>The Face in Question (Line & Symmetry in the Cranial Nerve Exam)</i> —Shahram Khosbin	MFA, Sem. Rm. G39

April 24, 2015	5. <u>Contour in Thoracic Imaging</u>	MFA
2:00-3:15	<i>Practicing Observational Skills in Art</i> Judy Murray, Ambika Bhushan, Matthew Growdon David Ziehr	
3:30-4:30	<i>Contour in Thoracic Radiological Imaging</i> Kitt Shaffer	MFA, Sem. Rm. G39

May 1, 2015	Olympics—Class Cancelled	
--------------------	---------------------------------	--

May 2, 2015 Saturday Time TBD	Drawing Workshop (Required) Sam Rodriguez	TBD
--	---	------------

May 8, 2015	6. <u>The Body in Question (Form and Motion in the Neurological Exam)</u>	MFA
2:00-3:15	<i>Practicing Observational Skills in Art</i> Judy Murray, Ambika Bhushan, Matthew Growdon David Ziehr	
3:30-4:30	<i>The Body in Question (Form & Motion in the Neurological Exam)</i> —Shahram Khosbin	MFA, Sem. Rm. G39

May 9, 2015 **Practicing VTS at the new Harvard Art Museums (Optional)**
Saturday
11:00 am - 1:00 pm

May 15, 2015	7. <u>Form and Function in Respiratory Physiology</u>	GARDNER MUSEUM
2:00-3:00	<i>Practicing Observational Skills in Art</i> Judy Murray, Ambika Bhushan, Matthew Growdon David Ziehr	
3:00-3:10	<i>Walk to TMEC</i>	
3:15-3:30	<i>Understanding Form and Function in Respiratory Physiology</i>, Robert Brown	TMEC 324

May 22, 2015	8. <u>Putting It All Together</u>	TMEC 324
2:00-4:30	<i>Putting It All Together</i> Joel T. Katz and Shahram Khosbin	

MAPS & DIRECTIONS

TOSTESON MEDICAL EDUCATION CENTER (MEC)

Address: 260 Longwood
Boston, MA 02115
(617) 432-1000

Public Transportation:

Subway: Take **Green D** line train to Longwood Station. From station, turn left on to Chapel Street and walk up short hill to Longwood Avenue. Turn left on to Longwood Avenue. Harvard Medical School is about a 10 minute walk from the Longwood Station and is located on the right.

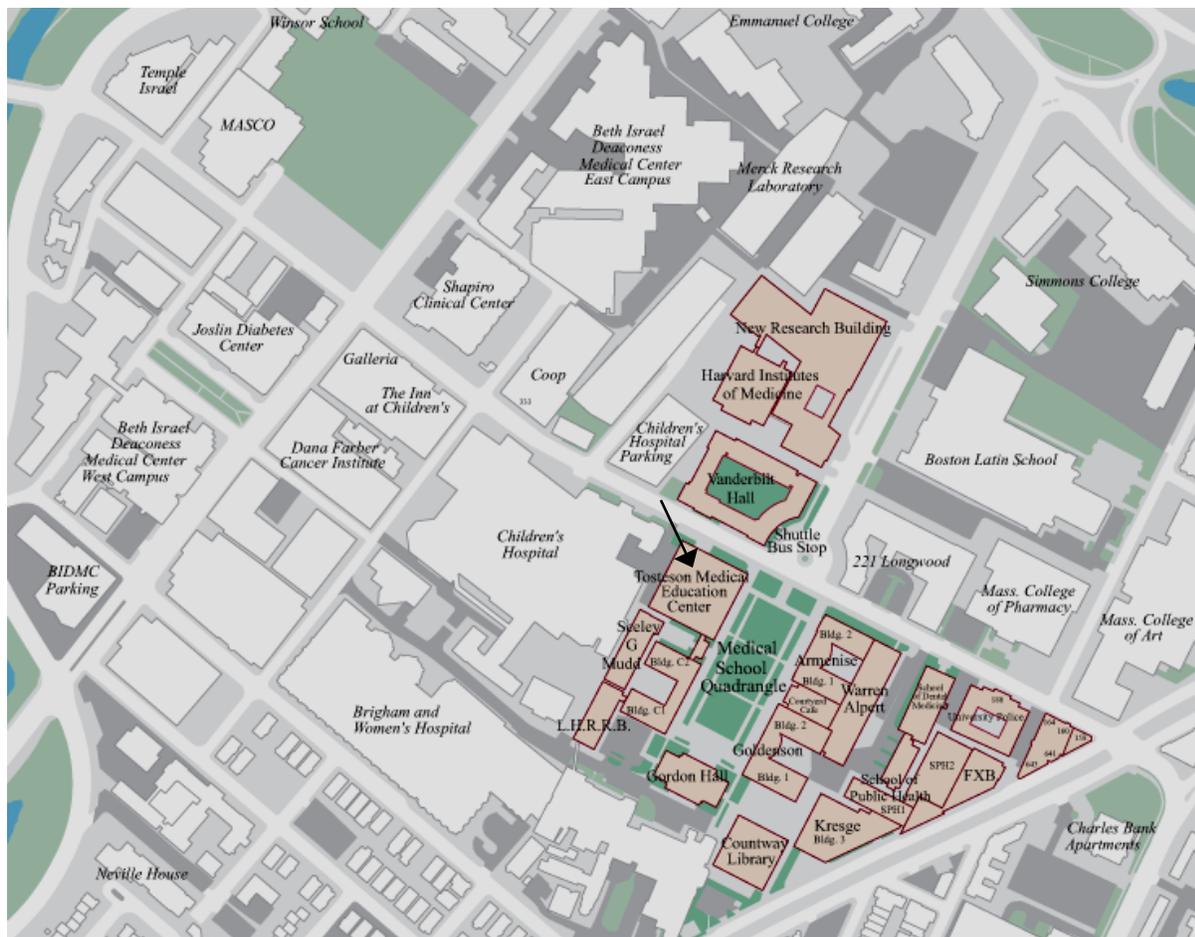
Take **Green E** line to Longwood Medical Area Station. From stop, proceed down Longwood Avenue towards the hospitals. Harvard Medical School is about a 5 minute walk from the Longwood Medical Area Station and is located on the left.

Bus: **47** - Central Square, Cambridge - Albany St. Via South End Medical Area, Dudley Station & Longwood Medical Area. Exit bus in front of Children's Hospital. Harvard Medical School is located next to the hospital.

CT2 - Kendall Square Station - Ruggles Station Via Longwood Medical Area. Exit bus in front of Children's Hospital. Harvard Medical School is located next to the hospital.

8A - Dudley Station - Kenmore Station Via Longwood Medical Area. Exit bus in front of Children's Hospital. Harvard Medical School is located next to the hospital.

Map: Longwood Medical Area (arrow indicates the MEC)



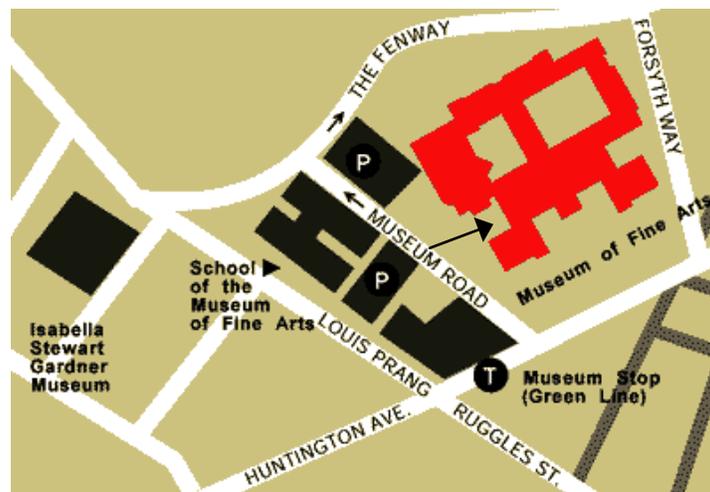
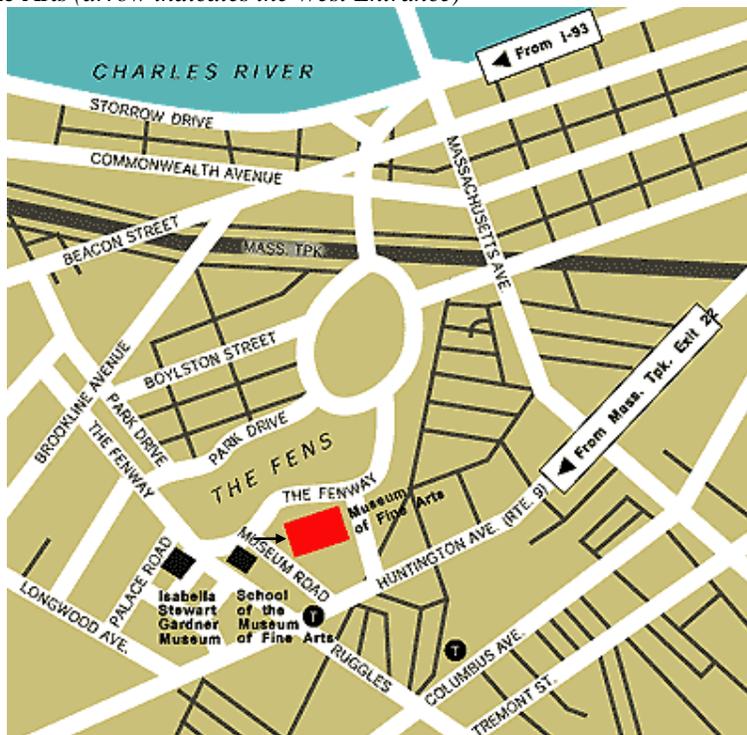
MUSEUM OF FINE ARTS (MFA)

Address: Avenue of the Arts
465 Huntington Avenue
Boston, Massachusetts 02115-5523
617-267-9300

Public Transportation: The Museum is easily accessible via subway, from the **Green Line "E" Train**. This train stops directly in front of the MFA; the stop is called "**Museum of Fine Arts.**" You can also take the **Orange Line** train to the "**Ruggles**" stop. Alternately, the Museum is accessible by taking the **39 bus to the Museum stop**, or the **8, 47, or CT2 buses to the Ruggles stop.**

Parking: The Museum has two parking lots located on Museum Road, adjacent to the MFA. One is a covered garage on the left side of Museum Road and the other is an open-air parking lot on the right side of Museum Road, just beyond the garage. Member rates: \$2.50 each half hour; \$12.00 maximum. Non member rates: \$3.50 each half hour; \$22 maximum/day.

Maps: Museum of Fine Arts (*arrow indicates the West Entrance*)



SKETCHBOOK JOURNAL ASSIGNMENTS 2015

Overview

The Sketchbook Journal is a key component of this course. The weekly assignments provide opportunities for you to further develop your observational skills as well as to discover more about yourself as a learner.

Each assignment has two parts: 1) a focused drawing activity designed to sharpen a specific visual skill and 2) a writing exercise that encourages you to reflect on the process. Please complete both parts.

Note: Sketchbook Journals will be collected on MAY 15, reviewed by the instructors, and handed back to you on the last day of class.

Long-range

As you visit the museum galleries each week, keep an eye open for a work of art that speaks to you in some way. Take a photo of yourself with your artwork (no flash, please) and  Instagram it, using #HMSTrainingTheEye. Feel free to comment on the connection you made with your choice. We'll review everyone's selections on the last day of class.

ASSIGNMENT #1: DUE APRIL 3 PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Blind Contour Drawing

Skills: Slowing down; synching hand and eye; closely observing an object; perceiving edges.

1. Drawing exercise (Time yourself for a 5 full minutes.)

- Choose one of your shoes as a model. Your goal is to carefully observe this object by making a contour line drawing: a very slow study of form using a continuous line.
- Without taking your eye off your model, let your hand draw the contours (edges) of the shoe. As your eye moves along, try to move your pencil in sync with your gaze. Keep your pencil tip on the page at all times to make one continuous line. Do not look at the paper.
- The goal is not to make a replicable drawing, but rather to record the journey of your eye.

Optional online tutorial:

Blind Contour Drawing: https://www.youtube.com/watch?v=FKHVqbM_xLU

2. Journal reflection

- What thoughts/questions arose as you sketched? What did you find most difficult? Easy? How did this drawing exercise inform your understanding of the object?

ASSIGNMENT #2: DUE APRIL 10 PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Light and Shadow

Skills: Perceiving differences in tonal values of light and dark; developing an awareness of light source; closely observing one of the basic forms in art and nature.

1. Drawing exercise

- Your model is an egg (preferably white, but brown is OK). Place the egg on a white sheet of paper. Shine a strong light on it from above and slightly to one side. Play with the distance from the light source to get a good balance of light and dark values. Adjust the curtains in the room if needed.
- Draw the egg larger than life-sized. Without using lines, shade all the gradations of light and shadow on both the egg and the paper.

Optional online tutorial: <http://www.proko.com/shading-light-and-form-basics/>

2. Journal reflection

- Look for lights and shadows wherever you are: on people's faces, across a lawn in late afternoon, on the surfaces of buildings, etc. Take notes on 1-2 of your viewing experiences. How did this shift in focus affect your perception of your subjects?

ASSIGNMENT #3: DUE APRIL 17 PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Focus on the Face

Skills: Exploring the relationship of part to whole; examining the proportions of the human face.

1. Drawing exercise

- For instructions, please refer to the excerpt from Betty Edwards, Drawing on the Right Side of the Brain, 4th edition (New York:Tarcher/Penguin, 2012). Handout.

Optional online tutorial: www.proko.com/how-to-draw-the-head-from-any-angle/

2. Journal reflection

- What discoveries did you make? Any surprises?

ASSIGNMENT #4: DUE APRIL 24 PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Negative Space

Skills: Perceiving the spaces between and around an object; shifting to the right side of the brain; seeing with fresh eyes.

1. Drawing exercise

- Make **two** negative space drawings of familiar objects. Below are suggestions for objects that lend themselves well to this assignment.
 - Coffee mug; teacup; tea pot/kettle; pitcher/vase; potted plant
 - Kitchen chair/or any slat-backed chair; stool
 - Scissors with blades open; fork
 - Your choice . . .

Optional online tutorial:

<http://www.tutorial9.net/articles/design/enhancing-your-art-with-negative-space/>

2. Journal reflection

- What did you learn from this experience? What did you find most challenging?

ASSIGNMENT #5: DUE MAY 8 PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Gesture Drawing

Skills: Developing kinetic awareness; perceiving movement and countermovement in the human body; apprehending the relationship of part to whole.

1. Drawing exercise

- Ask a friend to do a series of **3** one-minute poses in different positions. For each pose make a gesture drawing that captures the energy of the whole figure. In the words of one artist:
“It is only the action, the gesture, that you are trying to respond to here, not the details of the structure. You must discover—and feel—that the gesture is dynamic, moving, not static. Gesture has no precise edges, no exact shape, no jelled form. The forms are in the act of changing.”

Kimon Nikolaides, *The Natural Way to Draw* (Houghton Mifflin, 1941).

Optional online tutorial: <http://www.proko.com/how-to-draw-gesture/>

2. Journal reflection

- What did you notice about yourself as you did this exercise? Compare this experience to the blind contour drawing exercise. Do you have a preference?

ASSIGNMENT #6 DUE MAY 15 PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Close Observation and Documentation

Skills: Sharpening analytical and descriptive skills; balancing careful observation of details with perception of the whole.

1. Drawing exercise

- Observe a stranger who is sitting, standing, or is in a more or less stationary position. Do a quick **gesture drawing**. Do not draw details; you are capturing the person’s balance, weight distribution and energy.
- Also, take careful notes on this person’s appearance.

2. Journal reflection

- **Write about your observations, including such information as:**
 - o Clues to age
 - o Height
 - o Body proportions/habitus
 - o Nutritional state
 - o Posture
 - o Affect
 - o Respiratory pattern
 - o Eye contact
 - o Skin color—pallor, jaundice, rashes, bruises, cyanosis?
 - o Grooming/hygiene
 - o Any signs of distress/pain/discomfort
- What questions arose as you did this assignment? What might you anticipate about your subject’s next movements? If the person is sitting, for example, imagine how s/he will move when rising from the chair.

March 27, 2015

SESSION 1: Introduction to Visual Literacy & What Art Can Tell Us About the Brain

EVENTS

- *Intro to Visual Observation—A Fresh Look at the Physical Exam*
Joel T. Katz & Shahram Khoshbin

- *What Art Can Tell Us About the Brain*
Margaret Livingstone

OBJECTIVES

At the conclusion of this session, students should be able to:

- appreciate the complexity of the functional continuum between central and peripheral vision
- understand the role of color in visual perception
- gain awareness about the process of looking

READINGS

Required

1. Online: Alix Spiegel, Health News from NPR, 2/11/13, “Why Even Radiologists Can Miss a Gorilla Hiding in Plain Sight,”

www.npr.org/.../why-even-radiologists-can-miss-a-gorilla-hiding-in-plain-sight

Optional

1. Jerome Groopman, “What’s the Trouble?: How Doctors Think,” *New Yorker*, January 29, 2007, pp. 36-41.

SKETCHBOOK JOURNAL

No assignment for Session 1 (March 27, 2015)

April 3, 2015

SESSION 2: Formal Analysis

EVENTS

- *Practicing Observational Skills in Art*
Judy Murray; Matthew Growdon; David Ziehr; Ambika Bhushan

- *Formal Analysis*
Amy Ship

OBJECTIVES

At the conclusion of this session, students should be able to:

- view and describe art in a group setting
- discuss basic artistic concepts
- appreciate the connections between observing art and the physical exam
- consider various relationships between medical practice and the arts learn to apply visual cues to clinical observations

READINGS

Required

1. Margaret Livingstone, Vision and Art: The Biology of Seeing (New York: Harry N. Abrams, Inc., 2002), “Luminance and Night Vision,” pp. 36-45.

Optional

1. Textbook: Mary Acton, Learning to Look at Paintings (New York: Routledge, 2009), “Introduction,” pp. xxxiii-xxvi; **Chapter 5**, “Color”, pp. 118-134.

SKETCHBOOK JOURNAL ASSIGNMENT #1 (DUE APRIL 3) PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Blind Contour Drawing: Your goal is to study very closely the contours (edges) of forms. The challenge is that you must draw without taking your eyes off your model (a shoe). It is as if you were “taking a walk with a line.”

See *Sketchbook Journal Assignments* section for instructions.

April 10, 2015

SESSION 3: Patterns and Dermatology

EVENTS

- *Practicing Observational Skills in Art*
Judy Murray; Matthew Growdon; David Ziehr; Ambika Bhushan

- *Patterns and Dermatology*
Joel T. Katz

- *Narrative Clinical Images*
Matthew Growdon, David Ziehr, Ambika Bhushan

OBJECTIVES

At the conclusion of the session, students will be able to:

- recognize and avoid the biases that obscure the truest understanding of clinical symptoms and signs underlying diseases, such as acromegaly, corticosteroid excess, rashes, neurological impairment, and liver failure
- use texture and pattern in their discussion of artwork and the physical examination
- use the appropriate vocabulary to describe dermatologic findings
- recognize how pattern recognition, texture, color and form are clues to diagnose a wide range of dermatologic and systemic disorders
- identify critical signs and symptoms including port-wine stain, café-au-lait spots, petechiae, purpura and malignant versus benign findings

READINGS

Required

1. Textbook: Mary Acton, Learning to Look at Paintings, **Chapter 4**, “Tone,” pp. 88-109.

Optional

1. James Elkins, How to Use Your Eyes (New York: Routledge, 2000), **Chapter 4**, “How to Look at Pavement,” pp. 28-33.

SKETCHBOOK JOURNAL ASSIGNMENT #2 (DUE APRIL 10) PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Light and Shadow: In this drawing exercise you will explore the way light falls on objects and learn to recognize the nuances of tonal values—key concepts for understanding what we see.

See *Sketchbook Journal Assignments* section for instructions.

SESSION 4: The Face in Question (Line & Symmetry in the Cranial Nerve Exam)

EVENTS

➤ ***Practicing Observational Skills in Art***

Judy Murray; Matthew Growdon; David Ziehr; Ambika Bhushan

➤ ***The Face in Question (Line and Symmetry in the Cranial Nerve Exam)***

Shahram Khoshbin

OBJECTIVES

At the conclusion of this session, students should be able to:

- use line and symmetry in their discussion of artwork and in the physical examination
- discuss neurological findings on the basis of facial/somatic asymmetry and patient drawings
- recognize how line and symmetry contribute to the perception of balance, and use this skill and knowledge to question the pathophysiology of imbalance

READINGS

Required

1. S. Khosbin, M.D., *Principles of Neurological Examination*. Read the section on the Cranial Nerve.
2. Handout in class: S. Khosbin M.D.: *Visual Arts & Neurological Exam*
3. James Elkins: How to Use Your Eyes, **Chapter 19**, “How to Look at a Face,” pp. 146-153.

Optional

1. Rodolf Arnheim, Art and Visual Perception—A Psychology of the Creative Eye, “Balance,” pp. 10-19; 36-41.
2. Textbook: Mary Acton, Learning to Look at Paintings, **Chapter 1**, “Composition,” pp. 1-28.

SKETCHBOOK JOURNAL ASSIGNMENT #3 (DUE APRIL 17) PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Focus on the Face: Using your own face as a model, you will focus on the relationship of part to whole and examine the proportions of the various parts of the face.

See *Sketchbook Journal Assignments* section for instructions.

SESSION 5: Contour in Thoracic Imaging

EVENTS

➤ ***Practicing Observational Skills in Art***

Judy Murray; Matthew Growdon; David Ziehr; Ambika Bhushan

➤ ***Contour in Thoracic Radiological Imaging***

Kitt Shaffer

OBJECTIVES

At the end of this session, students will be able to:

- address contour in their discussion of artwork
- recognize the normal appearance of the mediastinum using contour on radiological images
- understand and apply visual concepts such as density gradient, interfaces, and the projection of complex three-dimensional anatomic structures onto two dimensional radiographs
- identify an ecstatic ascending aorta, cardiophrenic angle mass, enlarged main pulmonary artery and mediastinal adenopathy through an understanding of the normal contours of the mediastinum

READINGS

Required

1. James Elkins, How to Use Your Eyes, **Chapter 5**, “How to Look at an X-Ray,” pp. 34-47.
2. Abigail Housen and Philip Yenawine, *Visual Thinking Strategies: Understanding the Basics*, VUE 2001. www.visualthinkingstrategies.org.

Optional

1. Paling MR, Pope TL Jr. “The Variable Nature of the Mediastinal Contour Lines: CT/chest radiography correlation.” *Journal of Computed Tomography*. 11(3); 254-260, 1987.

SKETCHBOOK JOURNAL ASSIGNMENT #4 (DUE APRIL 24) PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Negative Space: The focus of this drawing assignment is on exploring the spaces between and around objects. According to Betty Edwards in Drawing on the Right Side of the Brain, 4th Edition (Tarcher/Penguin, 2012): “Learning to pay attention to negative spaces will enrich and expand your perceptual abilities. You will find yourself intrigued by seeing negative spaces all around you.”

See *Sketchbook Journal Assignments* section for instructions.

May 8, 2015

SESSION 6: The Body in Question (Form & Motion in Neurological Exam)

EVENTS

- *Practicing Observational Skills in Art*
Judy Murray; Matthew Growdon; David Ziehr; Ambika Bhushan

- *Motion and Gait in the Neurological Exam*
Shahram Khoshbin

OBJECTIVES:

At the conclusion of the session, students will be able to

- use movement in their discussion of artwork
- recognize basic normal versus abnormal observations using movement in the physical examination
- identify the signs of a broad range of neurological disorders using observations about patient motion and gait

READINGS

Required

1. Textbook: Mary Acton, Learning to Look at Paintings, **Chapter 2** “Space,” pp. 29-55.

Optional

1. Rodolf Arnheim, Art and Visual Perception—A Psychology of the Creative Eye, “Movement,” pp. 372-383.
2. John Berger, The White Bird (Hogarth Press, 1985), “Drawn to that Moment.”

SKETCHBOOK JOURNAL ASSIGNMENT #5 (DUE MAY 8) PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Gesture Drawing: For this assignment you will focus on the dynamics of the body.

See *Sketchbook Journal Assignments* section for instructions.

SESSION 7: Form and Function in Respiratory Physiology

EVENTS

- *Practicing Observational Skills in Art*
Judy Murray; Matthew Growdon; David Ziehr; Ambika Bhushan

- *Understanding Form and Function in Respiratory Physiology*
Robert Brown

OBJECTIVES

At the conclusion of this session, students should be able to:

- address form in their discussion of artwork
- identify visual cues in diagnosing a range of respiratory disorders
- contrast characteristics of common pulmonary diseases
- understand pathophysiology underlying the clinical expression of various pulmonary abnormalities

READINGS

Required

1. Textbook: Mary Acton, Learning to Look at Paintings, **Chapter 3**, “Form,” pp. 56-87.

Optional

1. Abraham Verghese, “Airports and the Science of Observation,” retrieved from TheAtlantic.com 1/27/10.

SKETCHBOOK JOURNAL ASSIGNMENT #6 (DUE MAY 15) PLEASE BRING YOUR SKETCHBOOK TO CLASS.

Close Observation and Documentation: The goal of this assignment is to provide you with an opportunity to closely observe a subject and to record your observations both in drawing and writing.

Please note: Sketchbook Journals will be collected on May 15, reviewed by instructors and returned on May 22.

See *Sketchbook Journal Assignments* section for instructions.

SESSION 8: Putting It All Together

EVENT

➤ *Putting It All Together*

Joel T. Katz & Shahram Khoshbin

OBJECTIVES

At the conclusion of the session, students will be able to:

- use the appropriate vocabulary to describe visual findings
- connect principles learned throughout the course to patient care

READINGS

Required

1. Verghese A, Brady E, Kapur CC, Horwitz RI, “The bedside evaluation: ritual and reason,” *Ann Intern Med.* 2011 Oct 18;155(8):550-3.
2. Klass, Perri, “Zen and the Art of Pediatric Health Maintenance,” *N Engl J Med* 2012; 367:103-105 July 12, 2012 DOI: 10.1056/NEJMp1204035

Optional

1. Simon M. Helfgott, MD, “Learning How to Look, retrieved from “The Rheumatologist,” August 2012 at http://www.the-rheumatologist.org/details/article/2464701/Learning_How_To_Look.html