Course Description and Objectives:
In reckoning with a healthcare system bleeding US lives and dollars in staggering figures, many patient safety experts share a deep concern about an unexpected human quality: the way in which caregivers and leaders respond to uncertainty. This course focuses on medical uncertainty’s challenges, opportunities, paradoxes, and on the complex influences that result from the way it is managed in healthcare. What can we lean from great artists, scientists, teachers, and leaders about how to see the world, learn, create, collaborate, and engage in uncertainty? What can we learn from cognitive science, patient safety, arts and humanities about how to make—rather than break—discoveries and connections in uncertainty? In the context of broad questions about the roles of caregivers in a future facing radical influences of technology and industry, we will address two core human capacities—attention and language—and identify their interplay in the kind of masterful navigation of uncertainty that yields accurate diagnoses and trust while in “right relationship” with technology. Students will take a hard look at the future of the healthcare space, examine the nature of their calling to “care,” and collide with the voices of experts in patient safety and in human development.

Class will meet weekly for 3 hours. Each session will include: 1) Experiential Learning (EL) time (much of it at the Rose Art Museum), and 2) didactic time in the classroom, which will regularly include student presentations of independent research (“Uncertainty Hero of the Week”), analytical discussions of readings, and presentations by the instructor and by guest speakers.

The objective of the EL component of class is for students to experience first-hand the core concepts of the course: to develop capacities related to identifying, responding to, and communicating about uncertainty. We will do this in the context of interactive experiences with visual art (using the Visual Thinking Strategies method for facilitating group inquiries into art) combined with Miller’s Looking with Uncertainty framework for shifting uncertainty from an enemy to an ally for collaboration, discovery, and co-creation of health. Students will further apply this work to their personal goals for their “healthcare calling” through narrative writing prompts and discussion.

Learning Goals:
Students will:
1. Identify uncertainty, its key areas of influence in healthcare and questions shaping its future;
2. Develop capacity in identifying, responding to, and communicating about uncertainty;
3. Experience uncertainty in groups, and deconstruct those experiences;
4. Establish goals for their professional identity and extrapolate knowledge and skills to guide and shape that identity
5. Receive and apply concrete tools for focus, self-awareness, reflection, and facilitation of inclusive group discussions.
Prerequisites:
None, though strong interest in a caregiving career preferred. No arts experience is expected or required. Active participation, willingness to take personal risks, confidentiality expected.

Course Plan:

January 16: INTRODUCTION
- Pre-Course Survey
- Encountering Uncertainty: Willie’s Case
- Introductions, why we are here, what do we want to learn
- Course overview
- Visual Art and Medicine – Level I: The Art of Seeing Patients

Resources: none due for today.

January 23: BACKGROUND: Healthcare and its discontents
- The context for our work: Healthcare realities and big questions
- You and your calling. Who do you want to be in the healthcare space and in relationship to yourself, to others, and to technology? Establishing your learning goals.

Resources:
- Improving Diagnosis in Healthcare, Institute of Medicine, 2015 Report. (Skim)

Recommended:
- Baruch, Jay, Doctors as Makers, Academic Medicine, 2017.
- Diagnosis-The Beauty and the Beast, Mark Graber lecture (video)

January 30: THE LOOKING WITH UNCERTAINTY℠ FRAMEWORK
- How do masterful clinicians approach uncertainty? The framework shared today will detail practices that align with diagnostic safety and a roadmap for our work in the galleries.
- The Visual Thinking Strategies facilitation protocol, and its principles for creating environments that invite all to contribute, collaborate and learn in uncertainty.

Resources:
Looking with Uncertainty:  
The Healthcare Calling and its Core Human Intelligences

  - Dharma Art-Genuine Art, p. 1-2  
  - Discovering Elegance, p. 3-7
- Armstrong, Katrina. If you can’t beat it, join it. Uncertainty and trust in medicine, Annals of Internal Medicine, 17 April 2018.

**January 30:**  
**Evening Session at the Museum of Fine Arts, Boston (6:30-9pm)**  
Visual Thinking Strategies Workshop: Practice, Coaching and Feedback

**February 6:**  
**TRUST AND CONFIDENCE IN UNCERTAINTY**  
- Guest speaker: Paul Han, MD, MA, MPH, Director, Center for Outcomes Research and Evaluation, Maine Medical Center Research Institute.
- First Workshop at Rose Art Museum

**Resources:**
- Tonelli and Ross, A Philosophical Approach to Addressing Uncertainty in Medical Education, Academic Medicine, 2018 30 October.
- Video: Yenawine, Philip, The Image and the Viewer (ambiguity)

**Recommended:**

**February 2:**  
A Conversation with Howardina Pindell, Pollack Auditorium, 2:00pm

**February 13:**  
NO CLASS, First Paper Assignment Due, must be submitted by 9pm.

**February 20:**  
No CLASS (Midterm recess)

**February 27:**  
**TRUSTING THE PROCESS**  
Diagnosis is a process. Knowledge develops and emerges through interactions. Diseases are temporal. People are a mystery. The creative process is fundamentally non-linear and surprising.

**Resources:**

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Looking with Uncertainty:
The Healthcare Calling and its Core Human Intelligences

- Trowbridge, 12 Tips for Teaching Avoidance of Diagnostic Errors

March 6: ATTENTION

What is attention and what are the ways in which it drives learning, interaction, and healing in clinical scenarios? How can we become more aware of our attention and cultivate the states of calm clarity that facilitate creativity, knowing, and decision-making?

Resources:
- Augustus White, Seeing Patients, 2011.
- (VTS Video) Listening, Pointing, Paraphrasing and Listening.

Recommended:
- Verghese, Abraham, How Tech Can Turn Doctors into Clerical Workers, NYT 5/16/18.
- Brandel, Jennifer, Listening is a Form of Healing, Medium, May 31, 2018.

March 13: LANGUAGE

Language, a primary tool of human interaction, is always in development. Today’s session will look at the deliberate way in which masterful clinicians utilize language to facilitate discovery, collaboration, safety, and healing.

Resources:
Looking with Uncertainty:  
The Healthcare Calling and its Core Human Intelligences

  - *World into Word*, p. 3-11
  - *A Tremendous Fish*, p. 13-31
- VTS video: listening/facilitating

**Recommended**


March 20:  
**THE POWER OF DIVERSE PERSPECTIVES**

- Guest speaker: Laurin Mooney, RN, MS, CLNC. Founder, Be Highly Reliable.
- What does it mean to “co-create” health? How do we co-create aspects of healthcare such as safety, trust, learning culture, relationships, knowledge, and diagnoses?

**Resources:**

- Eichbaum, Collaboration and Teamwork in the Health Professions: Rethinking the Role of Conflict, Academic Medicine, 11/17.
- Sexton et al. Teamwork in the NICU and its association with healthcare-related infections in very low birthweight infants.
- (VTS Video) Peer Learning and Constructivism

**Recommended:**


March 26:  
**Screening, Motherboard: The Most unknown science (documentary)**

March 27:  
**NATURE’S MAGNITUDES**

- Great clinicians never stop learning, and find awe in what is unknown.

**Resources:**
Looking with Uncertainty:
The Healthcare Calling and its Core Human Intelligences

- Video: What Science Is, What it Gives Us, What it Takes to Succeed, Dr. Gottfried Schatz from the University of Basel
- Motherboard: The Most Unknown Science
- (VTS Video) The VTS Questions and Learning How To Learn

April 3:

**CO-CREATION OF HEALTH AND BARRIERS TO ENGAGEMENT**

What does it mean to co-create health? What does this look like in practice, from our most intimate interactions to the ways in which healthcare systems are designed? What are the real-world barriers to true co-creation of health?

**Resources**

- Gender Bias in Medicine, Interview with Maya Dusenbery (podcast)
- iPACE Care Model, video
- (VTS Video) Conditional Language, Neutrality and Linking

**Recommended:**

- Duhigg, *What Google Learned from its Quest to Build the Perfect Team*, NYT 2/25/16

April 10:

**MINDFULNESS INTO PRACTICE**

- Guest Speaker: Elizabeth Gaufberg, MD, MPH, Harvard Medical School

**Resource:**


**Recommended:**

- Mindfulness and the Quality of Organizational Attention, Weick, Karl E; Sutcliffe, Kathleen M. Organization Science; Linthicum Vol. 17, Iss. 4, (Jul/Aug 2006): 514-524,526.

April 17:

**TALKING ABOUT UNCERTAINTY**

**Resources:**

- More TBD

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Recommended:
- Rita Charon, 2018 Jefferson Lecture in the Humanities (video)

April 18: Second paper assignment due
April 24: No Class / Spring Recess
April 30: PULLING IT ALL TOGETHER: SELF-AWARENESS, PROFESSIONALISM
  - What is “professionalism,” what does that mean in the medical context, and what does that mean for each of us?
  - What will it take to improve our responses to uncertainty, to enable more conversations about uncertainty, and to do so from a place of compassion and curiosity?
  - Self-assessment
  - Peer-assessment

Readings:

Recommended:
  - Pfeffer, Jeffrey, Power: Why Some People Have It—and Others Don't, 2010.

DATE TBD: FINAL EXAM

Evaluation / Grade Components:
  Participation*: 30%
  Weekly Reflection Journals: 30%
  Paper #1: 10%
  Paper #2: 10%
  Final exam: 20%

Success in this 4-credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, assignments, and preparation for exams).

*Your participation grade will be based on: 1) In the EL sessions: your personal risk-taking and concerted efforts to contribute to the group’s learning. This will be determined by a process of self-assessment, peer feedback, and the instructor’s assessment. 2) In the didactic sessions: your participation and demonstrated understanding and careful consideration of readings/concepts.
Weekly Reflection Journal: using any of prompts listed below (your choice which you choose and when you choose them, no repeats). 400-800 words each. To be submitted weekly by noon the day before class, and at the end of the semester in portfolio format.

1. Describe your “north star” that leads your calling in healthcare. What are the roots of this calling? What have you learned about your internal compass and how do you need it to guide you?
2. What was your most challenging experience with uncertainty this semester? Describe how you experienced it and responded. What do you take from this experience? You may pull from an experience either in or out of class.
3. What are you learning about groups and how they work? Consider what this means in one aspect of healthcare (be as specific as possible)? What does this mean for you personally?
4. Art Museum Learning Moments (always submit with the image and credits of the relevant work of art):
   a. Describe a time when a detail in the art took time to become known to you. What was it? How did it become known? What was its impact on your understanding of the picture? Is there a “pearl” of wisdom here that you take from this?
   b. Describe a time when you or the group made an error or failed in their analysis or function in some way. How did the group handle/recover from/discuss/learn from this event? Was there any other impact?
   c. Describe a time the group discussed a work of art you either really liked or really disliked. What was it like for you to be with a work of art you had a strong preference for or against? Describe ways in which your preference may have influenced your interaction with and understanding of this piece.
   d. Describe a time you felt heard OR unheard OR when you felt you really heard someone else in a way others didn’t OR when you didn’t hear someone else. What do you take from this experience?
   e. Describe a time you had something to say or ask about the art that was different from the predominant themes of the discussion. How did it feel and what did you learn?
   f. Describe a time when a strong personal memory, association, bias, or emotional response was triggered for you in the art. How did it feel, what did you do, what do you take from this experience?
   g. Describe a time when prolonged silence came into play in the group’s art discussion. What was it like, how did it feel, what happened prior and what happened next? Would you characterize the silence as participatory and effective to the discussion or not valuable? Describe your reasoning.
   h. If you were an alien from another planet watching the class discuss art, how would you characterize what the rules, expectations and norms of the art discussion are? What settings are these rules, expectations and norms most different from?
   i. Walk me through your line of thought over the 20-30 minutes you spent with one work of art. What was your first impression? Where did you end up? What changed, and what of your initial impression remained? What were the factors that influenced your perception?
   j. Describe a time when you were trying to express something you saw or felt or knew viscerally but did not immediately have the best words available. What was this like? Is there evolution between how you initially described it and how you describe it now? If so, what facilitated this evolution?

Short Papers:
You will be given assignments for papers that must demonstrate your understanding of key concepts and topics from readings and class session, as well as your unique synthesis of how
Looking with Uncertainty:
The Healthcare Calling and its Core Human Intelligences

and what you are learning. I will pay close attention to your authentic voice and plagiarism of any kind will not be tolerated.
Disabilities
If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately.

Academic Integrity
If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately.

Communications
We will communicate online via LATTE, the Watershed-Ed platform, and by email for all course communications and projects. Should an emergency arise, you may contact my cell, 617-620-5959.

Course Materials
All readings are either provided in your course pack or via url. If there is any question, all readings can be found in the Brandeis Online library databases.

Critical Dates
• January 16: Mandatory / foundational class. Students who do not attend the first class will not be admitted into the course.
• January 22: Mandatory / foundational class. It is essential that all students attend this session.
• January 30: Evening Session at the Museum of Fine Arts, Boston (6:30-9pm)
• February 2: A Conversation with Howardina Pindell, Pollack Auditorium, 2:00pm
• February 13: First Paper Assignment Due
• April 18: Second Paper Assignment Due
• April 30: Mandatory / peer feedback
• TBD: Final Exam

About the Instructor:
Artist-turned-medical-educator Alexa Miller is a leading voice for observation and inquiry practices in medicine, and for their cultivation in arts experiences. An original co-creator of Harvard Medical School's Training the Eye: Improving the Art of Physical Diagnosis, a course that produced researched outcomes on the impact of arts experiences on medical student learning, Miller has worked with medical learners and faculty in arts settings since 2003. Miller's consultancy, Arts Practica, creates experiential learning opportunities that allow leaders, practitioners, and teachers in healthcare to be more effective and mindful in uncertainty. Driven by a strong personal interest in misdiagnosis and the intelligences that contribute to diagnostic safety, she serves on the Education Committee for the Society for the Improvement of Diagnosis in Medicine, where she will also serve as a 2018-2019 fellow. Formerly Curator of Education at the Davis Museum, Alexa has taught undergraduate courses in Education at both Brandeis University and at Wellesley College, and facilitated a weekly Lab Group in the Interpersonal and Group Dynamics course at Yale School of Management. She received her BA from Swarthmore College and her MA from the Wimbledon School of Art.