
ART and BIOLOGY

Spring 2015

Course #62358 and #60358

Tues and Thurs 9:00am-10:50am

Professor

Patricia Maurides

Email: pm3k@andrew.cmu.edu

CFA 416 Office hours: by appointment

Teaching Assistant: Hannah Epstein

Email: hanskigold@gmail.com

COURSE DESCRIPTION

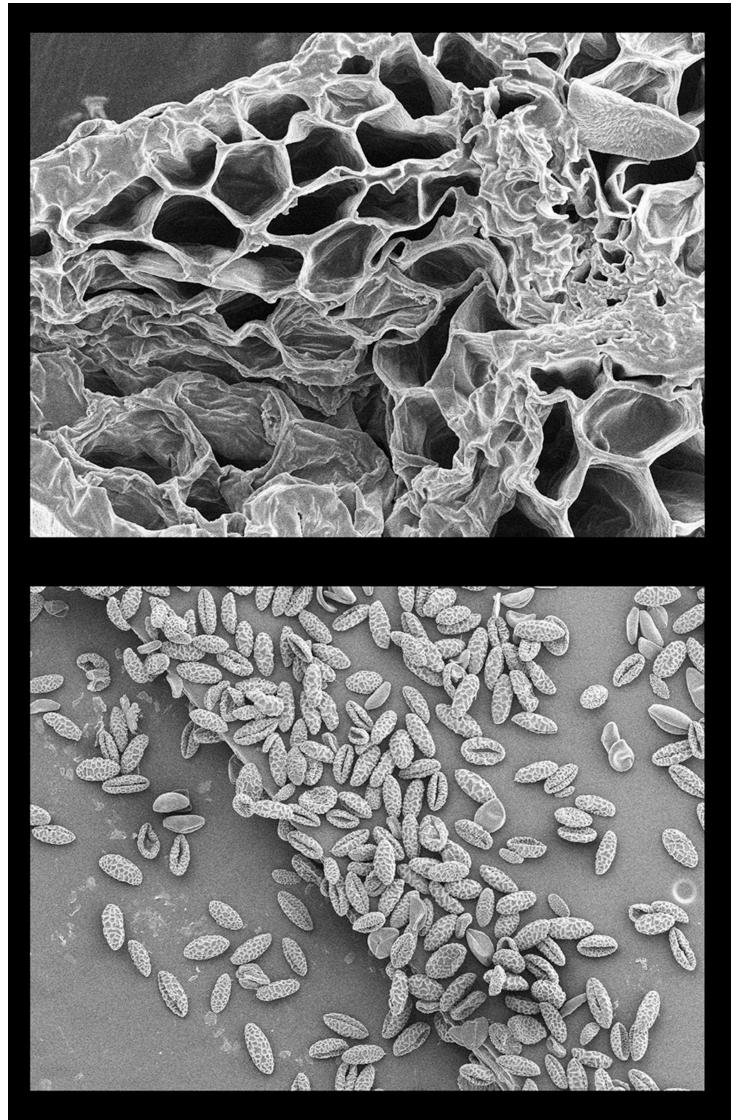
This is a studio-laboratory art making class designed to explore interactions of art and biology/science. It is an opportunity for students interested in interdisciplinary concepts to work both in a studio art environment and a biological laboratory.

This is not a lecture course.

This course involves travel....with many fieldtrips to labs, studios, greenhouses... and other places of wonder and inspiration. In addition to art-science explorations + projects, there are guest lectures, media presentations and reading assignments.

Students are introduced to the work of artists exploring scientific concepts/media and scientists whose work relies on visual data such as fMRI. Students have the opportunity to experiment creatively with scientific media such as light, electron and video-probe microscopy.

This is a media independent course. Students are encouraged to experiment and cross-over between creative media (photography, drawing, design, sculpture, microscopy, performance, writing, etc.)



Daniel Kaufman, ArtBio 2014

LEARNING OUTCOMES

On completion of *Art and Biology*, students will be able to:

- Effectively communicate interdisciplinary concepts in visual, written and oral forms.
- Demonstrate technical proficiency in microscopy for image acquisition: video-probe microscope, Scanning Electron Microscope, light microscopy.
- Demonstrate fundamentals of the artmaking process: ideation, concept development, problem solving and intuitive exploration.
- Demonstrate creativity, curiosity, experimentation and invention in the development and realization of artworks.
- Use research, historical and contemporary, theoretical and practical in their work.

REQUIREMENTS

It is important to arrive on time to each class. Attendance is taken at the beginning of class. You are allowed only three unexcused absences; each subsequent absence will result in the drop of a letter grade. If you are ill and unable to attend class due to illness, please send an e-mail. Please be on time, persistent tardiness results in a lower grade.

*NEVER MISS A CRITIQUE – Even if your project is not complete, it is important to be there for your fellow ArtBio comrades.

IF YOU HAVE ANY QUESTIONS, ANYTIME, PLEASE REMEMBER I AM ALWAYS AVAILABLE TO MEET WITH YOU.

Evaluation is based on: 1- Attendance and participation
 2- Ideas and development/research
 3- Execution and completion

USE OF CELL PHONES/TEXTING IS NOT PERMITTED DURING CLASS

Research Assignment (10%)	<p>Leonardo--Journal of the International Society for the Arts, Sciences and Technology (Hunt Library, 3rd Floor)</p> <p>Explore the ‘physical’ Leonardo journal or any other ArtSci journal in the library. Wander/Walkabout and find an article about an artist, scientist, project or idea that interests you. Copy the article and bring to share with the class.</p>
	<p>Art-Science Collaborative Web Archive</p> <p>Web Research-explore sites/blogs involving art and science.</p> <p>Identify <u>two</u> of your favorites. Share with the class.</p> <p><u>*Send an email with the urls + 1 line title/description.</u></p>
Project 1 (15%) (20%)	<p>MICROSCOPY</p> <p>a. Envisioning Science <i>two – four photographic prints from your own microscopy investigations.</i></p> <p>b. Microscopy - Artist Book Develop a concept using microscopy. Obtain visual data using light, video probe and scanning electron microscope (SEM). How do you connect/disconnect to our microscopy work? Create an artist book that reflects your concept + visual research. <i>This project includes a horticulture tour + sample collection at Phipps Conservatory Research Greenhouses and microscopy work at Mellon Institute.</i></p>
Project 2 (20%)	<p>BIOLOGICAL METAPHOR</p> <p>Create an artwork based on a biological metaphor.</p> <p>Biological metaphors provide a vehicle for an artist to explore and interpret scientific information. Choose a biological concept, research+ understand it - then produce an artwork using the creative expression of your choice (2D, 3D, electronic, performance, etc.).</p> <p><i>You should be able to effectively communicate this concept to the class.</i></p>
Project 3 (20%)	<p>FINAL PROJECT</p> <p>A self-defined art and science project.</p> <p>Develop and produce an artwork supported with your individual ideas, a written proposal and research.</p>
Reflections (Binder/Folder) (15%)	<p>These reflections are inspired by the many fieldtrips and speakers.</p> <p>Think of these as <i>mini research reports</i>. Just one page with image(s)+text. <i>What amazed or surprised you? What triggered your imagination? Other connections?? I will collect and review your Reflection Binder/Folder throughout the semester.</i></p>

Course Outline

*Please note: some class agendas may change due to scheduling lab time.
Please check your email for reminders of meeting location & agenda.*

Week 1	Tues 1/13	Introduction/Review Syllabus/Articles to read - <u>Assignment 1</u> Audio – <i>Rob Kesseler, How do Art and Science Visualize Life</i> http://bigi.org.uk/podcast/Big_Ideas_London_Rob_Kesseler.mp3 <i>bigideas</i> program at <i>The Wheatsheaf Pub</i> , London Audio – <i>RadioLab's (first half Oliver Sacks, Alan Lightman) Yellow Fluff and Other Curious Encounters</i> http://www.radiolab.org/2009/jan/12/
	Thurs 1/15	Discussion of Articles, Audio and your <i>ArtSci dig</i> Films: <i>Paradise Now: Picturing the Genetic evolution.</i> <i>Powers of Ten</i> by Charles and Ray Eames, <i>Unnatural Science</i>
Week 2	Tues 1/20	<i>Guest Speaker - Dr. Cynthia Morton</i> , Curator and Head of Botany Carnegie Museum of Natural History http://www.carnegiemnh.org/botany/morton.html *Reflection #1 plant sex....
	Thurs 1/22	<i>RESEARCH</i> Greenhouse tour/collect botanical <i>Katie Werner, Greenhouse Production Manager</i> Phipps Conservatory and Botanical Gardens Meet at Phipps 9:30 am http://phipps.conservatory.org/ *Reflection #2 - seeds, blooms, bugs...
Week 3	Tues 1/27	Assignment 1 DUE Presentations/Discussion Sample Collection Review/Discussion Film : <i>The Building of Mellon Institute</i> <u>Introduce Project 2 - Envisioning Science (a=photos b=artist book)</u>
	Thurs 1/29	<i>Developmental Biology Lab</i> <i>Dr .Emily Drill - Director, Undergraduate Laboratories</i> Meet at Mellon Institute rm 304 *Reflection #3 – forms, patterns...

Week 4	Tues 2/3	Discussion A look-see - Introduce Video Probe Microscopy Film: <i>The Andromeda Strain</i> (1970 science fiction film)
	Thurs 2/5	<i>Explore Artists' Book Collection – science themes</i> <i>Mo Dawley, curator Hunt Library Artists' Book Collection</i> Meet in Hunt Library – 4th Floor Rare Books *Reflection #4– consider all your senses...
Week 5	Tues 2/10	RESEARCH – Image Acquisition of Samples <i>Scanning Electron Microscope Lab with Joe Suhan</i> <i>Video Probe Microscope Image Acquisition</i> Meet at Mellon Institute – Rm 305 Reflection #5 – what is essential is invisible to the eye... (l.p.)
	Thurs 2/12	RESEARCH – Image Acquisition of Samples <i>Scanning Electron Microscope Lab</i> <i>Video Probe Microscope Image Acquisition</i> Meet at Mellon Institute – Rm 305
Week 6	Tues 2/17	RESEARCH – Image Acquisition of Samples <i>Scanning Electron Microscope Lab</i> <i>Video Probe Microscope Image Acquisition</i> Meet at Mellon Institute – Rm 305
	Thurs 2/19	PRINTING IMAGES <i>Digital Arts Innovation Studio with Fran Flaherty</i> Doherty Hall C311 Printing on Archival Papers (bamboo, rice) http://artscool.cfa.cmu.edu/~printlab/
Week 7	Tues 2/24	Individual Meetings/ Work on Projects
	Thurs 2/26	Envisioning Science <u>Photographs</u> Critiques
Week 8	Tues 3/3	Envisioning Science <u>Artist Book</u> Critiques
	Thurs 3/5	Envisioning Science <u>Artist Book</u> Critiques <u>Introduce Biological Metaphor Project</u>
Week 9	Tues 3/10	Spring Break
	Thurs 3/12	Spring Break

Week 10	Tues 3/17	Presentation: <i>Science Communication</i> Discussion of Articles + watch <i>Carbon Gone Wild</i>
	Thurs 3/19	Hunt Institute for Botanical Documentation (HIBD) <i>Charlotte Tancin</i> , Librarian, Researcher ELEMENTS (opening reception on March 19 5–7pm) http://www.huntbotanical.org/ Meet in Hunt Library 5th Floor *Reflection #6- <i>flora, past present wonders....</i>
Week 11	Tues 3/24	'In-Progress' Project Presentation/Feedback <i>Soft Science</i> , a series of short films. www.softscience.org
	Thurs 3/26	Guest Artists - <i>Isla Hansen and Tucker Marder</i> <i>Biology - Metaphor - Performance</i> *Reflection #7 – <i>encountering the unseen</i> Miler Gallery - MFA EXHIBITION (featuring Isla and Tucker) March 28 - April 12, 2015 March 27, Fri.6-8pm: Reception
Week 12	Tues 3/31	Biological Metaphor DUE/Critiques
	Thurs 4/2	<i>Biological Metaphor Critiques continued</i> <u>Introduce Self- Defined Project</u> (due during finals week 5/5 or 5/7)
Week 13	Tues 4/7	Discussion of ideas for final projects + discussion of your visit to the <i>Center for PostNatural History</i> http://www.postnatural.org
	Thurs 4/9	ArtBio + Body Workshop with Elsa Limbach , Choreographer, dancer *Reflection #8 art-bio-mind-body....
Week 14	Tues 4/14	Individual Meetings/Studio Work-Day
	Thurs 4/16	NO CLASS – <i>Spring Carnival</i>
Week 15	Tues 4/21	EcoArt lecture EARTH DAY 4/22 FILMS: <i>Rachael Carson – Silent Spring</i> <i>Pearl Fryer, Andy Goldsworthy</i>
	Thurs 4/23	Presentation - Discussion
Week 16	Tues 4/28	'In-Progress' Project Presentation/Feedback
	Thurs 4/30	Individual Meetings/Studio Work-day